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MEETING ABSTRACTS **Open Access**

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IA01

AI for healthcare-associated infection

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Antimicrobial Resistance & Infection Control 2025, **14(1):**IA01

Introduction: Healthcare-associated infections (HCAIs) are a major source of patient harm globally, placing strain on health systems and significantly impacting morbidity, mortality, and healthcare costs. There is an urgent need for proactive, scalable tools that can support infection prevention through environmental and behavioral risk monitoring.
Objectives: To conceptualize and evaluate the performance of an AI-based tool designed to identify infection prevention risks and deliver targeted recommendations. The tool is intended to be scalable, affordable, and adaptable to both high and low-middle income countries to strengthen infection control capacity.
Methods: The AI FOR HCAI system was conceptualized to analyze visual data collected during short, non-disruptive walkthroughs of healthcare premises, minimizing interference with staff or patients. The system processes visual input to extract infection-related indicators through object detection, human behavior monitoring, cluster detection, quantity and measurement analysis, and distance computation. The analysis is further enhanced by a platform equipped with a digital twin, enabling the operator to conduct more precise, spatially anchored evaluations and simulate corrective actions. The final output consists of an "intelligent analysis" report highlighting gaps and opportunities for targeted infection prevention strategies.
Results: The system is expected to provide actionable insights supporting:

- Improved hand hygiene access and compliance.
- Adjustments to PPE use policies.
- Optimization of patient and staff circulation.
- Enhanced cleaning frequency and waste disposal protocols.
- Improved infrastructure maintenance routines.
- Improved monitoring of infrastructure renovation works.
- Alignment with infection prevention standards and targets.

Conclusion: AI FOR HCAI offers an innovative, low-impact, and replicable approach to identifying HCAI risk factors within clinical environments. By transforming walkthrough observations into structured, AI-enhanced analysis, the tool supports more precise, proactive, and data-driven infection prevention. Its integration into infection control workflows may significantly improve quality and safety, ultimately contributing to a considerable reduction in HCAI incidence across diverse healthcare settings.

Disclosure of Interest
None declared.

IA02

Vigigerme IA – AN AI-powered assistant for infection prevention and control

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Antimicrobial Resistance & Infection Control 2025, **14(1):**IA02

Introduction: Control of healthcare-associated infections (HAIs) remains a major challenge. Adherence to infection prevention and control (IPC) protocols is crucial but often hindered by information accessibility and real-time guidance constraints.
Objectives:*VigiGerme IA*, an AI-powered assistant, aims to bridge this gap by providing instant, accurate, and evidence-based IPC information to healthcare professionals.
Methods:*VigiGerme IA* is built using Retrieval-Augmented Generation (RAG) technology, combining large language models (LLMs) with validated, up-to-date IPC guidelines. The system retrieves contextually relevant information from a curated knowledge base before generating precise sourced responses. Initially tested within the IPC division at HUG, two implementations of VigiGerme IA (myGTP and Telegram)

were tested during a hackathon organized by the HUG innovation center, evaluating usability by healthcare workers and response accuracy.
Results:*VigiGerme IA* significantly enhances access to IPC information, when expert consultation is limited. Figure 1 illustrates the proof of concept deployed via Telegram, which allowed healthcare workers to access VigiGerme IA's capabilities conveniently during the hackathon evaluation. The tool facilitates rapid decision-making, improving compliance with 42 validated IPC protocols and reducing information-seeking time. In an expert review of chatbot responses; 57% were judged as accurate, highlighting the tool's potential to support IPC decision-making with the system's ability to provide clear, reliable, and judgment-free guidance (with source) in real time.
Conclusion: VigiGerme IA represents an innovative AI-driven solution for IPC, offering a scalable model to support IPC strategies. Future developments include expanding the assistant's capabilities to interactive voice response systems and adaptation for use in other clinical departments.

Disclosure of Interest
None declared.

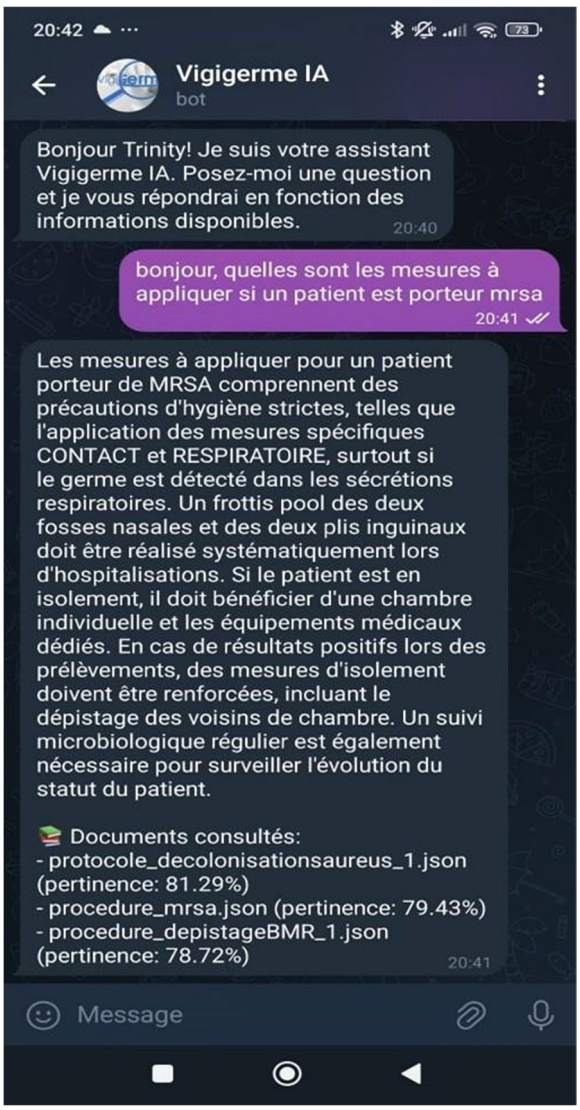

Fig. 1 (abstract IA02). See text for description

IA03

Innovation in medical training for measles disease with medsimu ES®: a customizable and portable virtual patient simulator

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**IA03

Introduction: Measles, though preventable, has resurged due to vaccine hesitancy, leading to severe complications in unvaccinated children. With reduced clinical exposure from past immunization success, medical trainees often lack hands-on experience in its management.
Objectives: Given the severity of measles and the lack of practical experience in managing it, this study aims to introduce Medsimu ES®, an innovative, customizable and portable virtual patient simulator designed to improve medical training in managing infectious diseases using a case of measles as a model.
Methods: Medsimu ES® uses a dynamic decision tree that allows instructors to customize clinical cases to reflect local epidemiological protocols, generating different outcomes based on user decisions. The system is portable, running on mobile devices and accessible anywhere via the Internet. Students interact with virtual patients by making clinical decisions in a simulated environment and receive immediate feedback. The simulator then generates a student performance dashboard for instructors. To demonstrate its effectiveness, a measles case was implemented in the simulator (Fig. 1), including clinical signs (prolonged fever, Koplik spots, maculopapular rash), progression to neurological involvement, and potential sequelae such as sensorineural hearing loss. This scenario enables students to explore the consequences of delayed vaccination and poor clinical decision making.
Results: The simulator was registered with the INPI (National Institute of Industrial Property) and it was tested by students using the measles scenario. Feedback indicated high engagement and improved retention of clinical signs and management protocols. Educators reported enhanced insight into learners'strengths and gaps, leading to more focused teaching. Access here: https://www.medsimues.com.br/
Conclusion: Medsimu ES® represents a breakthrough in infectious disease training by combining AI, adaptability to protocols, and portability. Through realistic, interactive cases such as measles, it provides experiential learning that strengthens clinical reasoning and promotes patient safety.

Disclosure of Interest
None declared.

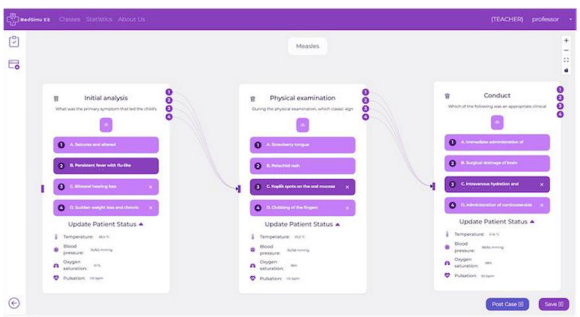

Fig. 1 (abstract IA03). See text for description

IA04

Tracing hand pathogen transmission with and without hand hygiene with a newly developed dna-encapsulating lipid nanoparticle system

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**IA04

Introduction: Identifying how microbial pathogens spread in healthcare settings is crucial for infection prevention and control (IPC). Yet, studying such transmission with live pathogens presents safety and logistical challenges. Surrogate tracers represent an attractive alternative.
Objectives: We developed and tested alcohol-sensitive DNA-encapsulating lipid nanoparticles (LNP) as surrogate tracers to investigate microbial transmission, including the effect of hand hygiene (HH).
Methods: The best synthetic LNP matrix formulation from laboratory testing, composed of glycerine and sucrose, was validated in simulated patient care sequences, using or not using alcohol-based handrub (ABHR). Samples were collected from specified body sites and fomites, and LNP presence and transfer integrity was quantified using polymerase chain reaction. LNPs disintegrate in contact with ABHR, releasing their DNA. LNP transfer integrity is determined as differential proportion in quantified DNA between two sample portions, one untreated and one treated with a DNA-degrading enzyme.
Results: When ABHR was applied during hand hygiene, LNP transfer integrity was reduced to 1% or less (Figure). In the absence of HH, inter-surface transfer preserved almost full LNP transfer integrity. Yet, LNP transfer integrity also declined with direct skin contact, as do some bacteria.
Conclusion: The LNP tracer system enabled fast, safe, and effective modeling of transmission dynamics in healthcare. Its sensitivity to ABHR makes it particularly suitable as a practical tool for studying and improving infection control practices including HH.

Disclosure of Interest
L. Pfuderer Conflict with: filed a patent application registered by ETH Zurich, R. Grass Conflict with: filed a patent application registered by ETH Zurich, H. Sax: None declared.

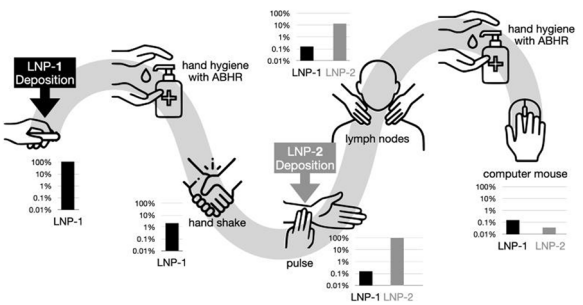

Fig. 1 (abstract IA04). Transfer integrity of two LNP barcodes (LNP-1 and LNP-2) during care sequence

IA05

Project pittet- patient-initiated tracking tool for ensuring transmission-free touch-a QR code based surveillance model empowering patients to improve hand hygiene compliance in healthcare settings

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**IA05

Introduction: Healthcare-associated infections remain a global challenge, driven by suboptimal hand hygiene and limitations of traditional monitoring methods. While newer technologies often come at a cost in resource limited settings. Project PITTET leverages simple, low-cost QR code tools to empower digitally literate patients and caregivers in real-time hand hygiene tracking promoting transparency, shared accountability, and safer care. Named in honor of Prof. Didier Pittet, it redefines compliance as a collaborative effort.
Objectives: The project aims to develop and assess a real-time, patient-initiated QR code-based hand hygiene surveillance model that empowers patients, improves healthcare worker compliance, and promotes accountability and sustainability in low-resource settings, aligned with the WHO Patients for Patient Safety (PFPS) framework (Fig. 1).
Methods: A prospective interventional study will be conducted in a tertiary-care hospital in Bengaluru, India, over 12 months. After a baseline assessment, QR-coded posters will be installed at each bedside to allow patients/caregivers to anonymously report whether HCWs perform hand hygiene. Data will be captured in real-time and visualized through dashboards for IPC teams. Staff sensitization, patient safety champion training, and iterative feedback loops will be integral to the model. Both quantitative and qualitative data will be analyzed to evaluate outcomes.
Results: Expected outcomes include over 70% patient and caregiver participation, a 20–30% projected improvement in hand hygiene compliance, and high acceptability among healthcare workers. The model is expected to enhance real-time IPC response and foster greater patient satisfaction and empowerment in safety practices.
Conclusion: Project PITTET is an innovative, scalable, patient-centered hand hygiene surveillance model that transforms bedside observation into active safety participation. It addresses real-time monitoring, behavioral nudging, and shared accountability with the potential to serve as a sustainable infection prevention strategy, especially in LMICs. Future directions include integration into EMRs and broader healthcare settings.

Disclosure of Interest
None declared.

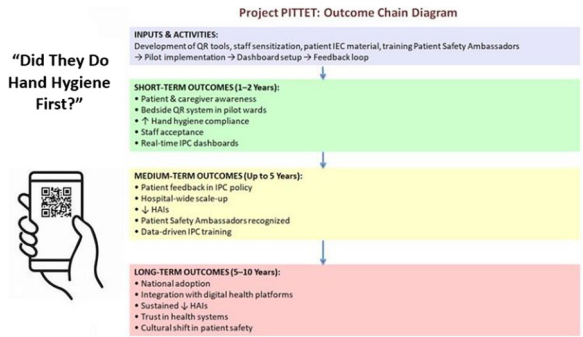

Fig. 1 (abstract IA05). See text for description

IA06

AI-based augmented reality for hand hygiene: preliminary CRCT results in health sciences students

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**IA06

Introduction: Traditional hand hygiene training lacks personalized feedback due to limited staff and resources, highlighting the need for scalable, automated systems with individualized support.
Objectives: To evaluate the effects of an **AI-based augmented reality application (HAND-HEART)** on hand washing performance, decontamination effectiveness, and knowledge.
Methods: A non-inferiority, two-arm cluster randomized controlled trial (cRCT) was conducted among health sciences undergraduates at the Hong Kong Polytechnic University. Participants were randomized to either the intervention group, using HAND-HEART for individualized assessment, or the control group, receiving the standard 7-step handwashing video and a hand scanner providing visual feedback. The primary outcome was decontamination effectiveness, measured by the percentage of residual fluorescent lotion on both hands; the secondary outcomes included hand washing quality and knowledge. Pre-post changes (Δ) were analyzed using mixed models. This trial protocol has been registered in ClinicalTrials.gov (NCT05872581).
Results: A total of 126 students (mean age 19; 57.6% female) participated. Both groups demonstrated reductions in decontamination effectiveness, though within-group reductions were not statistically significant ($p > 0.05$). The intervention was non-inferior to the control within a 3% margin. However, the intervention group showed significantly greater improvements in hand washing technique: 72.2% correctly performed all seven steps post-intervention, compared to 35.2% in the control group ($p < 0.001$). Figure 1 shows that significant improvements in the intervention group were observed in steps 3–7, while the control group improved only in steps 4–5. The intervention group had significantly greater improvements in step 4 ($\Delta = 31\%$, $p = 0.002$), step 6 ($\Delta = 24\%$, $p = 0.027$), all 6 steps ($\Delta = 37\%$, $p < 0.001$), and all 7 steps ($\Delta = 41\%$, $p < 0.001$) compared to the control group.
Conclusion: HAND-HEART improves hand hygiene technique without compromising decontamination. Its scalable e-learning and auditing features support continuous feedback. Ongoing multicenter cRCT results will guide wider adoption of AI-based tools in education.

Disclosure of Interest
None declared.

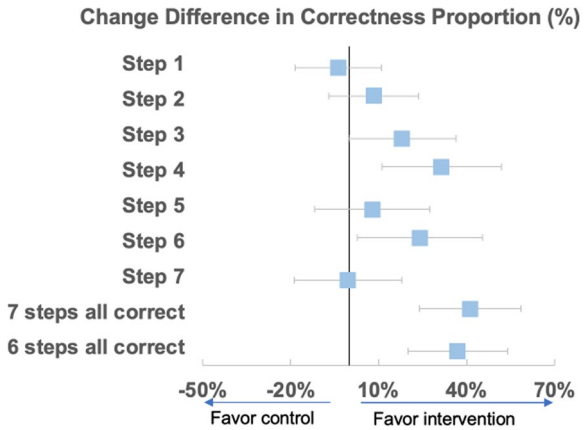

Fig. 1 (abstract IA06). Effects of HAND-HEART on the percentage of correctly performed steps. Difference after intervention, each intervention group compared to control. Estimate are percentage points with their 95% confidence intervals as error bar

IA07

A new medical mask made of filtering, transparent and eco-friendly material

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Antimicrobial Resistance & Infection Control 2025, **14(1):**IA07

Introduction: While medical masks are critical for infection prevention, their widespread use—especially during outbreaks like COVID-19—has revealed a key limitation: the obstruction of facial expressions. This barrier hampers effective communication between healthcare providers and patients, particularly among children, the elderly, and the hearing-impaired. Visual cues such as smiles and lip movements are essential for reassurance, trust, and emotional well-being in clinical environments. To address this, we have developed a transparent, mostly biodegradable medical mask that ensures both safety and human connection.
Objectives: This project aims to deliver a fully transparent, medically certified mask that meets EN14683 standards for filtration and breathability. The innovation is designed to improve non-verbal communication in healthcare settings while minimizing the environmental impact of disposable protective equipment.
Methods: Developed through a three-year collaboration between the EPFL and Empa in St-Gallen, the mask combines expertise in materials science, optics, medical device regulation, and industrial manufacturing. At its core is a patented transparent fibrous composite material, produced via electrospinning. Semi-industrial and industrial trials across four countries have optimized transparency, breathability, and production feasibility. The material is over 98% biodegradable by weight, with ongoing work to replace remaining non-biodegradable components such as ear loops and nose clips.
Results: Our transparent medical mask is the first of its kind to meet EN14683 standards while enabling full visibility of facial expressions and lip reading. The production process has been adapted to conventional mask-making equipment, with necessary modifications to accommodate the ultra-light, single-layer structure. One of the key challenges has been scaling the electrospinning process. However, targeted technical solutions have led to reliable, scalable production with continued improvements underway.
Conclusion: As infection prevention strategies evolve, the need grows for PPE that supports safety, communication, and sustainability. This transparent medical mask represents a forward-looking solution—advancing infection control while fostering empathy, inclusivity, and environmental responsibility. Its clinical and social relevance makes it a meaningful innovation for modern healthcare systems.

Disclosure of Interest
T. Pelet Grant/Research support from: A minor part of the project was funded by the Tuor Foundation.

IA08

An innovative FFP2 procedural mask with transparent window and self-resealing endoscopic access valve for safer high-risk procedures

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Antimicrobial Resistance & Infection Control 2025, **14(1):**IA08

Introduction: Endoscopic procedures have been identified as high-risk for aerosol generation and potential transmission of respiratory pathogens. This risk is further amplified when such procedures are carried out in standard clinical rooms lacking appropriate air changes or ventilation controls. This project arose to address the unmet needs of healthcare staff to protect them from harmful organisms while performing high-risk procedures particularly in the context of current and future pandemics or high consequence infectious diseases (HCID).
Objectives: To develop and evaluate an enhanced FFP2 respirator mask with transparent window and self-resealing endoscopic access valve that improves procedural safety during high-risk medical procedures.

Methods: A collaborative initiative was formed between the National College of Art and Design and Mater Misericordiae University Hospital. An FFP2 procedural mask was designed incorporating a self-resealing valve to allow for endoscopic instrument access and a transparent window to facilitate visual examination of oral cavity and improved communication. The mask's filtration efficiency was tested according to EN standards. The self-sealing capability of the valve was assessed under simulated procedural conditions using various endoscopic instruments. User acceptability and comfort were evaluated in a pilot study.
Results: The modified FFP2 mask met the filtration efficiency requirements of the EN standard. The self-resealing valve effectively maintained a seal after multiple instrument insertions and removals, minimizing potential aerosol leakage. The transparent window significantly improved visualisation of oral cavity and communication between patient and healthcare providers without compromising safety.
Conclusion: The innovative FFP2 procedural mask with a transparent window and self-resealing endoscopic access valve offers a promising solution for enhancing staff safety during high-risk medical procedures, particularly in pandemic or HCID scenarios.

Disclosure of Interest
None declared.

IA09

A novel plant-based virucidal agent for hand sanitizer formulations

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**IA09

Introduction: Since the COVID-19 pandemic, the demand for effective and safe hand sanitizers has significantly increased. They have become essential tools for infection prevention. Plant-based sanitizing agents provide a promising solution, offering natural efficacy without hazardous classification. The laboratories of Groupe Berkem have developed several botanical extracts, particularly rich in polyphenols, that are non-toxic and environmentally benign. Among them, [Bergenol®]—a standardized polyphenolic extract from *Vitis vinifera*—has been specifically formulated for human hygiene applications. Because of their polyphenols richness and their diversity in sub-families' polyphenols, grape seeds powder or extracts are formulated as cosmetic or food ingredients in finished products for their antioxidant capacity.
Objectives: This study investigates the development of an effective, alcohol-free hand sanitizer incorporating the patented grape seeds extract [Bergenol®] that is standardized in polyphenols and more particularly in proanthocyanidins. It could be used as a food or cosmetic ingredient also, respecting all the necessary requirements in terms of quality and traceability.
Methods: The extract was tested for virucidal activity against multiple virus families according EN 14476:2019: *Coronaviridae* (human coronavirus), *Adenoviridae (adenovirus)*, *Caliciviridae* (*murine norovirus*), *Poxviridae* (*vaccinia virus*), and *Picornaviridae* (*poliovirus*). It was also tested for its bactericidal activity against *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Enterococcus hirae*, *Escherichia coli* and for its yeasticidal activity against *Candida albicans.* All the tests were conducted at Merieux Nutrisciences, Italy and followed standardized protocols in medical, food, industrial, domestic and institutional areas.
Results: A complete virucidal activity of the extract is confirmed meeting the requirement of EN 14476:2019, with > 4 $\log_{10}$ reduction in each virus, within a short contact time. Moreover, results showed excellent activities against all tested bacteria and yeast in accordance with EN 14885:2022.
Conclusion: These findings support the potential of [Bergenol®] as a powerful virucidal ingredient, offering a safe and natural alternative for hand sanitizers in both medical and public settings.

Disclosure of Interest
D. Messaoudi Employee of: Daouia Messaoudi is employee of Groupe Berkem., J.-P. Joseleau: None declared, K. Ruel: None declared, S. Lafay: None declared, A. Gil Izquierdo: None declared.

IA10

Next-generation sepsis diagnostics: a low-cost MRNA liquid biopsy approach for early detection

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Introduction: Currently, diagnosing and treating sepsis is challenging due to the nonspecific nature of its signs and symptoms, resulting in delays in intervention and worse outcomes for patients. Available sepsis biomarkers (e.g. C-Reactive Protein and Procalcitonin) are phenotypically defined, therefore, there is an urgent need to identify new genetically defined biomarkers that can enhance clinical practice and enable the rapid identification of sepsis from the onset.
Objectives: Our goal is to develop a liquid biopsy capable of detecting mRNA expression profiles and diagnosing sepsis patients at the early stages of the disease at a low cost.
Methods: This in-silico project models a sepsis liquid biopsy. It analyzes mRNA expression data from three datasets (GSE12624: 8,519 mRNAs, 34 sepsis, 36 controls, GSE13205: 35,482 mRNAs, 13cases, 8controls, GSE69063: 25,582 mRNAs, 57 cases, 33 controls). Singular value decomposition (SVD) and logistic regression identified key mRNAs that differentiate sepsis from non-sepsis patients. Modified logistic regression, an inhouse AI method, handles feature selection in high-dimensional data. SVD visualizes patients using all or selected mRNAs. Classical logistic regression estimates the sepsis chance based on the relevant mRNAs.
Results: In the SVD visualization of mRNA expression, there is no clear clusterization visible when all mRNA expression data is used (Fig. 1). However, by using the most relevant mRNAs, identified by the modified logistic regression, cases and control patients are well separated. We built three logistic regressions, for each dataset, considering the 20 most relevant mRNAs (10 highly expressed and 10 lowly expressed associated with sepsis). The three models separately 100% of cases and controls.
Conclusion: Achieving 100% separation on training data with selected mRNA sepsis biomarkers indicates exceptional predictive power. The next step involves measuring the expression of these identified mRNAs in blood samples to generate new logistic regression equations for sepsis detection. However, equations derived from this initial analysis are not expected to be directly applicable to new data from the subsequent real-world phase, as the bench-generated mRNA expression data will likely differ in format and value ranges.

Disclosure of Interest
None declared.

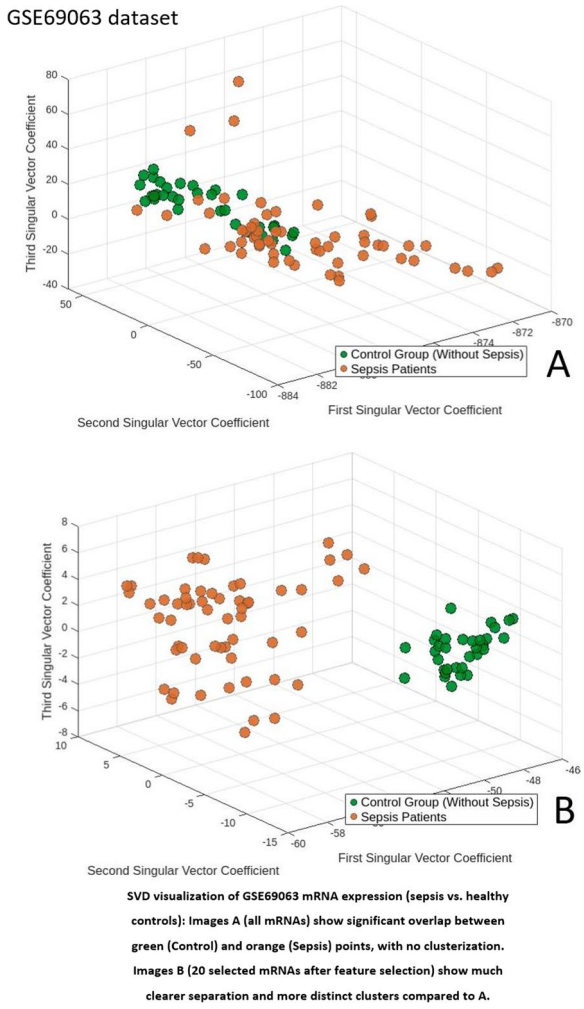

Fig. 1 (abstract IA10). See text for description

O01

The impact of air temperature and humidity in the operating room on surgical site infections: Ancillary analysis from the Aribo[2] cluster randomised trial

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O01

Introduction: Maintaining adequate air quality in operating rooms (OR) is a cornerstone of guidelines to reduce the risk of surgical site infections (SSI). However, the influence of OR temperature and relative humidity (RH) on SSI risk remains unclear.
Objectives: This study investigated the impact of temperature and RH on the occurrence of orthopaedic SSI.
Methods: This study was part of the ARIBO[2] trial including 31 French orthopaedic departments and spanned two 6-month periods. Temperature and RH data were monitored at 10-min intervals using weather stations, and their median values during each procedure were computed from incision to closure time. For each surgery, data were collected on procedure type (knee or hip arthroplasty), procedure duration, patient demographics, comorbidities, and postoperative complications (POC), including SSI. We performed two mixed-effects logistic regression to evaluate the association of extreme intraoperative temperature and RH (defined as < 10th-percentile or > 90th-percentile) first with SSI, and then with any POC, adjusted on confounding factors.
Results: 6,801 arthroplasties were analysed, with 94 (1.4%) SSI and 789 patients with at least one POC (11.6%). The median intraoperative temperature and RH were 20 °C (18.4-21.3) and 46% (34-63) respectively. SSI and POC rates were higher at low (1.7% and 12.5% respectively) and high (2.5% and 15.5%) temperatures than medium (1.2% and 11%), and lower at low (1.4% and 10%) and high (0.8% and 10.6%) compared to medium (1.5% and 11.9%) RH (Fig. 1). In multivariable analysis, extreme intraoperative temperature and RH were not significantly associated with SSI, but high OR temperature increased significantly POC risk (aOR, 1.36; 95%CI 1.04-1.79; 0.02), while RH had no significant impact.
Conclusion: SSI and POC rates vary with extreme intraoperative temperature and RH, but only higher temperature was significantly associated with POC risk after adjustment.

Disclosure of Interest
None declared.

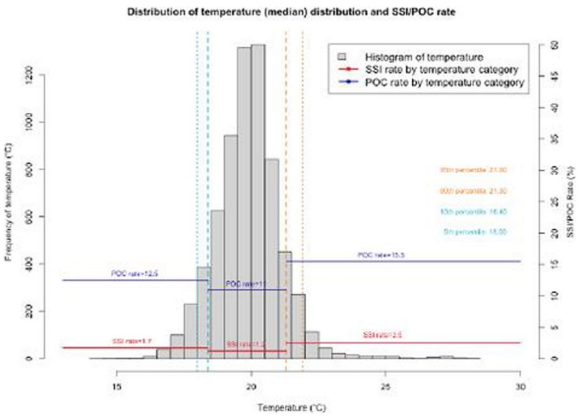

Fig. 1 (abstract O01). Histogram of the median of OR temperatures during surgical procedures and the associated SSI/POC rates

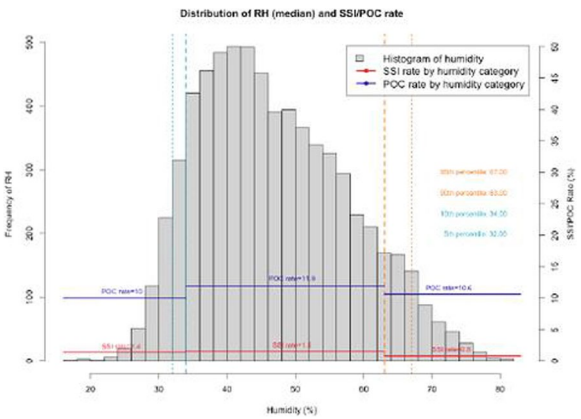

Fig. 2 (abstract O01). Histogram of the median of OR relative humidity during surgical procedure and the associated SSI/POC rates

O02

Improvement of surgical skill and the association with surgical site infection

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O02

Abstract
Video clip description: Abstract.
Background
Surgical site infections (SSI) remain a common and significant healthcare problem. Although the crucial role of the surgeon is well recognized, efforts to reduce SSI rates have primarily focused on perioperative care. This systematic review and meta-analysis aimed to summarize the current body of knowledge concerning the association between technical surgical skill and the incidence of SSI.
Methods
A systematic literature search was conducted in PubMed and Web of Science using the search terms"SSI"AND"Surgical Skill."Studies employing objective, video-based assessments of surgical skill were included. A systematic review and meta-analysis were performed, with SSI as the primary outcome and additional postoperative complications evaluated as secondary outcomes.
Results
Three studies met the inclusion criteria: Birkmeyer et al. (2013), Stulberg et al. (2021), and Varban et al. (2021). All studies demonstrated considerable variation in technical skill among practicing surgeons. Although Birkmeyer et al. reported a statistically significant reduction in SSI rates among higher-skilled surgeons, the pooled meta-analysis did not reach statistical significance for SSI (OR 0.59; 95% CI 0.19–1.81; $p = 0.35$). However, statistically significant associations favoring higher-skilled surgeons were observed for unplanned reoperations (OR 0.47), unplanned readmissions (OR 0.59), hemorrhage (OR 0.44), bowel obstruction (OR 0.33), and pulmonary complications (OR 0.30).
Discussion
Despite the absence of statistical significance for SSI, a clear trend toward lower infection rates among higher-skilled surgeons was observed. Given the multifactorial nature of SSI and its relatively low incidence, large patient cohorts are needed to reliably detect the influence of surgical skill. It is likely that statistical significance will be achieved as more studies are conducted. Potential mechanisms underlying this association include reduced tissue damage, shorter operation times, and improved wound closure.
Conclusion
Video-based assessment (VBA) represents a promising tool for both evaluating surgical quality and enhancing surgical education. Future studies should include large patient populations and standardized outcome measures to improve the comparability of results and strengthen the evidence base for systematic reviews and meta-analyses in this field.

Disclosure of Interest
None declared.

O03

Incidence, risk factors, and economic burden of surgical site infections (SSI) following coronary artery bypass grafting (CABG) in a tertiary teaching hospital in an upper-middle-income country

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O03

Introduction: SSIs post CABG increase morbidity,mortality,hospital stay and healthcare costs.In 2018 Universiti Malaya Medical Centre(UMMC) implemented an evidence-based SSI prevention bundle based on the World Health Organization multimodal strategy.
Objectives: This study evaluated SSI rates post-CABG, identified associated risk factors, and estimated SSI-related costs at UMMC.
Methods: A prospective study was conducted from 2017–2022,including all CABG patients.Data on SSI rates,patient characteristics and surgical antibiotic prophylaxis (SAP) were collected.As per UMMC guidelines,cefuroxime was the recommended SAP,given for ≤ 48 h. Cost data were converted to 2023 MYR. SSI rates per 100 procedures were calculated. Analysis was performed using SPSS 23.0.
Results: Out of 817 patients the overall SSI rate was 9.7/100 procedures ($n = 79$).Associated risk factors were use of non-cefuroxime antibiotics (OR: 2.637, $p = 0.034$),older age (OR: 0.950, $p = 0.001$) and SAP > 48 h (OR: 2.302, $p = 0.005$).The annual SSI rate declined trend from 21/100 procedures in 2017 to 17 in 2018 and 8 in 2019.SSI rates fluctuated with 3/100 procedures in 2020,rising to 12 in 2021 and declined again to 5 in 2022.Total SSI-related costs were highest in 2017 (RM473,471),decreased in 2018(RM467,483) and 2019(RM244,468) and stabilised between RM195,828 and RM225,626 from 2020 to 2022 (Fig. 1.1).
Conclusion: Implementation of a multimodal,evidence-based SSI prevention bundle resulted in significant and sustained reduction in SSI rates and associated healthcare costs over six years period.The study underscores the importance of appropriate SAP choice and limiting its duration to ≤ 48 h,demonstrating that effective prevention improves outcomes and lowers the economic burden on healthcare systems.

Disclosure of Interest
None declared.

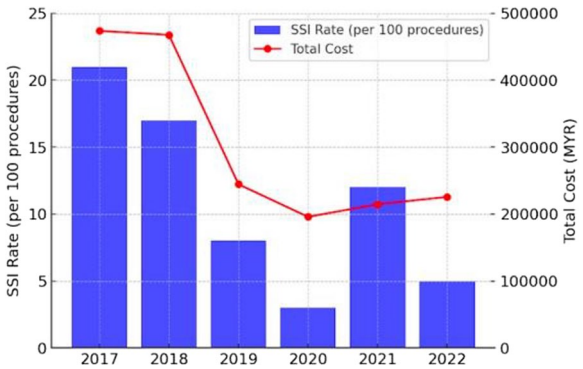

Fig. 1 (abstract O03). SSI Rate and Total Cost Following CABG at UMMC (2017–2022)

O04

Surgical site infections in breast surgery patients: risk factors, microbial profile, and prevention strategies from a two-year prospective study

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Introduction: Surgical site infection (SSI) is a major complication of breast surgeries, affecting patient outcomes. Reported SSI rates vary widely across institutions, highlighting the limitations of applying generalized benchmarks and underscoring the importance of preventive strategies.

Objectives: To analyze SSI following breast surgeries at a tertiary medical center in Lebanon.
Methods: A prospective cohort study was conducted at the American University of Beirut Medical Center from January 2023 to March 2025. All patients who underwent breast surgeries were included. SSI surveillance was performed by infection control (IC) team using CDC/NHSN definitions. SSI rates were calculated per 100 procedures performed. SSIs were stratified by procedure type, risk factors, and microbiological findings, and analyzed descriptively.
Results: Among 712 breast surgeries; 26 SSIs were identified, yielding an overall rate of 3.7% (quarterly trends in figure). SSIs were most frequent following mastectomy with reconstruction (53.8%), followed by mastectomy alone (23.1%), breast reconstruction (15.4%), and mastopexy (7.7%). Most cases (92.3%) had breast cancer, and 57.7% had received implants. Obesity (38.5%) and smoking (34.6%) were common. Most SSIs (69.2%) occurred within the first month postoperatively. Deep incisional (50.0%) and organ/space SSIs (26.9%) were more frequent than superficial SSIs (23.1%). *Staphylococcus aureus* (33.0%), and *Pseudomonas aeruginosa* (18.0%) were the predominant pathogens. Reoperation was required in 34.6% of cases.
Conclusion: Although breast surgeries are considered clean procedures, the observed SSI rate exceeded the NHSN benchmark of 0.9%, which includes low-risk plastic surgeries. Other studies report rates up to 13% in oncologic and reconstructive breast surgeries. In response, targeted measures were introduced, including preoperative skin screening for *Staphylococcus aureus* to guide decolonization and antibiotic prophylaxis, and a mandatory course on aseptic techniques in the operating room. These findings emphasize the need for ongoing surveillance and tailored strategies in higher-risk patients.

Disclosure of Interest
None declared.

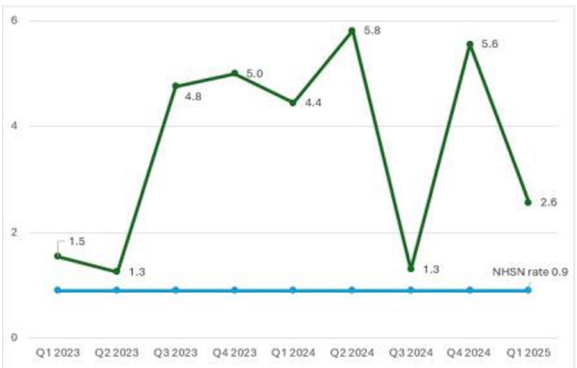

Fig. 1 (abstract O04). See text for description

O05

Cost-effectiveness of an intervention bundle against surgical site infections in adult abdominal surgery patients

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Introduction: Surgical site infections (SSI) contribute to increased costs and worse health outcomes. An SSI bundle intervention consisting of wound protectors, skin preparation with alcohol-based antiseptic, surgical set change prior to closure, normothermia maintenance and guidelines for antibiotic prophylaxis and use was implemented in a general hospital in Singapore to reduce SSI among abdominal surgery patients.
Objectives: This study assesses the cost-effectiveness and outcomes of bundle adoption.
Methods: A decision tree model was used to compare cost and effectiveness outcomes of incisional (superficial and deep) and organ/space SSI for index hospitalisation. Costs included bundle cost and hospital length of stay, effectiveness used life years gained. Mortality, readmission, and repeat surgery rates were from a previous systematic review and SSI rates from ACS-NSQIP. The pre-bundle phase (21 Jun 2021 to 30 Sept 2023, n = 2,536) was compared to the post-bundle phase (1 Oct 2023 to 30 Nov 2024, n = 455). A probabilistic sensitivity analysis with Monte Carlo simulation evaluated the probability of the bundle being cost-effective or cost-saving against a willingness-to-pay (WTP) threshold of SGD$45,000. A Value of Information analysis was conducted to estimate Expected Value of Perfect and Expected Value of Partial Perfect Information.
Results: The SSI bundle was cost-effective 75% of the time, cost-saving 57% of the time, and both cost-effective and cost-saving 48% of the time with a mean incremental net monetary benefit of SGD$352. Bundle adoption starts being cost-effective from a WTP threshold of SGD$6,000 up to SGD$100,000. A projected 1,093 bed days with a value of SGD$899,539 will be saved, with 135 cases of SSI averted and 86 life years gained for the next 10,000 abdominal surgery patients. The EVPI per patient for all parameters was SGD$94.96, with the probability of organ/space SSI having the highest value in the EVPPI analysis at SGD$58.89 per patient, increasing consistently across WTP thresholds from SGD$25,000 to SGD$100,000. All other parameters were valued at less than a dollar per patient.
Conclusion: The SSI prevention bundle is highly likely to be cost-effective and likely to be cost-saving and patient outcomes are improved. The results of this CEA supports the implementation of the SSI prevention bundle.

Disclosure of Interest
None declared.

O06

Early economic evaluation of nasal photodisinfection therapy for the prevention of surgical site infections

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Introduction: Surgical site infections (SSIs) are a significant source of preventable morbidity, mortality, and healthcare cost in the UK and globally. SSIs require antibiotic use, escalating the threat of antimicrobial resistance (AMR). A nasal photodisinfection therapy (nPDT) developed by Ondine Biomedical and distributed in Europe by Mölnlycke AB (Steriwave®), employs a light-activated photosensitizer to kill pathogens in the nasal cavity, without promoting resistance.
Objectives: This early health economic evaluation explores the clinical and cost impact of nPDT across the UK, with implications for SSI prevention and AMR stewardship.
Methods: YHEC developed a decision-tree cost-comparison model assessing nPDT in six surgical categories (hip, knee, spine, cardiac, vascular, and an 'all surgeries' composite). The model applied a one-year time horizon, using UK-specific SSI rates, mortality and treatment costs. Clinical effectiveness was derived both from a small series of 764 elective hip and knee arthroplasty patients (479 receiving nPDT treatment) at MYHT and from larger published studies. Two costing methods (micro-costing and a published aggregate method (Jenks et al. 2014)) and several sensitivity analyses were applied.
Results: In the MYHT series, nPDT achieved a per-patient saving of £2.87 (micro-costing) and prevented 9.8 SSIs per 1,000 patients. Modelled across 'all surgeries' nPDT prevents 24.5 SSIs per 1,000 patients, and is cost-saving by £38 and £107 per procedure, using micro-costing and published methods respectively. Cardiac (£228.09), hip (£86.65),

and knee (£84.43) surgeries were the most cost-saving procedures. Extrapolating across the UK, nPDT could prevent > 40,000 SSIs annually and generate > £190 M in savings.
Conclusion: nPDT is a cost-saving, non-antibiotic alternative for SSI prevention in a variety of surgical populations. Its broad adoption could substantially reduce both healthcare costs and antibiotic use. By reducing infection rates and associated antibiotic prescribing, nPDT offers a practical pathway to mitigate the threat of AMR.

Disclosure of Interest
None declared.

Reference
1. Jenks PJ et al. J Hosp Infect. 2014.86(1):24–33.

O07

Tolerance and compliance among orthopedic patients undergoing preoperative decolonization with octenidine in zurich (Balgdec trial)

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Introduction: The compliance with preoperative skin and nasal decolonization is important.
Objectives: We assess adverse events (AE) and compliance of patients participating in the BALGDEC trial.
Methods: The BALGDEC Trial is a prospective randomized trial uses a set (octenisan® wash lotion 1x/day and octenisan® nasal gel 2-3x/day; during 5 days preoperatively, with an emphasis on the morning before surgery as the last application). The Infection Control team instructs all patients and recuperates the questionnaires (open questions and Likert Scales regarding tolerance, compliance and opinions) after surgery. We use comparative statistics.
Results: Overall, we decolonized 523 orthopedic patients (57% males; median age 73 years) with good compliance in 83% and poor compliance in 17%. Over 80% of patients were decolonized during 4-5 days, but only two-thirds of these were decolonized in the morning before surgery. The commercial set was well tolerated with minor skin dryness in 13%, transient pruritus in 4%, and redness in 1%. A strong causal relationship could not be elicited. An advanced age, especially among female home residents, was inversely related to compliance (median 72 vs. 77 years; $p = 0.04$), including to the last"morning decolonization"($p = 0.02$), although these patients witnessed the same AE proportions as others. The reasons were a lack of habitudes to take a daily shower at this age, and the lack of time among the personnel in the elderly homes that could help. The patients'conviction on the preventive efficacy of any preoperative skin and nasal decolonization (highly convinced in 57%) was associated with a"younger"age (median 71 vs 74 years; $p = 0.02$).
Conclusion: In the BALGDEC Trial, the preoperative decolonization was well tolerated among the orthopedic patients in Zurich. The self-reported compliance exceeded 80%, with minor performance in the morning of (before) surgery and among (female) home residents.
Trial registration: ClinicalTrial.gov NCT05647252

Disclosure of Interest
None declared.

O08

The extent of infection prevention and control guidance in clinical practice guidelines: an inventory of the Dutch database

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O08

Introduction: To reduce healthcare-associated infections the Dutch Collaborative Partnership for Infection Prevention (Samenwerkingsverband Richtlijnen Infectiepreventie, SRI) develops national evidence-based infection prevention and control (IPC) guidelines for the Netherlands. However, IPC measures are also embedded in clinical practice guidelines (CPGs) from various medical specialties, potentially leading to inconsistent or contradictory guidance.
Objectives: This study examines the presence of IPC content in CPGs and its alignment with current SRI guidance.
Methods: A retrospective inventory was conducted using the Dutch national guideline database for medical specialists (https://richtlijndatabase.nl) which housed 11468 modules from 594 guidelines on February 20; 2025. A systematic search identified potentially relevant modules for IPC. Two independent reviewers performed screening and labelled modules as relevant, indirectly relevant, or irrelevant to IPC. Contradictions with SRI guidance were assessed qualitatively.
Results: The search yielded 1376 modules: 86 (6.3%) were classified as directly IPC-relevant; 46 (3.3%) as indirectly relevant, and 1196 (86.9%) as irrelevant. Additionally; 2 (0.1%) duplicates; 9 (0.7%) obsolete and 37 (2.7%) modules from SRI itself were excluded. Of the 132 IPC-relevant modules; 8 (6.1%) contradicted SRI guidance, mainly on skin disinfection and personal protective equipment. Five (3.8%) referenced current SRI guidance, while 17 (12.8%) cited previous IPC guidelines now superseded by SRI.
Conclusion: IPC measures are common in CPGs and not always aligned with national guidance of updated SRI guidelines. There is currently limited uptake of updated SRI guidance. While direct contradictions are rare, the lack of coordination risks inconsistent implementation. Manual oversight is unsustainable. To promote consistency and avoid contradictory recommendations of IPC guidance, enhanced harmonization between IPC guidance and CPGs is essential.

Disclosure of Interest
None declared.

O09

Behavioural and contextual changes for better healthcare practice: IPC goes social

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Introduction: Traditional IPC trainings often focus on biomedical facts and technical methods, separating them from the social and contextual aspects critical for real-world improvements. The authors focused on whether a participatory and systemic training and IPC approach named Participatory Approach to Learning in Systems (PALS) leads to improved social skills and attitude changes among healthcare workers while encouraging participants to initiate tailored organisational development processes for IPC improvement in Nigerian hospitals.
Objectives:
To evaluate if the PALS IPC approach and its training methods successfully enable healthcare workers to develop a systemic understanding

of IPC, resulting in behavioral and contextual changes relevant for IPC improvement within their hospitals in Nigeria
Methods: An evaluative mixed-methods research design accompanied the implementation of the novel PALS multi-module training programme, where over 90 participants from 23 secondary and tertiary hospitals took part. Quantitative and qualitative data were collected from the start of the programme up to one and a half years after implementation. The data were first analysed inductively and later triangulated.
Results: The data shows that the trained healthcare professionals developed new social skills and attitudinal changes that they actively apply in various work contexts in the hospital, interacting with different target groups as well as patients and even in their private lives. Basically, they apply these communication and cooperation skills to solve IPC problems or interpersonal conflicts, to collaborate fruitfully in interprofessional groups on different topics, and to engage effectively with their management structure. Their perception of IPC problems and solutions has changed to a more systemic and organisational understanding addressing both: human interaction and local working conditions.
Conclusion: The PALS IPC approach and its training didactic successfully enable healthcare workers to improve their social skills and develop a systemic understanding of IPC, leading to behavioural and contextual changes relevant for IPC improvement in healthcare settings. Therefore, PALS should be integrated into IPC trainings next to biomedical facts and technical methods.

Disclosure of Interest
None declared.

O10

Getting a grip on gloves: improving use and reducing errors

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O10

Introduction: In healthcare, examination gloves protect staff from infectious diseases and chemicals. Proper glove use, including hand hygiene and changing gloves at appropriate moments, is crucial to prevent infections. Additionally, sustainability is a key concern, as gloves contribute significantly to hospital waste. Observations at Deventer Hospital revealed frequent misuse of gloves, prompting an improvement initiative.
Objectives: The aim was to improve the correct use of non-sterile gloves in two hospital departments and ICU by 15% between June and December 2023. Success was measured through observations before and after targeted interventions.
Methods: A baseline measurement of glove use perception was conducted through direct observations and staff surveys. Based on these findings, various interventions were implemented, including e-learning, toilet newspaper, informational videos, and newsletters. These materials were distributed during an intervention week. A final evaluation was performed using repeated observations and a follow-up survey.
Results: Glove use improved significantly across all departments. Correct use at moments where gloves were required increased by 10.7%, while unnecessary glove use decreased by 25.6%. Errors in glove handling dropped by 16%, and staff reported improved knowledge of protocols.
Significant improvements in glove use were observed across all three departments. Additionally, glove purchases in January 2024 were lower than in January 2023, indicating a reduction in overall usage. Key factors influencing success included staff cooperation, timing, and sustainability awareness, which was a strong motivator.
Conclusion: The project exceeded its goal, leading to better compliance, fewer errors, improved protocol adherence, and reduced glove consumption.
Recommendations
To sustain improvements, glove use audits should be integrated into routine checks, e-learning modules should be developed for ongoing training, and similar strategies should be expanded to other disciplines and departments.

Disclosure of Interest
None declared.

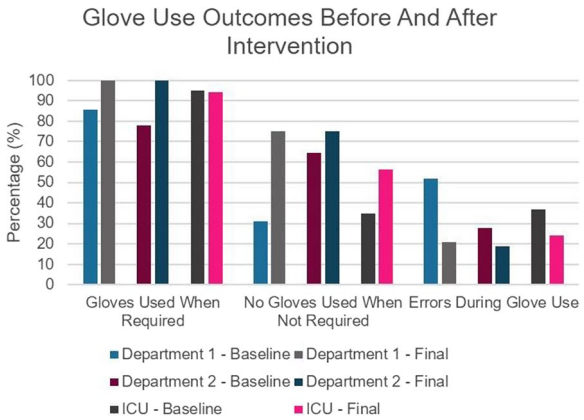

Fig. 1 (abstract O10). Glove use results; percentage of glove use before and after interventions

O11

Effectiveness of steam vapour versus standard disinfection in hospital drains: a quasi-experimental study

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O11

Introduction: Hospital drains and siphons can harbor biofilms and multidrug-resistant organisms (MRO), increasing infection risks. Chemical disinfectants offer temporary efficacy and risks like corrosion OR environmental impact. Steam vapour (SV) offers a promising alternative.
Objectives: To evaluate the effectiveness of SV disinfection compared to standard chemical disinfection (SD: sodium hypochlorite 0.1% or hydrogen peroxide 3.5%) in hospital siphons and drains.
Methods: A quasi-experimental pre-post study with a non-randomized control group, conducted in 3 wards at Hospital del Mar, Barcelona. Baseline microbiological samples were collected from siphons and drains before disinfection. Control group used SD; intervention group used SV-Class IIa device. Effectiveness was assessed at 7 and 30 days. Microbiological analyses included MRO identification and resistance. We calculated odds ratios (ORs) with 95% confidence intervals (CIs), incidence risk ratios and attributable risks.
Results: Among 408 samples; 61.8% showed MRO growth at baseline, including carbapenemase-producing. Post intervention: at 7 days, no statistically differences were found between SV and SD; at 30 days;

50% of SV-treated samples remained MRO-free, compared to 23.3% with SD (OR: 3.29; 95% CI: 1.07–10.12; p = 0.035). SV disinfection was associated with a 3.29-fold higher likelihood of preventing regrowth compared to the SD protocol. This difference was statistically significant according to the chi-square test (p = 0.035). The Fisher's exact test yielded a p-value of 0.055, suggesting a trend towards significance.
Conclusion: SV disinfection showed superior long-term efficacy compared to SD in hospital siphons and drains. SV significantly reduced MRO regrowth at 30 days, supporting its use as an effective alternative.

Disclosure of Interest
None declared.

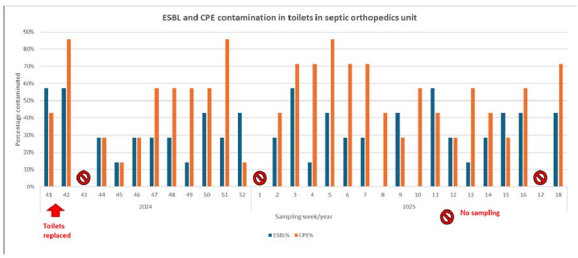

Fig. 1 (abstract O12). See text for description

O12

Flushed but not forgotten: multidrug-resistant organism in hospital toilets

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O12

Introduction: Hospital toilets are potential reservoirs for MDROs, posing a risk for cross-transmission to patients. The extent of MDRO contamination of toilets outside outbreak settings remains poorly understood.
Objectives: 1. To assess the prevalence and temporal trends of extended-spectrum beta-lactamase (ESBL) and carbapenemase-producing Enterobacterales (CPE) in hospital toilets
2. To evaluate whether replacement of toilets has an effect on CPE/ESBL contamination
Methods: Weekly toilet samples were collected (Oct-24 to Apr-25) in 7 shared toilets of septic orthopedic unit (22 beds) at HUG; where MDRO colonization of patients is sporadically detected through universal, weekly screening, and toilets are replaced every 6 months. Sampling and processing were based on results from a pilot study (RESERVOIR project) and consisted of collection of liquid from the toilet bowl (200 ml) using a suction catheter and a syringe, filtration (Millipore, 0.45 µm), 24-h enrichment with cefotaxime or temocillin and 24-h culture on ESBL or CPE selective agar plates. Typical colonies growing on ESBL or CPE-selective agar plates were identified using MALDI-TOF MS. For enetrobacterales, ESBL or carbapenemase production was confirmed by double-disk synergy test and NG-Test CARBA, respectively. Selected isolates were sequenced (Illumina).
Results: Overall, 27 samplings were conducted. Contamination levels varied by resistance mechnism, over time, and by specific toilet. Over time, 0-4/7 toilets (0-57%) and 1-6/7 toilets (14-86%) were ESBL + and CPE +, respectively (Figure). Persistence in a single toilet ranged between 3-21/27 ESBL + samples (11-78%), and 7-20/27 CPE + samples (26-74%). In the first sample after replacement (week 42), 4/7 ESBL + toilets (57%) and 6/7 CPE + toilets (86%) were identified. Dominant strains included *Citrobacter amalonaticus* ST714 (bla-OXA181 +), *Citrobacter freundii* ST214(bla-OXA48 +, blaVIM-1 +) and *C. freundii* ST11(bla-OXA181 +), but these were not identified in hospitalized patients.
Conclusion: High, variable prevalence of ESBL/CPE contamination of toilets was found, with a rapid re-colonization after replacement. Dominant MDR *Citrobacter* spp strains highlight the potential role of this genus as a hotspot of resistance in hospital aquatic reservoirs

Disclosure of Interest
None declared.

O13

Survey of mitigation strategies for sink-related infections in Dutch hospitals

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O13

Introduction: Sinks in patient rooms are known to harbor microorganisms and contribute to their spread to patients and their surroundings. The risk depends on both the sink's design and usage. While guidelines exist on the safe use of sinks, sustained behavioral change is challenging, and removing sinks appears to be a more pragmatic solution. We explored current perspectives of Dutch ICP's on sink removal from patient rooms and practices on mitigation strategies in Dutch hospitals as part of preparatory work for a new children's hospital.
Objectives: We developed a questionnaire to gather insights from Dutch Infection Control Practitioners (ICPs) about their experiences and preventive strategies regarding sinks.
Methods: The questionnaire was developed through a pilot phase with 11 hospitals and later distributed to an additional 24 randomly selected hospitals, totaling 35 hospitals (49% of all Dutch hospitals). A response rate of 83% was achieved, including three academic, nine teaching, and 17 general hospitals.
Results: From the responses; 26 confirmed that sinks pose a risk. Seventeen hospitals (59%) reported decommissioning sinks due to outbreaks. Behavioral adjustments, emphasized by 41%, included prohibiting the disposal of body fluids (21%) and medication (21%) in sinks,and avoiding clean procedures near sinks (14%). Design adaptations, cited by 35%, involved installing splash guards (21%), drain covers (21%), and alternative siphons (17%). Only 17% supported sink removal as a mitigation strategy. Although ICUs were mostly affected by sink-related infections (52% of respondents experienced these at the ICU; 7% at non-ICU); 48% of respondents stated they would avoid installing sinks altogether in both ICU and non-ICU patient rooms when constructing new hospitals.
Conclusion: In conclusion, sinks are commonly seen as a risk, but removal was not the most reported intervention. A combination of behavioral and design measures was more frequently chosen. However, in case of new to be built patient rooms, this is seen as an opportunity to prevent sink-related infections by not installing sinks in patient rooms at all ward levels, even though only two hospitals decommissioned sinks due to sink-related infections. These findings highlight the need for a framework to make evidence-based and proportionate choices for patient room design.

Disclosure of Interest
None declared.

O14

A Cluster randomised trial to improve hand hygiene and infection prevention control in eastern Uganda (Mikono study)

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O14

Introduction: Health care in Uganda still lacks systematic approach for infection prevention and control (IPC) including hand hygiene (HH). A preceding quasi-experimental study conducted in eastern Uganda to promote HH was a single center study and for a relatively short study duration.
Objectives: The purpose of the MIKONO study is to assess the impact of WHO multimodal HH improvement strategy using locally prepared alcohol-based hand rub (ABHR) in several health facilities at different levels in the healthcare system of Uganda over 3.5 years.
Methods: The MIKONO study is a cluster randomized trial with a step-wedge design involving three phases (baseline, intervention and post-intervention) at eight healthcare facilities in four districts in eastern Uganda over 45 months. During the intervention phase (12-21 months), locally prepared ABHR was provided to ensure and sustain the systemt change, an element of the WHO multimodal strategy as well as four other elements of the strategy. The order of the intervention commencement was randomly determined across four districts (i.e. a district as a cluster), and the intervention was started in a district every three months, and continued for at least a year. HH compliance by direct observation, HH Self-Assessment Framework (HHSAF) and IPC Assessment Framework (IPCAF), standardized tools created by WHO, were assessed.
Results: The study was initiated in November 2020, and completed in July 2024. A total of 27,895 HH opportunities were directly observed. The overall HH compliance in the baseline, the intervention, and the post-intervention phases were 22.7%; 72.8% and 78.0%, respectively ($p < 0.005$). The median HHSAF (max 500) and IPCAF (max 800) scores were 145 and 335 in the baseline; 383 and 657 in the intervention, and 366 and 676 in the post-intervention phases, respectively (both $p < 0.005$).
Conclusion: After the ABHR supply and the introduction of the WHO multimodal strategy, HH significantly improved and sustained across different healthcare facilities in eastern Uganda. Further strategies are warranted to improve hand hygiene nationwide in the resource limited settings.

Disclosure of Interest
None declared.

O15

Improving hand hygiene compliance using friendly competition in a multicenter hospital study

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O15

Introduction: Sustaining satisfactory levels of hand hygiene compliance (HHC) remains challenging despite its critical role in preventing hospital-acquired infections.
Objectives: We aimed to increase the HHC among nurses and doctors in a multicenter hospital setting using friendly competition as a part of a multimodal intervention strategy.
Methods: This pragmatic prospective observational study was conducted in 15 Dutch hospitals from May 2014 to December 2023. HHC was assessed among nurses and doctors in in- and outpatient wards based on WHO's Five Moments. Over 9.5 years, hand hygiene opportunities were observed at 16 time points, spaced 6 or 12 months apart. Hospitals individually implemented interventions to promote HHC, including education, feedback (at ward and board level), facilities, and communication. The key intervention was friendly competition between hospitals, by openly sharing and ranking HHC results between hospital boards, ward management and professional leaders of hospitals after each measurement. This competitive approach encouraged managers to boost compliance by providing opportunities at lower management levels to take initiative.
Results: A total of 65,459 hand hygiene opportunities were observed. Median baseline HHC was 43.4%, ranging from 21.5%—69.5%. HHC steadily increased over time (Fig. 1), reaching a median of 77% (range 61.1%—94.3%). A significant increase in HHC from baseline to last time point was observed for 13 hospitals ($\chi 2$, $P < 0.05$). At the last time point, HHC varied significantly across the Five Moments ($\chi 2$, $P < 0.001$), with the lowest HHC for moment 1 (59.4%) and highest for moment 4 (82%); no significant difference in HHC was found between nurses (74.2%) and doctors (72.1%). Neonatology departments had the highest HHC; 91.8%, while dialysis departments showed the largest increase (22.6% to 73.5%). Further generalized linear mixed model analyses, including interventions will follow.
Conclusion: By friendly competition and a multimodal strategy, HHC significantly increased in 87% of hospitals. We demonstrate a real-life scenario and success on all ward levels and hospitals. Next to the other interventions, open and shared feedback of results at board level was seen as an innovative intervention leading to competition and enabling lower management to drive improved HHC.

Disclosure of Interest
None declared.

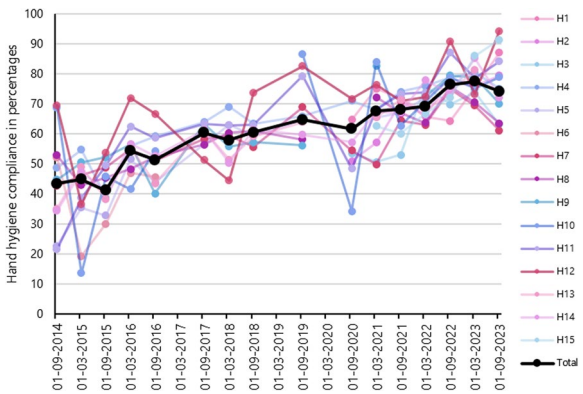

Fig. 1 (abstract O15). See text for description

O16

Hand hygiene in european long-term care facilities: insights from the halt point prevalence surveys

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O16

Introduction: Hand hygiene (HH) is a cornerstone of infection prevention and control (IPC) in long-term care facilities (LTCFs), where residents are particularly vulnerable to healthcare-associated infections (HAIs). The European Centre for Disease Prevention and Control (ECDC) organised point prevalence surveys (PPSs) of HAIs and antimicrobial use in European LTCFs in 2016-2017 (HALT-3) and 2023-2024 (HALT-4).
Objectives: To explore HH practices and alcohol-based handrub (ABR) consumption across European LTCFs.
Methods: Data were collected through a standardised questionnaire completed by the participating LTCFs. Descriptive analyses were conducted to assess and compare the reported IPC staffing, HH methods and training, and ABR consumption between the HALT-3 and HALT-4 surveys.
Results: In HALT-4; 916 LTCFs across Europe participated (HALT-3: 1,797 LTCFs). In HALT-4; 78.7% (n = 623/792) had at least one person trained in IPC, mainly both nurses and doctors (HALT-3: 46.1%). Most (94.2%) LTCFs had an HH protocol. Hand disinfection with ABR was the most common HH method when hands were not soiled (81.6%; n = 617/756), while handwashing with antiseptic (10.1%; n = 76/756) or non-antiseptic soap (8.3%; n = 63/756) were less frequent. Only 61.1% (n = 446/730) of LTCFs reported HH training in the previous year, which is lower than in HALT-3 (66.0%). Among 484 (52.8%) LTCFs providing quantitative data, the median ABR consumption was 4.9 L/1,000 resident-days, representing a modest increase (+ 13.9%) from HALT-3 (4.3 L/1,000 resident-days) (Fig. 1).
Conclusion: Although HH protocols and ABR use were widely reported in European LTCFs, the modest increase in ABR consumption since 2016-2017 suggests that practical implementation of HH with ABR in LTCFs remained limited in 2023-2024. Alcohol-based hand rub consumption in LTCFs was relatively low when compared to acute care hospitals, even when considering only specialties such as psychiatry and long-term care, indicating that there is room for improvement. Enhancing HH training programmes and reinforcing ABR use are critical steps toward strengthening IPC in LTCFs.

Disclosure of Interest
None declared.

	HALT-3 (2016-2017)		HALT-4 (2023-2024)	
Number of countries	24		18	
Number of LTCFs	1,797		916	
	n/N	%	n/N	%
Infection prevention and control (IPC)				
LTCF with at least one person with an IPC training	1,138/1,602	71.0	623/792	78.7
Nurse	*571/1,138*	*50.2*	*254/623*	*40.8*
Doctor	*60/1,138*	*5.3*	*32/623*	*5.1*
Both	*507/1,138*	*44.5*	*287/623*	*46.1*
Hand hygiene (HH)				
LTCFs reported HH training in the previous year	1,046/1,585	66.0	446/730	61.1
Most common HH method when hands are not soiled				
Disinfection with an alcohol-based handrub	*1,132/1,610*	*70.3*	*617/756*	*81.6*
Hand washing with water and an antiseptic soap	*245/1,610*	*15.2*	*76/756*	*10.1*
Hand washing with water and non-antiseptic soap	*233/1,610*	*14.5*	*63/756*	*8.3*
Alcohol-based handrub (ABR)				
Median ABR consumption	4.3 L/1,000 resident-days		4.9 L/1,000 resident-days	

Fig. 1 (abstract O16). Infection prevention and control, hand hygiene methods and training, and alcohol-based handrub consumption in European LTCFs: comparison between HALT-3 and HALT4. LTCF: Long-term care

O17

Assessment of hand hygiene opportunities in nursing homes: a mixed-methods national approach

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O17

Introduction: Due to the nature of nursing homes (NH), translating hand hygiene (HH) indications into actual opportunities is challenging.
Objectives: The multicenter study aimed to estimate daily HH opportunities (HHO) required for resident care, according to the types of resident's profiles and care provided.
Methods: This observational multicenter prospective study was performed in 2 phases. Phase 1 relied on a recording of all cares provided during 24-h in the room of included residents. Cares were collected by healthcare professionals using a list (38 cares) placed on resident room door. All types of NHs were eligible and contacted through a national call. In each participating NH, 10 residents were included based on their dependency (6 dependency levels: GIR 1 very dependent to GIR 6: independent residents). Phase 2 was based on a Rand Modified Delphi process in 2 steps including infection control's and NH's professionals to define a number of HHO required per type of care. The consensual number of HH obtained with the Delphi was attributed to the HHO observed during phase 1.
Results: Forty-eight NH from 12 French regions participated, with 527 residents included in the phase 1. Over a 24-h period, 7,682 care acts were recorded during 4,901 room entries (median 9 entries/resident). The median number of acts per resident-day was 14 [IQR: 9-19], varying by dependency level (GIR 1: 18 [13-24]; GIR 6: 7 [5-8]). Most entries involved a single act (69%) and were performed by one caregiver (88%). The most frequent acts were meal assistance (17.2%), night shifts (15.0%), and medication support (11.0%). The modified Delphi process led to a final consensus for the number of HH required for 38 care acts. By applying the results of the Delphi to the observed care acts, care performed by resident-day require an estimated number of 10 HH [7-14], with variation by resident profile (GIR 1-2: 13 [9-16]; GIR 3-4: 8 [5-12]; GIR 5-6: 5 [3-8]).
Conclusion: This study highlights the high number of HHOs in NH, far exceeding the national target (4 AHR per resident-day). A resident-centered and act-based approach provides a more realistic benchmark. These findings support adjusting targets and improving the interpretation of AHR consumption data.

Disclosure of Interest
None declared.

O18

Environmental contamination in Dutch long-term care facilities: how clean is clean?

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O18

Introduction: Environmental hygiene in long term care facilities (LTCF) plays a crucial role in infection prevention. Despite its significance, it often remains under-prioritized.
Objectives: This study assesses the level of environmental contamination in long-term care facilities within the Noord-Brabant region in the Netherlands.
Methods: Standardized adenosine triphosphate (ATP) measurements were conducted in 29 wards within 9 LTCF organizations housing residents with psychogeriatric, somatic, mixed and rehabilitation care needs. Measurements were taken from 30 surfaces per ward across four key categories: Medical devices (e.g., glucose meters, thermometers); Sanitary items (e.g., toilet seats, sink faucets); Client-related materials (e.g., bedside tables, bed rails) and Ward-related materials (e.g., keyboards, hallway railings). Measurements were conducted at midday without accounting for prior cleaning, thus reflecting surface conditions clients encounter during the day.A relative light unit (RLU) value greater than 1000 was classified as "not clean". Differences in RLU values were analyzed to compare cleanliness across categories, wards and organizations.
Results: A total of 1,243 ATP measurements revealed that 598 (48.1%) of the surfaces met the"clean"threshold, but 59 (4.7%) surfaces showed extreme contamination (ATP > 10.000 RLU). Often contaminated surfaces included chair armrests, bed rails, wheelchairs, and patient lifts.
Cleanliness varied significantly between departments, even within the same organization. While some achieved cleanliness levels of 89%, others reached only 27%. Medical devices were significantly less contaminated than ward-related (p = 0.000) and client-related materials (p = 0.007). Sanitary items had lower RLU scores than client-related materials (p = 0.000).
Conclusion: ATP measurements revealed substantial variations in contamination levels across wards and organization. These findings highlight the need for further research into the underlying causes, including barriers and facilitators, to support sustained hygiene improvements in LTCFs.

Disclosure of Interest
None declared.

O19

Strain similarity of carbapenem-resistant acinetobacter baumannii and transmission in post-acute care hospitals: an FTIR-based analysis

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Introduction: Carbapenem-resistant *Acinetobacter baumannii* (CRAB) colonization in post-acute care hospitals (PACH) likely reflects both importation of colonized patients and within-PACH transmission.
Objectives: To study within-PACH transmission by examining the association between patient proximity and sameness of CRAB clusters, as identified by Fourier-transform infrared (FTIR) spectroscopy.
Methods: We conducted a point-prevalence survey in 55 wards in 18 Israeli PACH in 2021. Patients (N = 1,733) were screened for CRAB, and 461 isolates from 357 patients underwent FTIR typing (IR Biotyper, Bruker). We assigned each patient isolate to its cluster and paired each patient-cluster combination with every other patient-cluster combination. We examined the relationship between spatial proximity of pairs (N = 75,047) and FTIR cluster sameness using logistic regression. We compared the proportion of patient pairs with CRAB belonging to the same cluster between institutions to the proportion of such pairs within wards to estimate within-ward CRAB transmission.
Results: FTIR analysis grouped the isolates into 23 distinct clusters. We examined the odds of patient pairs sharing the same CRAB cluster versus a different cluster in 6 levels of patient proximity (see Figure). Compared to patients in different institutions, those in the same ward had significantly higher odds of carrying isolates from the same cluster (odds ratio [OR]: 3.6, $p < 0.001$). The odds were highest for patients who shared the same room (OR: 6.2) or were in adjacent rooms (OR: 6.1) ($p < 0.001$). Based on the proportion of same-cluster pairs, we estimate that approximately 70% of prevalent CRAB cases were due to within-ward transmission.
Conclusion: CRAB strain similarity was strongly associated with spatial proximity within PACH wards, indicating that within-ward transmission is an important contributor to CRAB carriage prevalence. Similar risk in same and adjacent rooms suggests transmission via shared staff or equipment. Targeted ward-level infection control may help interrupt spread.

Disclosure of Interest
None declared.

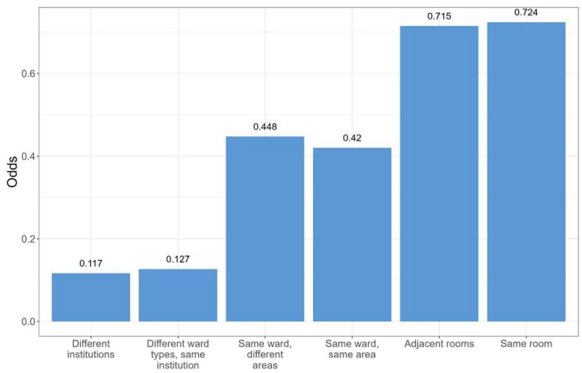

Fig. 1 (abstract O19). See text for description

O20

Health personnel influenza vaccine uptake rates in nursing homes with mobile infection prevention and control team awareness training 2016-2023

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Introduction: A mobile Infection and prevention control (IPC) team EMHE based at Lyon University Hospital (Hospices Civils de Lyon, HCL) is linked with 95 nursing homes (NH) for IPC support. EMHE proposed and provided vaccine awareness training to health personnel (HP) since 2017. At the same time, the regional IPC Coordinating Centre CPIAS ARA collected annual benchmarking data on HP influenza vaccine uptake rates, from all regional NH on a voluntary basis since 2015. Training was interrupted during the 2020 Covid pandemic and was gradually re-established by EMHE since 2021.
Objectives: To compare HP influenza vaccine uptake rates from 2017 to 2023 in NH with or without vaccine awareness training each year, using 2016 as the reference year before extensive vaccine awareness training was proposed by EMHE to linked nursing homes.
Methods: We analysed CPIAS ARA reported data on HP influenza vaccine uptake rates for NH linked to EMHE, from years 2016 to 2023. We performed a Student's *t*-test comparing uptake rates in NH with or without vaccine awareness training from EMHE each year.
Results: Data showed significant difference between NH with vaccine awareness training from EMHE, with a 72.6% increase of HP influenza vaccine uptake rate ($p < 0.001$) in 2023 compared to 2016 the reference year. In 2023, the average HP influenza vaccine uptake rate is higher in NH with training from EMHE compared to NH without training (45.8%

vs 28.4%, p = 0.003). Amongst NH with training, there is a 5.5% reduction in vaccine uptake rate (non-significant) between 2017 and 2023. For NH without awareness training, there is a 17% reduction in vaccine uptake rate (non-significant) between 2017 and 2023.
Conclusion: Vaccine awareness training by a mobile IPC team (EMHE) made a measurable difference with a sustained impact in HP influenza vaccine uptake rate in NH in the ARA region over 7 years (2017-2023). The Covid pandemic interrupted the training and had an impact on vaccine uptake rates in NH post-crisis. We note vaccine hesitancy amongst health personnel possibly linked to the obligatory vaccine mandate in 2021 as well as continual vaccine misinformation, and the need for face-to-face training to establish trust and acceptance.

Disclosure of Interest
None declared.

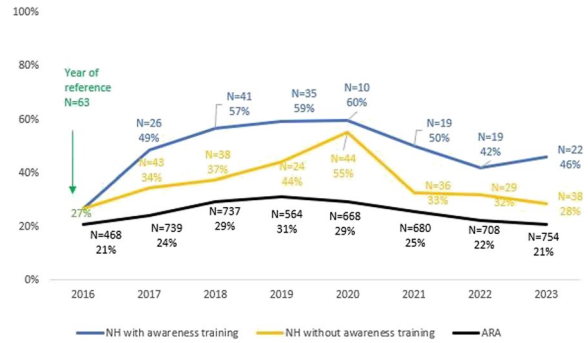

Fig. 1 (abstract O20). See text for description

O21

Infection risk of peripheral intravenous catheters – meta-synthesis of 18 prospective studies with 14,606 catheters

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O21

Introduction: Peripheral intravenous catheters (PIVCs) risk local and bloodstream infections. There is worldwide interest in PIVC use beyond traditional routine time-based removal, and understanding of comprehensive risk factors.
Objectives: To quantify the incidence of PIVC infections and to describe the influence of clinical characteristics, including dwell time.
Methods: Meta-synthesis of 18 prospective studies (16 RCTs and 2 prospective cohort studies) totalling 50,096 device-days in 7 Australian hospitals. We measured local infection (without bloodstream infection [BSI]) and PIVC-associated bloodstream infection (i.e., primary BSI) using NHSN criteria. The hazard function was assessed by fitting a parametric survival model. PIVC-associated BSI was further categorized as PIVC-related BSI and/or *Staphylococcus aureus* BSI. Case study methodology explored risk characteristics, and life tables explored hazard function over time.
Results: Of 14,606 PIVCs (dwell 0–42 days), there were 5 local infections (0.034%; 0.100/1,000 device-days) and 6 PIVC-associated BSI (0.041%; 0.120/1,000 device-days), of which 4 were PIVC-related and 1 was *S. aureus* BSI. PIVC-associated BSI involved *Enterobacter cloacae* (n = 3 including one co-infection with *Citrobacter braakii*), *Proteus mirabilis* (n = 1), *Pseudomonas aeruginosa* (n = 1) and *S. aureus* (n = 1; *S. aureus* BSI incidence 0.007% catheters or 0.020/1,000 device-days). PIVC-associated BSI cases commonly featured: males > 60 years with difficult intravenous access, delayed removal of idle or symptomatic PIVCs, cancer diagnoses, invasive gastrointestinal drains/procedures, insertion site complications, and forearm placement. PIVC-associated BSI daily hazard was constant over time (0.00% to 0.03% on Days 1 to 5, 0.06% to 0.10% on Days 6 and 7, and zero on Days 8 to 42.
Conclusion: Infection incidence is very low but remains a serious risk, mainly for complex patients. Gram-negative organisms may now be predominant in Australia. Infection surveillance should be risk-adjusted and prevention efforts to improve both insertion and post-insertion management targeted at high-risk groups. Intravenous therapy (exposure) should be minimised but daily risk per PIVC appears constant for at least 5 days.

Disclosure of Interest
C. Rickard Grant/Research support from: BD; ICU Medical; Solventum; Spectrum Vascular, Consultant for: BBraun, BD, ICU Medical, Solventum, J. Schults: None declared, G. Mihala: None declared, G. Ray-Barruel: None declared.

O22

A decade of surveillance of hospital-associated bloodstream infections(HABSI) in Belgium: evolving trends, resistance patterns, and prevention impact (2014–2023)

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Introduction: Hospital-associated bloodstream infections (HABSI),particularly those linked to invasive devices, represent a major but largely preventable healthcare challenge. In Belgium, a national HABSI surveillance system has been operational since 1992. Acute care hospitals's participation is mandatory since 2014 with centralized data reporting via the Healthdata/Healthstat platform established in 2017.
Objectives: The 2023 surveillance report analyzed HABSI and central line-associated bloodstream infection(CLABSI) data from 96 participating hospitals (94% of eligible institutions). Trends in incidence rates and antimicrobial resistance patterns were assessed over a 10 year period(2014–2023).
Methods: We used population-averaged negative binomial regression models to assess changes in hospital and ICU-specific HABSI-CLABSI incidence analyzing trends across 2014-2023 using incidence risk ratios.
Results: Between 2020-2023(Fig. 1), national HABSI incidence decreased significantly to 8.8 per 10,000patient-days(pd) in 2023,down from a peak of 10.4 in 2020. ICU-associated BSI rates decreased from 47.6 to 35.4 per 10,000pd between 2021-2023. Hospital-wide CLABSI incidence increase slightly since 2019 (from 2.03 to 2.12 per 10,000pd in 2023), the total number of CLABSI cases declined. Microbiologically confirmed CLABSI(CRBSI) incidence decreased slightly, from 0.93 in 2020 to 0.90 per 10,000pd in 2023. ICU-specific CLABSI incidence remained high at 12.22 per 10,000pd in 2023, though it declined by 17% annually since 2020. ICU-specific CRBSI incidence declined from 6.59 to 4.71 per 10,000pd between 2020-2023. In 2023, there were 7,017 HABSI episodes,with central lines(25%) and urinary tract infections(20%) identified as leading sources. Invasive devices were implicated in 43% of cases,with a 44% confirmation rate. Resistance of *E. coli* to third-generation cephalosporins(C3G-%R) increased from 13.4% in 2020 to 16.2% in 2023. *K. pneumoniae* rose from 25.4% to 33.1% over the same period, while *E. cloac*ae showed a slight decrease, from 41.1% to 38.9% (C3G-%R).
Conclusion: The surveillance data indicate sustained improvements in HABSI prevention and IPC performance post-COVID-19. However,elevated ICU CLABSI rates and increasing antimicrobial resistance highlight ongoing challenges.

Disclosure of Interest
None declared.

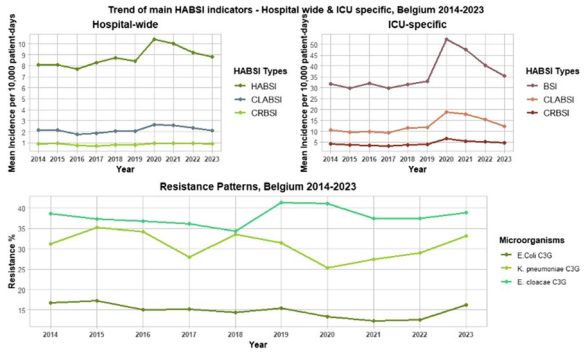

Fig. 1 (abstract O22). See text for description

O23

Preliminary results of a national deployment of a fully automated clabsi surveillance in Switzerland

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Introduction: Effective surveillance of healthcare-associated infections requires transitioning from manual to accurate, fully automated systems.
Objectives: We aimed to 1) implement a fully automated surveillance system for central line-associated bloodstream infections (CLABSI) in critically ill patients and 2) validate its performance against manual review.
Methods: We conducted a multicenter study across six secondary and tertiary hospital networks in Switzerland. A centralized, fully automated algorithm was deployed to detect catheter-related bloodstream infections (CRBSI), CLABSI, and intensive care unit-onset bloodstream infections (ICU-BSI) among critically ill patients. The algorithm was externally validated against a reference standard, defined as manual classification of positive blood cultures, blinded to algorithm results. A random sample of positive cultures was selected for validation. Primary outcome was defined as CRBSI and CLABSI combined. Incidence rates for CRBSI/CLABSI and ICU-BSI were calculated using automated surveillance data.
Results: From January 2022 to December 2023, we analysed 131′166 patients-days, 108′719 catheter-days and 7′832 positive blood cultures from 1931 critically ill patients. From this study population, 581 blood cultures were randomly selected for validation of the primary outcome. The algorithm demonstrated a sensitivity of 86.5% (95% CI: 79.8–91.2), specificity of 95.3% (95% CI: 92.7–97.0), positive predictive value of 87.0% (95% CI: 80.4–91.7), and negative predictive value of 95.1% (95% CI: 92.5–96.8) for the CRBSI/CLABSI (Fig. 1). Incidence rates determined by automated surveillance were 3.23 per 1′000 catheter-days (95% CI: 2.91–3.57) for CRBSI/CLABSI and 2.42 per 1′000 patient-days (95% CI: 2.17–2.70) for ICU-BSI. Most identified microorganisms for CRBSI/CLABSI were *Staphylococcus epidermidis (46.4%), Enterococcus faecium* (28.9%), and *Enterococcus faecalis* (15.8%).
Conclusion: This study demonstrates the feasibility and external validity of a fully automated system for CLABSI surveillance in critically ill patients, supporting its integration into national HAI surveillance strategies.

Disclosure of Interest
None declared.

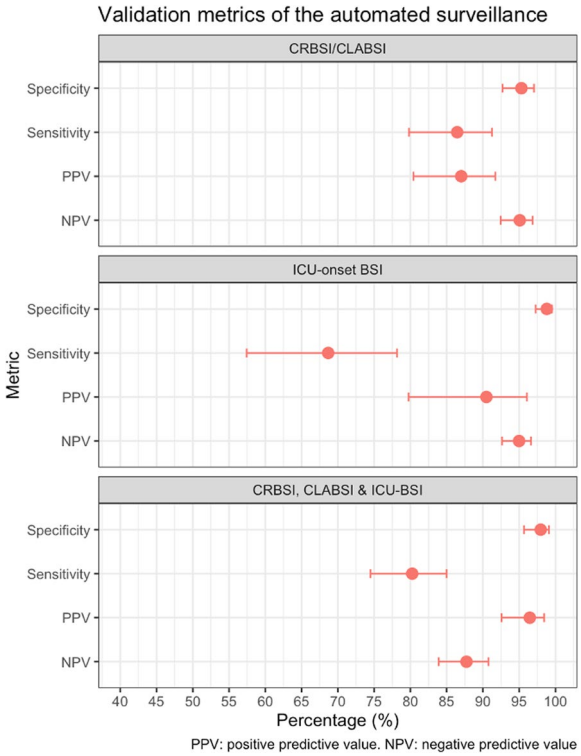

Fig. 1 (abstract O23). See text for description

O24

Reversing rising central line-associated bloodstream infections trends: impact of a comprehensive multi-component strategy in adult intensive care units

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Introduction: Central line-associated bloodstream infection (CLABSI), a critical preventable issue, significantly increased in our adult ICUs from 0.7 (Jan-Sep/2023) to 2.4 (Oct/2023-Aug/2024) per 1,000 catheter-days (p = 0.023).
Objectives: To evaluate the effectiveness of a multi-component prevention strategy, implemented from August 2024, to reduce CLABSI.
Methods: A comprehensive prevention bundle was implemented, including enhanced hand hygiene, maximal barrier precautions (insertion/care), daily 2% chlorhexidine bathing, hub disinfection, gentamicin locks (hemodialysis), femoral access minimization, daily line necessity review, bundle compliance monitoring, and focused staff training (Aug-Sep/2024). CLABSI surveillance followed the National Healthcare Safety Network (NHSN) device-associated module protocol.
Results: In 7 adult ICUs, the CLABSI rate was 0.7/1,000 central line-days (3 cases/4,043 CL-days) from Jan-Sep/2023. This significantly increased to 2.4 (14 cases/5,814 CL-days) during Oct/2023-Aug/2024. After implementing a prevention bundle in Aug/2024, the rate dropped to 0.2 (1 case/4,013 CL-days), indicating effectiveness (Fig. 1).
Conclusion: The implementation of a targeted, multi-component prevention strategy proved highly effective in reversing a significant upward trend of CLABSI rates within our adult ICUs. The observed reduction in CLABSI incidence from a peak of 2.4 down to 0.2 per 1,000 central line-days underscores the substantial impact of applying a comprehensive bundle of evidence-based practices. This study

highlights that meticulous attention to hand hygiene, insertion/maintenance protocols, daily line necessity evaluation, and dedicated staff training are crucial for controlling and preventing these serious infections. Sustained commitment to these measures and ongoing surveillance are essential for maintaining patient safety and achieving durable reductions in CLABSI.

Disclosure of Interest
None declared.

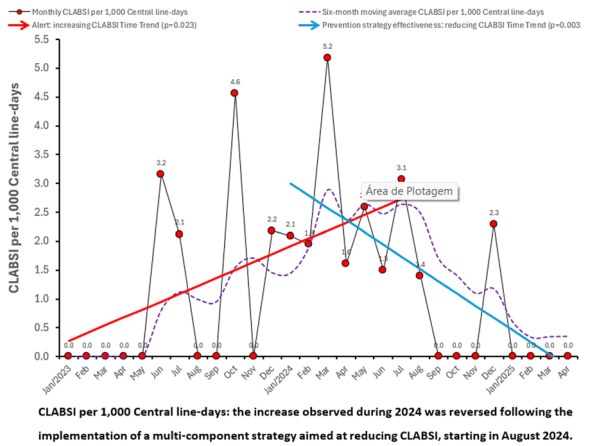

Fig. 1 (abstract O24). See text for description

O25

Sustained effect of a multifaceted VAP prevention program over more than seven years including the covid-19 pandemic

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Introduction: Ventilator-associated pneumonia (VAP) is a leading cause of morbidity and mortality in intensive care units. Several multifaceted intervention bundles have been shown to decrease its incidence, however, their sustainability is often questioned due to the limited follow-up time in many prevention trials.
Objectives: We report the long-term impact of an intervention bundle containing nine measures on the incidence of VAP in mechanically ventilated patients admitted to the intensive care division at Geneva University Hospitals over a prolonged follow-up period of seven years (2016-2023), including the COVID-19 pandemic. The original study (2014-2016) showed a decrease in VAP incidence over 11 months.
Methods: We compared the incidence of VAP per 1,000 ventilator days within five pre-defined time periods (pre-intervention, intervention, post-intervention, prolonged follow-up, and the COVID-19 pandemic) by calculating incidence rate ratios (IRRs) using a Poisson regression model on aggregated monthly data, with ventilator days as an offset. Adherence to the bundle measures was assessed using the monthly percentage of correct observations per time period.
Results: The incidence of VAP per 1,000 ventilator days reduced from 24.3 (95% confidence interval [CI] 18.8-30.9) in the pre-intervention period to 3.9 (95% CI 2.0-6.8) in the post-intervention period, see Figure. During the prolonged follow-up and COVID-19 periods, VAP incidence per 1,000 ventilator-days remained low with 4.0 (95% CI 2.9-5.4) and 3.7 (95% CI 2.8-4.7), respectively. Comparing each of the four later time periods with the pre-intervention period showed a significant decrease in the incidence of VAP with IRRs (and 95% CIs) of 0.490 (0.286-0.840), 0.160 (0.067-0.386), 0.166 (0.096-0.287) and 0.150 (0.091-0.248), respectively. Adherence to the prevention measures stayed elevated or increased between the post-intervention and COVID-19 periods for all measures except sedation control, where the adherence decreased.
Conclusion: After the implementation of a VAP prevention bundle in 2014, there was a sustained decrease in VAP incidence during a 7-year follow-up, including the COVID-19 pandemic.

Disclosure of Interest
None declared.

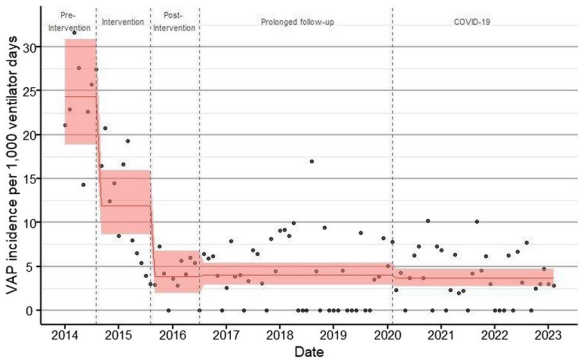

Fig. 1 (abstract O25). VAP incidence per time period

O26

Achieving ventilator-associated pneumonia reduction in the ICU: lessons from the stop infection 2.0 project

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Introduction: The **STOP Infection 2.0 Project** is a nationwide Portuguese initiative led by the Program for the Prevention and Control of Infections and Antimicrobial Resistance of the Directorate-General of Health, in collaboration with the Calouste Gulbenkian Foundation and the Institute for Healthcare Improvement. It aims to reduce the four most common healthcare-associated infections and foster a culture of continuous quality improvement. **Ventilator-associated pneumonia (VAP)** is among the most frequent and severe infections in Intensive Care Units (ICU), being associated with increased morbidity, mortality, and healthcare costs.
Objectives: This study describes the experience of a secondary hospital in implementing this project to reduce VAP incidence.
Methods: Launched in May 2023, the project began with staff engagement and leadership awareness. Several strategies were adopted, such as reinforcement of intervention bundle elements: maintaining head-of-bed elevation $\geq 30^{o}$, implementation of an oral hygiene protocol, routine cuff pressure monitoring, daily assessment of sedation and extubation readines. Introduction of continuous quality improvement tools: daily huddles to reinforce best practices; use of the Sustaining Improvement Management methodology with daily bundle certification and issue analysis. Use of small-scale Plan-Do-Study-Act (PDSA) cycles to assess the impact of interventions.
Results: By early 2025, the ICU achieved a sustained reduction of over 50% in VAP incidence density. This reduction reflects a decline in the median incidence density from 11.2 at baseline to zero during the most recent eight-month period (Fig. 1). Improvement was particularly notable after the introduction of the oral hygiene protocol.
Conclusion: The STOP Infection 2.0 Project effectively reduced VAP in the ICU through targeted practices and team-based approaches. The results highlight the value of structured oral care, routine evaluation

practices, and continuous team involvement. Despite ongoing challenges, the experience shows that low-cost, evidence-based changes can yield significant and lasting improvements in patient outcomes. Ensuring sustainability will depend on leadership commitment, continuous monitoring, and reinforcement of best practices.

Disclosure of Interest
None declared.

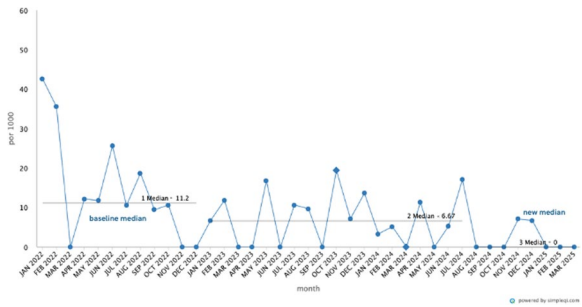

Fig. 1 (abstract O26). Incidence Density of Ventilator-associated Pneumonia

O27

Feasibility and performance of a semi-automated non-ventilator hospital-acquired pneumonia (NVHAP) surveillance system in swiss acute care hospitals: a pilot study

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Introduction: Non-ventilator hospital-acquired pneumonia (nvHAP) is one of the most common and relevant healthcare-associated infections. Semi-automated systems enable nvHAP surveillance.
Objectives: This pilot study evaluated the performance, feasibility, and implementation determinants of an adaptable semi-automated nvHAP surveillance system in Swiss acute care hospitals.
Methods: Seven hospitals, purposefully selected to represent different hospital sizes and language regions, implemented a standardized, but locally adaptable selection algorithm including up to five indicators (radiology procedure, radiology report, leukocyte counts, body temperature, and intubation data). Five hospitals performed manual review on preselected patients following standardized definitions. Performance characteristics of the algorithms, time investment to implement the semi-automated surveillance, nvHAP incidence and nvHAP outcomes were evaluated. Interviews identified barriers and facilitators for implementation.
Results: Hospitals implemented algorithms including one to five indicators. Sensitivity of algorithms was > 90% in larger hospitals, but small sample sizes did not allow exact quantification of the sensitivity in smaller hospitals. Workload reduction ranged from 87 to 99%, depending on algorithm implemented and patient population under surveillance. Time for technical implementation varied widely (55–437 h). Mean time for manual review per patient was 14 min and decreased with experience. Implementation facilitators included available pre-processed data, experience in similar projects, and external support. nvHAP incidence rate ranged from 0.37 to 1.71 per 1000 patient days. Intensive care unit admission and intubation was necessary in up to 23.8% and 14.6% of patients, respectively.
Conclusion: Semi-automated surveillance algorithms were sufficiently sensitive and feasible to implement, but hospitals should anticipate the workload for setup and manual review. The incidence and relevance of nvHAP justify the time investment required.

Disclosure of Interest
None declared.

O28

An unusual yeast species responsible for surgical site infections in cardiac surgery

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Introduction:*Trichosporon* genus correspond to ubiquitous yeasts, with some species part of the human microbiota, mainly responsible for superficial infections. Deep infections are uncommon. In 2021, the infection control team was alerted by the pharmacy regarding unusual prescriptions of antifungal drugs related to several deep infections due to *T. inkin* following cardiac surgery.
Objectives: To investigate and eradicate the source of the outbreak.
Methods: An investigation was initiated, consisting of a search for symptomatic or asymptomatic carriers among the staff, audits in operating theatres (OT), and finally environmental sampling. All isolates were sent to the French National Reference Center for invasive Mycoses & Antifungal (NRCMA) for whole genome analysis.
Results: Retrospective analysis found 24 deep infections following cardiac surgery. Of 52 staff screened on a voluntary basis, only one was an asymptomatic carrier, with no direct link to patients 627 environmental samples were taken (e.g., air extraction grilles). Positive samples were found from August 2023 in extraction grilles, the heavier loads being from the men's and women's cloakrooms in January 2023. After thorough cleaning of the surroundings air handling system, of the environment in the cloakrooms, of the entire ventilation system and relocation of one of the storage room, no more cases were observed to date. Preliminary NRCMA results suggested a species close to *T. inkin*, with isolates showing no clustered pattern. The staff isolate was genetically unrelated to those from the patients. Interventions included: audits on antisepsis, hand hygiene, air system maintenance, and cleaning protocols. Later, isolates were finally reclassied as *T. austroamericanum sp. novo* (TA) with genetic diversity across isolates.
Conclusion: To our knowledge, this is the 1rst large episode of clustered cases of *TA* infection. Despite the efforts, the source of the contamination has not been fully identified. Preliminary data and results of the investigation do not point to a common human reservoir.The environmental contamination and the success of the cleaning interventions suggest a probable environmental source underlining the need for regular environmental maintenance in OT.

Disclosure of Interest
None declared.

O29

Prolonged multispecies outbreak of Oxa-48-producing enterobacterales driven by INCM1 plasmid transmission in a tertiary hospital (2019-2022)

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Introduction: Molecular surveillance, particularly whole-genome sequencing (WGS), is increasingly recognized as a powerful tool for investigating outbreaks and elucidating the transmission dynamics of carbapenem-resistant Enterobacterales (CRE). Beyond clonal spread, transmission chains may also involve carbapenemase-encoding plasmids. Therefore, applying appropriate WGS approaches, such as long-read sequencing, to specifically analyze plasmid-mediated transmission is critical for effective outbreak detection and antimicrobial resistance monitoring.
Objectives: To determine the extent of previously unrecognized dissemination of bla_{OXA-48}-harboring plasmids at HUG, potentially contributing to an OXA-48 plasmid-driven epidemic.
Methods: We conducted a retrospective analysis of 111 OXA-48-producing CRE isolates from 94 inpatients collected at HUG between Jan 2019 and Dec 2022. Nanopore long-read sequencing using ligation-based library preparation was performed with V14 chemistry (R10.4.1 flow cells).
Results: Among the 111 OXA-48-producing *Enterobacterales*, we identified 52 isolates from 38 patients carrying an IncM1 plasmid harboring both the bla_{OXA-48} carbapenemase and $bla_{CTX-M-14b}$ ESBL genes. The most frequent species were *Klebsiella pneumoniae* (n = 29), *Citrobacter* spp. (n = 11) and *Escherichia coli* (n = 6). Most isolates originated from rectal swabs (n = 49); other sources included urine culture (n = 1), blood (n = 1), and soft tissue (n = 1). Two clonal clusters were identified: *K. pneumoniae* ST39 (n = 19) and *K. pneumoniae* ST147 (n = 4). Notably, five patients were colonized or infected with multiple Enterobacterales species carrying the IncM1-OXA-48 plasmid.
Conclusion: Plasmid analysis (sequencing, typing, and structural comparisons) can reveal prolonged, silent nosocomial transmission of IncM1 bla_{OXA-48}-carrying strains that may be missed by routine infection control surveillance. This infrequent IncM1 plasmid differs from the classical OXA-48-IncL plasmid.

Disclosure of Interest
None declared.

O30

Integrating patients' movement patterns into outbreak detection systems

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Introduction: Timely detection of pathogen-related outbreaks in hospitals is essential for preventing onward transmission. Automated outbreak detection systems (AODS) have gained interest, yet many overlook patient movements, focusing only on the patients' ward location at the time of sampling. This limitation can miss outbreaks involving patients who have transferred between wards.
Objectives: This study aims to develop and compare different methods of incorporating patient movement in AODS.
Methods: We extended existing AODS (P75, CLAR) for selected hospital pathogens to incorporate three methods to account for patient movement: 1) Ward community grouping based on frequent patient transfers 2) including individual patient movement in the prior 14 days 3) including individual movement and time spent on wards. Using data from University Medical Center Utrecht (2014-2021), these systems were tested and a selection of unique alerts was reviewed for clinical relevance by infection prevention experts.
Results: Compared to the existing P75 systems, including ward communities increased the number of alerts from 99 to 205, and incorporating individual patient movement history lead to 115 alerts (141 when including time spent in the ward). 35% of alerts generated by including individual patient movement history was judged as requiring investigation (Table 1). The trade-off between increased detection and relevance (false-positive alarms) was less beneficial for the other approaches.
Conclusion: Incorporating patient movement data into AODS improves the sensitivity and accuracy of outbreak detection, addressing key gaps in current systems. However, further refinement is needed to balance detection accuracy with the burden of managing additional alarms.

Disclosure of Interest
None declared.

Table 1 (abstract O30). See text for description

AODS	Method	Nr of alarms	% Repeat alarms	Number of patients (mean)	Nr. selected for review	% irrelevant	% follow-up	% requiring investigation
P75	Existing method	99	50,5	5,3	20	15	45	40
	Ward community grouping	205	54,6	7,4	45	26	60	24
	Individual patient movement	115	54,8	6,0	20	20	45	35
	Individual patient movement + time	141	61,0	4,8	26	28	39	33
CLAR	Existing method	141	50,4	4,3	23	36	25	39
	Ward community grouping	270	68,9	11,4	36	31	47	22
	Individual patient movement	196	60,7	5,5	48	34	43	22
	Individual patient movement + time	297	72,7	8,7	42	23	40	37

O31

Evaluating hypothetical interventions effects on hospital-acquired infection outcomes with stacked probability visualization: R shiny apps based on a multistate modelling approach

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Introduction: Hospital-acquired infections (HAIs) contribute to increased morbidity, prolonged hospital stays, and higher healthcare costs. Robust analytical frameworks are essential to assess how hypothetical interventions can alter outcomes in dynamic clinical settings.
Objectives: The objective of this work was to develop tools to evaluate the effects of potential interventions on mortality and length of hospital stay.
Methods: Under a time-constant transition hazard assumption, we constructed a six-state extended illness–death multistate model. The multistate model captures the time-dependent dynamics within hospitals by mapping patient trajectories involving healthcare-associated infections, death, and discharge. Transition probabilities, which vary over time, are systematically computed and presented as stacked probabilities plots for clinical assessment. Assuming causal mechanisms of interventions, we simulated the implementation of interventions incorporating two settings: Setting 1 (enhanced treatment intervention only) and Setting 2 (combined enhanced treatment and infection prevention). From these, two interactive and user friendly R Shiny Apps were developed: HAISim (HAIs Interventions Simulator)

and StaViC (Stacked probAbility Visualization & Comparison). The apps take transition-specific hazard rates and intervention-related factors as inputs which can be taken from literature or own data.
Results: Simulating a hypothetical scenario based on real world clinical data, HAISim modelled the impacts of hypothetical enhanced treatment and improved infection prevention interventions on outcomes such as the number of lives saved, and patient-days reduced. On the other hand, StaViC helped visualize the stacked probabilities of patients across different health states, enabling a clear comparison of interventions and their effects before and after implementation. This provides valuable insights into the reduction of infection and death burdens, while also highlighting improvements in patients discharge outcomes.
Conclusion: These tools bridge methodological rigor and practical implementation, offering hospitals a flexible framework to prioritize cost-effective IPC strategies for hypothetical interventions.

Disclosure of Interest
None declared.

O32

Understanding antibiotic resistance transmission within and between humans in klebsiella pneumonia and escherichia coli – a theoretical modelling study

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Introduction: Infections caused by extended-spectrum beta-lactamase-producing Enterobacterales (ESBL-E) are major concerns in hospitals. While species like *K. pneumoniae* (Kp) are known to spread between hosts, the acquisition of ESBL-*E. coli* (Ec) is less clear. Although plasmid transfer is known to play a role in antibiotic resistance acquisition, its overall contribution is still poorly investigated.
Objectives: To develop a multilevel model assessing how within-host bacterial ecology and evolutionary mechanisms shape the dynamics and epidemiology of ESBL-Ec and Kp in hospitals.
Methods: We formalized the dynamics of clones and resistance plasmids in patients, considering within-host diversity and evolutionary processes such as plasmid transfer (PT). Bacteria could be transmitted through human contacts, accounting for bacterial bottlenecks and strain competition. Assuming a typical long-term care facility, we explored, through a simulation study, the impact of the different drivers on Ec and Kp dynamics.
Results: Colonization in a 40-bed ward was simulated over 6 months following the introduction of a Kp strain carrying an ESBL plasmid. ESBL-Kp incidence rises exponentially with Kp transmission rate. In contrast, sustained ESBL-Ec incidence (define as $\geq$ 5 cumulated cases) requires a balance between Kp and Ec transmission and PT rates. At low Ec transmission ($\leq$ 1e-3/contact) and low Kp transmission ($\leq$ 2e-3/contact) a high PT rate ($\geq$ 5e-2/day) is required to maintain ESBL-Ec incident cases, while at high Kp transmission ($\geq$ 3e-3/contact), even low PT rates ($\geq$ 1e-2/day) are compatible. Including a bacterial bottleneck at transmission does not affect ESBL-Kp incidence but reduces ESBL-Ec by 75% (CI95% 67–84%). Antibiotic exposure, by selecting resistant strains during bottleneck, reduces its impact.
Conclusion: Our model, by integrating bacterial evolution and ecology, goes beyond classical epidemiological models and makes it possible to assess underexplored drivers like bottlenecks and plasmid transfer. It should offer new opportunities for analysing fine-scale human and bacterial hospital data.

Disclosure of Interest
None declared.

O33

Dasc-lot framework: a novel evaluation and benchmarking method to assess initiation, duration, and spectrum of antibiotics usage at hospitals

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Introduction: Inpatient antibiotic stewardship programs (ASP) promote avoiding unnecessary initiation, excessively long duration, and overly broad-spectrum selection of antibiotics to optimize usage. Commonly used metrics, such as Days of Therapy (DOT) per Days Present (DP) or Standardized Antimicrobial Administration Ratio (SAAR), do not incorporate spectrum, nor provide specific information for components (initiation, duration, and spectrum).
Objectives: We aimed to create a novel evaluation framework to reflect all three components while providing information specific to each, based on Days of Antimicrobial Spectrum Coverage (DASC) and Length of Therapy (LOT).
Methods: We developed a mathematical framework to extract hospital-level variability with risk adjustment for three components (Fig. 1 A). This was applied to data from all 118 Veterans Health Administration (VHA) acute care hospitals, with models built on 2022–2023 data and validated with 2024 data. Patient demographics, intensive care status, specialty, 86 comorbidities, and 225 procedure categories were considered as candidate variables for risk-adjustments. Overall hospital performances were evaluated by integrating three components, and three components in each hospital were visualized in a radar chart (Fig. 1B).
Results: The cohort included 727,958 unique patients with 9,363,922 days present (DP: 2022-2023: 6,257,368; 2024: 3,106,554). Hospital-level usage density ranged widely (DASC per 1,000 DP: 1,311-5,275 [interquartile range (IQR): 2,738-3,563]; LOT per 1,000 DP: 132.2-517.6 [IQR: 301.0-367.5]). Risk-adjustment models included 115 variables for initiation, 125 for duration, and 128 for spectrum components. P/E ratios ranged from 0.713 to 1.533 [IQR: 0.912-1.077]. Three-component evaluation could offer more specific information about the usage patterns of each hospital (Fig. 1B).
Conclusion: We propose a novel framework to assess ASP practices in initiation, duration, and spectrum separately while providing overall composite benchmarking. Further studies are needed to assess whether this framework reflects the appropriateness of antibiotic therapies or outcomes (i.e., construct validity).

Disclosure of Interest
None declared.

Component 1: Probability of Antibiotic Initiation

Let Y_{1ij} be a binary variable indicating whether patient i in hospital j received antibiotics (Y_{1ij} =1 if yes, Y_{1ij} =0 otherwise).
The probability of initiation is modeled using logistic regression:

$$logit\left(P(Y_{1ij}=1)\right) = X_{ij}\beta + \omega_j$$

X_{ij} is a vector for patient-level predictors for the ith patient in the jth hospital
β is a vector of fixed-effect coefficients for patient-level predictors
$\omega_j \sim N(0, \sigma_\omega^2)$ is the hospital-specific random intercept for the jth hospital

Component 2: Length of Therapy (LOT): Conditional Model

Length of Therapy (LOT) is defined the number of days of antimicrobial therapy regardless of the number of agents used.
Given that a patient received antibiotics (Y_{1ij} =1), we assume the LOT (Y_{2ij}) follows a zero-truncated negative binomial distribution (because $Y_{2ij} \geq 1$ when $Y_{1ij} = 1$ by definition):

$$Y_{2ij} \sim ZTNB\left(\mu_{Y_{ij}}, \theta_{Y_j}\right), Y_{2ij} = 1, 2, 3, \ldots$$

with the log-link function:

$$\log(E[Y_{2ij}|Y_{1ij}=1]) = X'_{ij}\beta' + \log(D_{ij}) + v_j$$

X'_{ij} is a vector for patient-level predictors for the ith patient in the jth hospital
β' is a vector of fixed-effect coefficients for patient-level predictors
D_{ij} is days present (offset variable)
$v_j \sim N(0, \sigma_v^2)$ is the hospital-specific random intercept for the jth hospital

Component 3: Days of Antimicrobial Spectrum Coverage (DASC): Conditional Model

Given that a patient received antibiotics for Y_{2ij} days ($Y_{2ij} \geq 1$), we assume the Days of Antimicrobial Spectrum Coverage (DASC: Y_{3ij}) follows a zero-truncated negative binomial distribution (because $Y_{3ij} \geq 1$ when $Y_{2ij} \geq 1$ by definition):

$$Y_{3ij} \sim ZTNB\left(\mu_{Y_{ij}}, \theta_{Y_j}\right), Y_{3ij} = 1, 2, 3, \ldots$$

with the log-link function:

$$\log(E[Y_{3ij}|Y_{2ij} \geq 1]) = X''_{ij}\beta'' + \log(Y_{2ij}) + \tau_j$$

X''_{ij} is a vector for patient-level predictors for the ith patient in the jth hospital
β'' is a vector of fixed-effect coefficients for patient-level predictors
Y_{2ij} is Length of Therapy (LOT: offset variable)
$\tau_j \sim N(0, \sigma_\tau^2)$ is the hospital-specific random intercept for the jth hospital

Interpretation

Component 1: $\exp(\omega_j)$ is a facility-specific odds ratio to indicate how likely the jth hospital initiates antibiotics with given patients, compared to the "standardized" hospital
Component 2: $\exp(v_j)$ is a facility-specific rate ratio to indicate how long the jth hospital uses antibiotics (if started) with given patients, compared to the "standardized" hospital
Component 3: $\exp(\tau_j)$ is a facility-specific rate ratio to indicate average spectrum score the jth hospital when it uses antibiotics (if started) with given patients and DOA, compared to the "standardized" hospital

Fig. 1 (abstract O33). Mathematical Framework for Three-Component Evaluation of Antimicrobial Usage

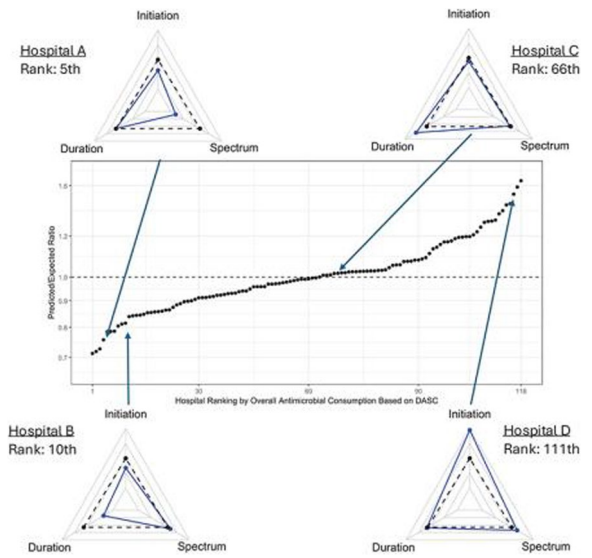

Fig. 2 (abstract O33). Examples of Hospital-Specific Antibiotics Usage Characteristics

O34

Performance of human raters and large language models in ECDC clinical case vignettes: implications for hai detection

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O34

Introduction: The European Centre for Disease Prevention and Control (ECDC) developed clinical case vignettes (CCVs) for the training of the data collectors for the point prevalence survey on healthcare-associated infections (HAIs). Rapidly improving large language models (LLMs) can potentially support HAI detection.

Objectives: To compare the performance of human raters with experience in HAI surveillance and ECDC case definitions to a set of LLMs in determining the occurrence of an HAI and the HAI case definition code in CCVs.

Methods: Medical doctors with experience in clinical cases and HAIs developed the CCVs, and gold standard answers were developed in discussion with ECDC experts. We selected 20 CCVs (10 HAIs, 10 non-HAIs). Human raters assessed a random subset of the selected CCVs to determine the occurrence of an HAI and the HAI case definition code. The 4 LLMs (one cloud-based state-of-the-art reasoning LLM and three local LLMs) assessed all of the 20 CCVs using a standard prompt and a document including the ECDC case definitions. We calculated the sensitivity (se) and specificity (sp) of HAI detection and agreement on the case definition code with the gold standard. We also conducted a pilot thematic analysis to examine the reasoning used by LLMs for HAI detection.

Results: In total, 148 human raters each evaluated a subset of the selected CCVs. Human raters had an average 95% se (IQR: 100%—100%) and 100% sp (IQR: 100%—100%). All LLMs reached a 100% se, with sp varying from 50 to 100% for the cloud-based LLM. For the case definition code, human raters had an average agreement of 75% (IQR: 55%—100%); the LLMs had an agreement varying from 50 to 70% for the cloud-based LLM (Figure). The four cases for which LLMs usually disagreed with the gold standard were commonly misclassified by the humans with 25%, 44%, 51% and 68% agreement, respectively. Explanatory logic and evidence utilisation emerged as themes from the thematic analysis.

Conclusion: For CCVs, the HAI detection capabilities of LLMs closely align with that of human raters. Disagreement with the gold standard in case definition code selection for human raters and LLMs occur often in similar, ambiguous CCVs. Further quantitative and thematic analyses in local languages and patient records are required, but nevertheless, LLMs can support HAI detection.

Disclosure of Interest
None declared.

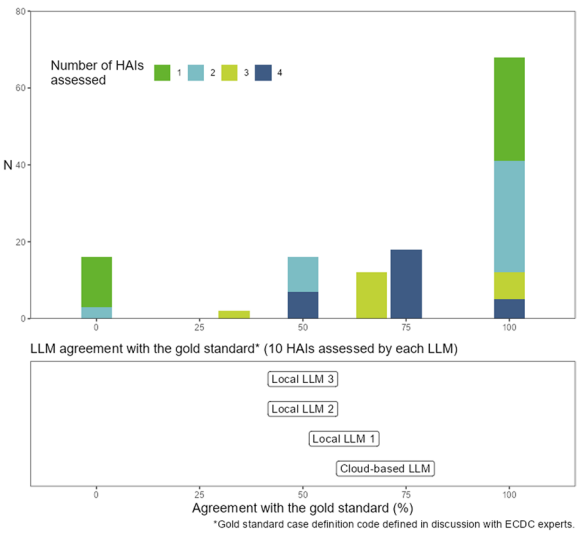

Fig. 1 (abstract O33). Agreement on HAI case definition code with the gold standard* Average human rater agreement with the gold standard* (1 to 4 HAIs assessed by each rater) (n = 137)

O35

AI-driven surveillance for ventilator-associated events: a multicenter initiative across 14 UAE governmental hospitals

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O35

Introduction: Ventilator-Associated Events (VAEs) significantly contribute to morbidity in critically ill patients. Traditional manual surveillance methods often delay identification and response. To address this, Emirates Health Services (EHS) implemented a centralized, AI-powered surveillance system across 14 governmental hospitals to enhance early detection, real-time communication, and timely clinical intervention.
Objectives: To evaluate the impact of automated, machine learning–based VAE surveillance on early detection, standardized reporting, and reduction of VAE rates across 14 UAE hospitals.
Methods: In 2022, a fully automated VAE surveillance module was integrated into the electronic health record (EHR) system in all EHS hospitals. The system uses machine learning algorithms aligned with definitions from the Centers for Disease Control and Prevention (CDC) and its National Healthcare Safety Network (NHSN) including Ventilator-Associated Condition (VAC), Infection-related Ventilator-Associated Complication (IVAC), and Possible Ventilator-Associated Pneumonia (PVAP). Mechanically ventilated patients are monitored in real time, and Infection Control Practitioners (ICPs) receive immediate alerts upon VAE detection. This allows timely case validation and coordination with ICU teams for rapid investigation and intervention. The standardized system supports accurate data capture, institutional benchmarking, and national reporting to the UAE National Infection Control Committee.
Results: Following implementation, the combined rate of IVAC and PVAP decreased significantly from 3.4 per 1,000 ventilator days in 2023 to 2.0 in 2024. A consistent quarterly decline was observed from 3.9 in Quarter 1 2023 to 1.8 in Quarter 4 2024. Early VAC detection prompted enhanced clinical vigilance, which may have contributed to preventing some cases from progressing to IVAC or PVAP.
Conclusion: AI-driven surveillance enabled real-time VAE monitoring, streamlined interdepartmental communication, and harmonized infection prevention practices across multiple hospitals. This digital transformation contributed to significant reductions in VAE rates and improved patient safety. The model provides a scalable framework for healthcare systems aiming to modernize surveillance of healthcare-associated infections (HAIs) through advanced technologies.

Disclosure of Interest
None declared.

O36

Antiviral treatment can prevent outbreaks of respiratory viruses in nursing homes: a modelling analysis

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Introduction: Nursing home residents pay every year a devastating tribute to respiratory virus outbreaks. Available antiviral treatments against SARS-CoV-2, Influenza or RSV reduce infection severity at the individual level when administered shorty after symptom onset or as pre- or post-exposure prophylaxis (Pep or PreP). Their potential impact in nursing homes, both at the individual level to prevent hospitalization but also at the population level to break transmission chains, is still poorly quantified.
Objectives: We assessed the expected impact of antiviral-based strategies implementation during outbreaks in nursing homes.
Methods: A multi-scale individual-based model of virus transmission between residents and staff in a nursing home was developed, integrating viral kinetics and its association with transmission and hospitalization risk, and the impact of antiviral treatments on individual within-host viral dynamics. The model was specifically applied to SARS-CoV-2, Influenza and RSV. Using a large-scale simulation study, we evaluated the expected impact of antiviral-based control strategies on individual risk and on nursing home population transmission during viral outbreaks.
Results: Nine distinct scenarios of interventions combining mask wearing, social distance, and antiviral treatment/Pep/PreP were applied to the 3 viruses and compared. For SARS-CoV-2, treating symptomatic cases during outbreaks reduces by 50% the severe disease risk, with no impact on the nursing home attack rate. By contrast, the attack rate is reduced by > 45% when contact residents are treated in pre- or post-exposure prophylaxis, reaching a > 80% decrease of severe disease. Similar levels of treatment effectiveness are found on severe disease for Influenza and RSV; but the effectiveness on attack rate varied depending on the virus, remaining < 40% for RSV whatever the scenario, and exceeding 70% for influenza in Pep/PreP.
Conclusion: Antiviral use in Pep and PreP can significantly reduce the burden of respiratory viruses in nursing homes. Further research, including clinical trials, should be carried out to validate these results. The developed model can be used to support such study designs.

Disclosure of Interest
None declared.

O37

Reduction of central line-associated bloodstream infection in neonatal intensive care unit

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Introduction: Central Line-Associated Bloodstream Infections (CLABSI) are a significant cause of morbidity and mortality in Neonatal Intensive Care Units (NICUs), particularly among very low birth weight infants.
Objectives: This study aimed to reduce CLABSI rates in a 10-bed NICU by implementing evidence-based interventions tailored to the specific needs of neonates.
Methods: The study, conducted from 2020 to 2024, involved prospective CLABSI surveillance using CDC/NHSN definitions. Key interventions included: training healthcare workers on aseptic techniques and proper central line insertion and care practices, early removal of unnecessary central lines to minimize device days, using midline or peripheral lines when clinically appropriate, switching to 0.5% chlorhexidine with 70% alcohol for skin preparation, standardizing total parenteral nutrition (TPN) and antibiotics preparation in a dedicated pharmacy room operating 24/7, strengthening compliance with CLABSI care bundles, and enhancing hand hygiene audits using secret shoppers and surveillance cameras monitoring.
Results: CLABSI rates progressively declined over the study period, decreasing from 12.7 per 1,000 central line days (15 cases) in 2020 to 9.5 (4 cases) in 2023, and further to 7.0 (3 cases) in 2024. Notably, zero

cases were reported during the last six months of 2024 and first quarter of 2025. Device days also decreased significantly from 1180 central line days in 2020 to 427 central line days in 2024, reflecting better adherence to non-device practices and early line removal.
Conclusion: The study demonstrates that targeted, evidence-based interventions can significantly reduce CLABSI rates in NICUs. Key strategies, including tailored care bundles, continuous training, and multidisciplinary collaboration, have proven effective in improving neonatal outcomes. This model offers a replicable framework for enhancing patient safety in similar settings globally.

Disclosure of Interest
None declared.

O38

Third-generation-cephalosporin resistant enterobacterales (3GC-R-E) neonatal colonization in madagascar: a household-based cohort including multicompartmental maternal samples

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O38

Introduction: The clinical and molecular epidemiology of 3GC-R-E acquisition in neonates remains poorly documented in low- and middle-income countries, despite the high burden of neonatal sepsis.
Objectives: To investigate neonatal 3GC-R-E acquisition in terms of prevalence, strain genomic features, and risk factors, using a household-based approach with a focus on maternal colonization sites.
Methods: In a semi-rural area of Madagascar (2021–22), 67 households with a newborn were included. Data collection and stool sampling were conducted at birth and days 3, 7, 14, 21, and 28 from neonates, mothers (including breastmilk and nipple swabs), household members, and cradle mattresses. All 3GC-R-E isolates underwent whole-genome sequencing. Identical strains were identified using an empirically defined pairwise similarity threshold and clustering. Risk factors were analyzed using an Andersen–Gill survival model accounting for recurrent acquisition of distinct strains.
Results: A total of 320 individuals provided 2793 samples (1780 genomes analyzed). Gut colonization by 3GC-R-E was highly prevalent: 95.5% of mothers; 95.1% of children, and 100% of other adults were colonized at least once. Cumulative prevalence in neonates was lower (62.7%, $p < 0.05$), and showed a distinct species pattern, including mainly *Klebsiella/Enterobacte*r, versus *E. coli* in others (Fig A). Colonized neonates also carried fewer strains (median 2 vs. 5, $p < 0.05$, Fig B). Similar patterns were seen in breastmilk and nipple samples, colonized at least once in 46.2% and 53.7%, respectively. Identical strains were found in 19.4% of breastmilk–neonate and 28.3% of nipple–neonate pairs (Fig C). Risk factors for breastmilk colonization were raw meat consumption, wet season, and no electricity. Neonatal antibiotics use were associated with nipple colonization. The strongest risk factor for neonatal acquisition was non-exclusive breastfeeding, while breastmilk/nipple carriage were not significant.
Conclusion: Neonates show distinct 3GC-R-E colonization patterns. While breastfeeding may play a role, early introduction of other foods was the main risk factor.

Disclosure of Interest
None declared.

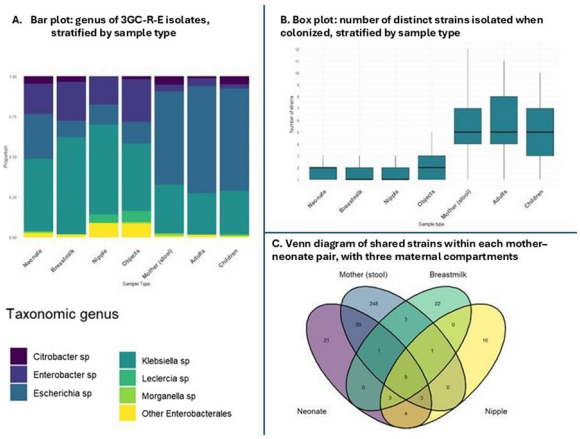

Fig. 1 (abstract O33). See text for description

O39

Alignment of parent measurement priorities for quality and safety with the incidence of healthcare-associated infections in paediatric intensive care

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O39

Introduction: Monitoring healthcare quality in paediatric intensive care units (PICUs) is often system driven with limited consumer consultation regarding'measures which matter most'to them; potentially leading to gaps in addressing parent priorities. Healthcare-associated infections (HAIs) are prevalent in PICUs and represent significant health and economic burdens.
Objectives: To assess alignment between parent-identified measurement priorities for PICU quality and safety and HAI health and economic burden in the PICU.
Methods: We undertook two concurrent studies to determine alignment of parent quality measurement priorities with HAI burden in the PICU in Australia and New Zealand (ANZ). First we conducted a cross-sectional consumer prioritisation survey involving 117 ANZ parents of children admitted to PICUs across Australia and New Zealand. Parents ranked measurement priorities. Secondly we undertook retrospective cohort study using routinely collected clinical and costing data and analysed the prevalence of HAIs and their impact on clinical outcomes and costs.
Results: Parents ranked the HAIs bloodstream infection and surgical infections as a top 10 measurement priority for safety and quality measurement in the PICU. The cohort study ($N = 8437$ admissions) identified pneumonia (including hospital and ventilator-associated pneumonia) as the most common HAI, with PICU HAI incidence rate 46.5 per 100 PICU bed days. HAIs significantly extended PICU length of stay, reduced ventilator-free days, and increased healthcare costs (+ AUD$144,711).

Conclusion: Parent measurement priorities closely align with the prevalent burden of HAIs in PICUs, particularly bloodstream infections and pneumonia, reinforcing the importance of consumer-focused infection prevention strategies to enhance patient safety and quality of care.

Disclosure of Interest
None declared.

O40

First detection of A S. haemolyticus st29 in a large neonatology unit in Switzerland

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Introduction: The dissemination of *Staphylococcus haemolyticus* (SH) could have a significant impact in neonatal units. Recently, the ST29 clone has emerged in France, accompanied by a general increase in *SH* infections and reports of severe clinical courses.
Objectives: We describe three cases of *SH* identified in a large newborn unit in Switzerland. Since 2011, routine microbiological surveillance of all SH isolates has been implemented by the neonatal unit's infection prevention program.
Methods: Whole-genome sequencing (WGS) was carried out on the available isolates, followed by a comparative analysis between Geneva University Hospitals (HUG) *SH* strains and those identified during a large outbreak in France in 2021-2023.
Results: The first case of *SH* was identified on September 25, 2024, from an umbilical venous catheter. Second and third case was detected in October. WGS of isolates from the first and third cases revealed no genomic differences (cgMLST), confirming cross-transmission. WGS identified the sequence type (ST) ST29, the same clone implicated in a recent outbreak in France (Figure). The genetic distance between the HUG strains and the published French genomes was approximatively 70 loci, ruling out direct importation. Following detection of the ST29 clone, additional investigations were conducted: bi-monthly screening of all neonates, environmental sampling of, audits of disinfection practices, and an assessment to identify a potential common source of contamination. No further colonized newborns or environmental sources were identified. The following Infection prevention and control (IPC) measures were implemented: auditing of hand hygiene practices, reinforced disinfection of the entire unit (including non-clinical areas such as the nurses'office), refresher training in basic IPC practices. No additional cases of *SH* ST29 were observed during six months of follow-up.
Conclusion: This report describes the first cluster of *SH* ST29 in Switzerland. Following the implementation of reinforced IPC measures, transmission was successfully halted. Continuous microbiological surveillance in neonatal units may help to identify and prevent early dissemination of highly transmissible and potentially virulent *SH* clones.

Disclosure of Interest
None declared.

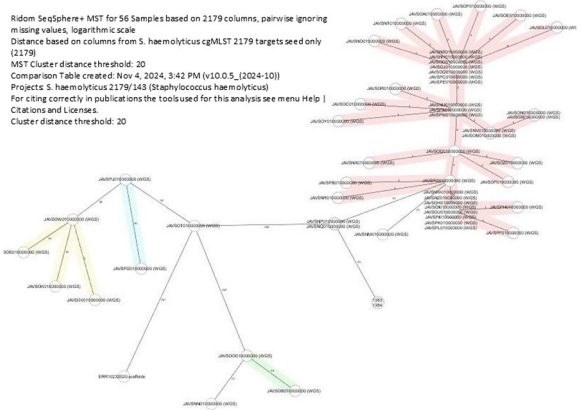

Fig. 1 (abstract O33). See text for description

O41

Potential hospital-acquired neonatal sepsis in LMIC hospitals: preliminary findings from a multi-site study (BARNARDS-II)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O41

Introduction: Neonatal sepsis and hospital-acquired infections (HAIs) are major contributors to neonatal mortality in low- and middle-income countries (LMICs). The BARNARDS-II study investigates the burden and aetiology of neonatal sepsis across 13 sites in Pakistan, Bangladesh and Nigeria.
Objectives: We aim to characterise neonatal sepsis diagnosed > 48 h post-admission at BARNARDS-II sites and compare to hospital surface growth from neonatal and maternity wards.
Methods: Clinical, admission and 28-day outcome data were collected for enrolled neonates with clinically diagnosed sepsis. Blood cultures and diagnostics were performed locally using standardised protocols including species identification and antibiotic susceptibility testing. Assorted neonatal and maternity hospital ward surfaces were swabbed each month and sent to the UK to assess presence of bacteria and antibiotic resistance genes.
Results: Clinical sepsis was diagnosed > 48 h after admission to BARNARDS-II sites in 731 neonates. Of these cases, 58 were early-onset (EOS, 48-72 h from birth), with 33 requiring antibiotic escalation and 28 mortalities. 25/58 EOS were culture confirmed, with 9/10 g-negative isolates resistant to all antibiotics tested except tigecycline and colistin. Late-onset sepsis (LOS, > 72 h from birth) was diagnosed in 673 neonates > 48 h post-admission, of whom 531 required artificial ventilation, 522 required escalated antibiotics and 231 sadly passed away. 347/673 LOS cases were culture confirmed. Gram-negative isolates from LOS diagnosed > 48 h post-admission showed significantly higher resistance to 17/19 antibiotics compared to those diagnosed < 48 h admission (X^2, $p < 0.05$). Species most associated with sepsis > 48 h post-admission included *Klebsiella* spp. (n = 67) and *Acinetobacter* spp. (n = 35), also isolated from varied hospital surfaces samples (n = 183 and 263/1,500, respectively) alongside high rates of extended-spectrum beta-lactamase and carbapenemase genes.

Figure 1. Resistance profiles of gram-negative pathogens from cases of late-onset sepsis those diagnosed > 48 h from admission compared to those diagnosed < 48 h of admission.

Conclusion: Results strongly indicate that sepsis cases diagnosed > 48 h after hospital admission are likely hospital-acquired, associated with high AMR and poor clinical outcomes. This underscores an urgent need for increased investment to strengthen infection prevention and control in LMICs. Ongoing work will incorporate WHO IPC facility level assessment framework hospital results and whole genome sequencing.

Disclosure of Interest
None declared.

Fig. 1 (abstract O33). See text for description

O42

National patient safety measures on antimicrobial use in uncomplicated community-acquired pneumonia

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Introduction: The US National Healthcare Safety Network antimicrobial use module provides a risk-adjusted benchmark of antibiotic use but not appropriateness.

Objectives: To inform stewardship and reduce antibiotic-related harm, we developed 2 electronic clinical quality measures (eCQMs) for antibiotic duration and empiric selection in community-acquired pneumonia (CAP), the most common indication for inpatient antibiotic use.

Methods: The 2 eCQMs for hospitalized adults with uncomplicated CAP quantify: a) excess antibiotic duration (≥ 7 days but eligible for 5) and b) overly broad empiric therapy (targeting methicillin-resistant *Staphylococcus aureus* [MRSA] or *Pseudomonas aeruginosa* without risk factors for resistance). The eCQMs were derived from chart review measures used by the Michigan Hospital Medicine Safety Consortium and further developed using electronic health record (EHR) data from 2 academic medical centers and 109 Veterans Affairs (VA) hospitals. We assessed reliability (signal-to-noise analysis), validity (sensitivity/specificity), and feasibility of both eCQMs.

Results: The eCQMs applied to our 3 data cohorts showed the mean percentage of CAP patients with excess duration and inappropriate empiric antibiotic use ranged from 40%−55% and 17%−56%, respectively (performance gap for VA cohort in Fig. 1). In 109 VA hospitals, accountable entity-level reliability (median [1st −10th decile, N]) for duration and empiric eCQMs was 93% (63-97%, N = 28238) and 91% (63-96%, N = 47034), respectively. Both eCQM scores, the percentage of CAP patients with: a) ≥ 7 days duration and b) overly broad empiric therapy) had high sensitivity (96%) and specificity (92%−93%) vs chart review. Feasibility was maximized by using only data elements in structured EHR fields.

Conclusion: Both eCQMs had high reliability, validity, and feasibility and were endorsed by the Centers for Medicare & Medicaid Services'consensus-based entity. If broadly used, these eCQMs could help antibiotic stewards improve antibiotic selection and duration for CAP in the US.

Disclosure of Interest
None declared.

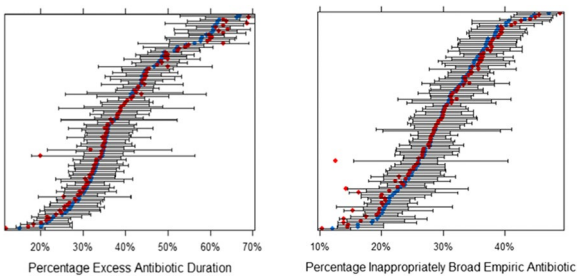

Fig. 1 (abstract O33). Percentage of patients hospitalized with CAP who received excess antibiotic duration (left panel) and inappropriately broad empiric antibiotic therapy (right panel) as defined by our proposed eCQMs across healthcare systems between Jan 2022 and June 2024 (n = 28,238 and n = 47,034 patients for duration and empiric measures, respectively)

O43

Belmap: a one health overview of antimicrobial use and resistance in Belgium

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Introduction: The BELMAP report provides a One Health overview of antimicrobial consumption (AMC) and resistance (AMR) in Belgium across human, animal, and environmental sectors to inform strategies and foster collaboration.

Objectives: Data is synthesized from national surveillance systems and research projects, with harmonised data analysis and visualisation.

Methods: AMC data includes reimbursement data (human community and hospitals) and sales/use data (veterinary). Human AMR data from national/European surveillances focusing on invasive pathogens, is supplemented by National Reference Centres (NRCs) for specific pathogens. Veterinary AMR covers indicator, zoonotic bacteria, and diseased animal pathogens. Environmental data includes residue monitoring and pilot projects for resistant organisms. Report compilation involves over 50 data providers, ensuring data contextualisation and avoiding common secondary data pitfalls like overconfidence.

Results: In 2023, 103 tonnes of active antimicrobial substances were consumed equally in the human and veterinary sectors. Veterinary AMC saw a cumulative 62.4% reduction (2011-2023), exceeding targets. Human community AMC decreased 14.4% since 2014, but remains far from national targets. Hospital consumption decreased 8.9% (2014-2023), but its relative contribution increased to 18.3% in 2023. Surface water monitoring of watch list antimicrobial residues observed two cases above predicted no effect concentration in 2022 and 2023.

AMR data from NRCs and veterinary pathogens highlight less-reported yet concerning trends. The highest human resistance rates are observed in bacterial sexually transmitted diseases. *Neisseria gonorrhoeae* incidence nearly doubled since 2019, with significant resistance increases (ciprofloxacin 63.6% in 2023; azithromycin 0.2% in 2013 to 36.1% in 2023). Extensively drug resistant *Shigella sonnei* represented 47.5% of isolates in 2023. *Mycoplasma genitalium* resistance increased with 40.5% resistant to both first/second-line treatments in 2023. In sick animals, 10 of 13 host-pathogen combinations show high (50-70%) resistance to at least one first-line treatment.
Conclusion: In conclusion, One Health surveillance increases awareness, collaboration, and knowledge-sharing, supporting a"Big-Picture"approach to AMR.

Disclosure of Interest
None declared.

O44

The fly microbiota as a reservoir of antimicrobial resistance in hospitals- evidence for infection prevention and control considerations

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Introduction: Antimicrobial resistance (AMR) is a global health crisis in which flies may play a role in the carriage and dissemination of AMR bacteria. The synanthropic nature of filth flies facilitates their persistence in hospitals with limited resources, while their agility makes them plausible vectors of AMR bacterial dissemination which may impede infection prevention and control measures.
Objectives: This analysis aims to determine the prevalence of beta-lactam resistance genes carried by bacteria harboured by flies collected in hospital settings on a multinational scale.
Methods: The microbiota of flies captured within hospitals was assessed via microbiological culture and PCR screening for detection of extended spectrum beta-lactamase and carbapenemase antibiotic resistance genes (ARG), prior to phenotypic and genotypic analysis of AMR expression and carriage.
Results: 4062 flies were collected from 27 hospitals across 15 countries (See Fig. 1). PCR screening revealed high prevalences of $bla_{\text{CTX-M-15}}$, $bla_{\text{TEM-1}}$, $bla_{\text{OXA-1}}$ and $bla_{\text{SHV-1}}$ genes carried by bacteria in 42%, 37%, 29% and 5% of flies, respectively. 21% (n = 836) of flies harboured 1217 bacterial isolates carrying bla_{NDM} and/or $bla_{\text{OXA-48-like}}$ genes with the predominant carriers being *Escherichia coli* (26%), *Providencia* spp. (21%), and *Enterobacter* spp. (20%). 7% (n = 292) of flies harboured more than one species with a carbapenemase ARG, of which a third co-carried *Providencia* spp. often alongside *E. coli*, *Enterobacter* spp. or *Klebsiella pneumoniae*.
Conclusion: Flies have been shown to harbour clinically common as well as opportunistically pathogenic bacteria carrying ARGs conferring resistance to clinically essential beta-lactam antibiotics. Carriage of bla_{NDM} by *Providencia*- a genus commonly found in flies, but also increasingly reported in hospital-acquired and difficult to treat, multi-drug resistant infections is a clinically concerning finding suggesting that species intrinsic to the fly microbiota have the potential to acquire and maintain ARG. These findings suggest that IPC efforts promoting the exclusion of arthropod sources and potential vectors of AMR should be considered as a sustainable, viable method to reduce the burden of hospital-associated AMR.

Disclosure of Interest
None declared.

Location	No. flies	No. bla_{NDM} isolates	No. $bla_{\text{OXA-48 like}}$ isolates	No. bla_{NDM} and $bla_{\text{OXA-48 like}}$ isolates
Benin	204	11 (5.4%)	3 (1.5%)	0 (0%)
Chad	842	114 (13.5%)	27 (3.2%)	22 (2.6%)
Chile	6	0 (0%)	0 (0%)	0 (0%)
Egypt	169	21 (12.4%)	1 (0.6%)	2 (1.2%)
Ethiopia	213	92 (43.2%)	2 (0.9%)	0 (0%)
Ghana	31	1 (3.2%)	1 (3.2%)	0 (0%)
Great Britain	99	0 (0%)	0 (0%)	0 (0%)
Italy	11	0 (0%)	0 (0%)	0 (0%)
Mauritania	400	17 (4.3%)	0 (0%)	0 (0%)
Nigeria	1217	778 (63.9%)	31 (2.5%)	10 (0.8%)
Poland	229	8 (3.5%)	0 (0%)	0 (0%)
Senegal	200	7 (3.5%)	1 (0.5%)	0 (0%)
Sierra Leone	400	68 (17%)	0 (0%)	0 (0%)
South Africa	19	0 (0%)	0 (0%)	0 (0%)
Taiwan	22	0 (0%)	0 (0%)	0 (0%)
Total	**4062**	**1117 (27.5%)**	**66 (1.6%)**	**34 (0.8%)**

Fig. 1 (abstract O33). See text for description

O45

Longitudinal dynamics of the intestinal resistome and microbiome in hematopoietic stem cell transplant recipients: a prospective cohort study

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O45

Introduction: Patients undergoing hematopoietic stem cell transplantation (HSCT) experience profound microbiota disruptions, potentially facilitating antimicrobial resistance (AMR) emergence and increasing infection risk. Understanding resistome and microbiota

dynamics during HSCT is critical for infection prevention and improved outcomes.
Objectives: To characterize the temporal evolution of antimicrobial resistance genes (ARGs) and bacterial diversity during HSCT, and assess associations with infection, graft type, and mortality.
Methods: In this ongoing prospective cohort, hospitalized HSCT recipients provide serial stool samples. Samples are stored at −80 °C and analyzed via metagenomic sequencing. This preliminary analysis includes 57 samples from 23 patients. ARGs were identified using CZ-ID; Shannon diversity and AMR richness (gene counts, RPM) were computed. Longitudinal trends were visualized per patient. Mixed-effects models evaluated associations with HSCT phase, opportunistic infections, and 90-day mortality. Taxonomic profiling identified dominant bacterial taxa. Clinical metadata included graft type, mucositis, neutropenia, infection, and mortality.
Results: We detected 615 unique ARGs, with significant variation in AMR gene counts and RPM across HSCT phases ($p = 0.007$). Resistome diversity decreased during post-transplant and recovery phases. Shannon diversity was lower in patients with opportunistic infections ($p = 0.04$), and AMR RPM trended higher among non-survivors. Patient-level AMR slopes showed heterogeneity but no consistent outcome trend. Dominant resistance mechanisms included antibiotic efflux and inactivation, with aminoglycoside and beta-lactam classes most prevalent. *Enterococcus*, *Escherichia*, and *Klebsiella* were among the most abundant genera, shifting during early post-transplant phases. Graft type showed a trend-level association with AMR burden.
Conclusion: This preliminary analysis reveals dynamic remodeling of the intestinal resistome and bacteriome during HSCT, with potential implications for infection risk and outcome. Final analyses including a larger cohort and multi-omic integration are underway.

Disclosure of Interest
None declared.

O46

Plasmid-mediated quinolone resistance among extended-spectrum β-lactamase-producing escherichia coli and klebsiella pneumoniae isolated from hospitalized patients, hospital environment and wastewaters in Cameroon

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O46

Introduction: Extended-spectrum β-lactamase-producing *Escherichia coli* (ESBL-*Ec*) and *Klebsiella pneumoniae* (ESBL-*Kp*) are among the leading causes of hospital-acquired infections globally. Fluoroquinolone-resistant ESBL-*Ec/Kp* infections have limited therapeutic options.
Objectives: This study investigated the prevalence and antibiotic resistance patterns of ESBL-*Ec/Kp* isolated from hospitalized patients, hospital environments, and wastewaters in Yaoundé, Cameroon. It further assessed plasmid-mediated quinolone resistance (PMQR) genes and the clonal relatedness in all ESBL-*Ec/Kp* isolates.
Methods: A cross-sectional study was conducted from February to June 2024 in two healthcare facilities in Yaoundé, Cameroon. Clinical, inanimate surfaces, and wastewater samples were collected. Bacteria identification was done using the API20E kit. The ESBL phenotype was detected using the double-disk synergy test and CHROMagar™ ESBL. Antimicrobial susceptibility testing was performed using the disc diffusion method. Antibiotic resistance genes were detected using polymerase chain reaction (PCR). Clonal relatedness was assessed using enterobacterial repetitive intergenic consensus (ERIC)-PCR.
Results: The overall ESBL prevalence across all sources was 16% (103/652). The ESBL prevalence was 10% (49/495) in hospitalized patients, 27% (38/141) in the hospital environment, and 100% (16/16) in hospital wastewaters. Nearly all (99.5%) ESBL-*Ec* and ESBL-*Kp* were multidrug-resistant. The bla_{CTX-M} was the most prevalent β-lactamase gene, with prevalence ranging from 74% (42/57) in hospitalized patients to 85% (68/80) in wastewater ESBL-*Ec/Kp* isolates. The main PMQR resistance gene was *aac-(6')-Ib-cr (*57% (43/75) in wastewater to 70% (23/33) in hospital environment). Genomic fingerprinting revealed two potential outbreaks caused by ESBL-Kp in the neonatal ward. (Fig. 1a and 1b).
Conclusion: This study reported a high prevalence of PMQR among ciprofloxacin-resistant ESBL-*Ec/Kp*. These results underscore the crucial need to implement real-time surveillance and implement antimicrobial stewardship programs to curb the spread of antimicrobial resistance in healthcare facilities in Cameroon.

Disclosure of Interest
None declared.

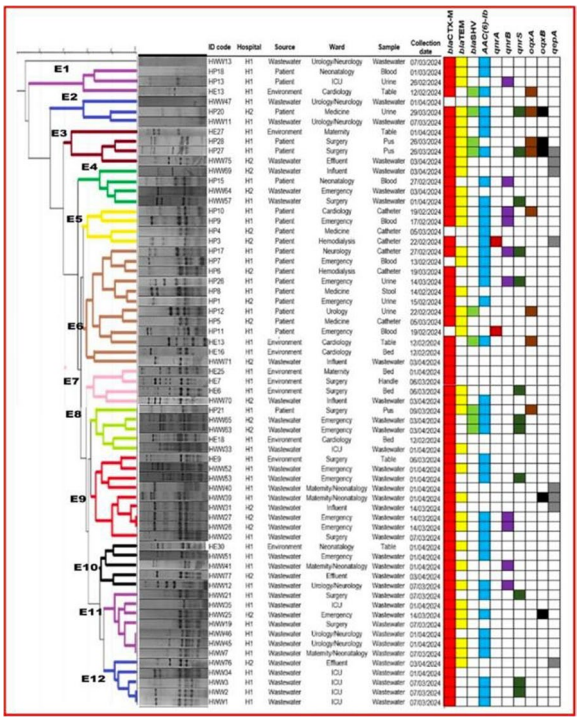

Fig. 1 (abstract O46). Genetic relatedness of ESBL-*E. coli* (N = 66) isolated from hospitalized patients (n = 20), the hospital environment (n = 10) and wastewaters (n = 36) of two healthcare centers in Yaounde, Cameroon. Genetic relatedness assessed using ERIC PCR and dendogram generated using GelJ software. H1 = Yaounde Central Hospital, H2 = Yaounde University Teaching Hospital, ICU = Intensive Care Unit

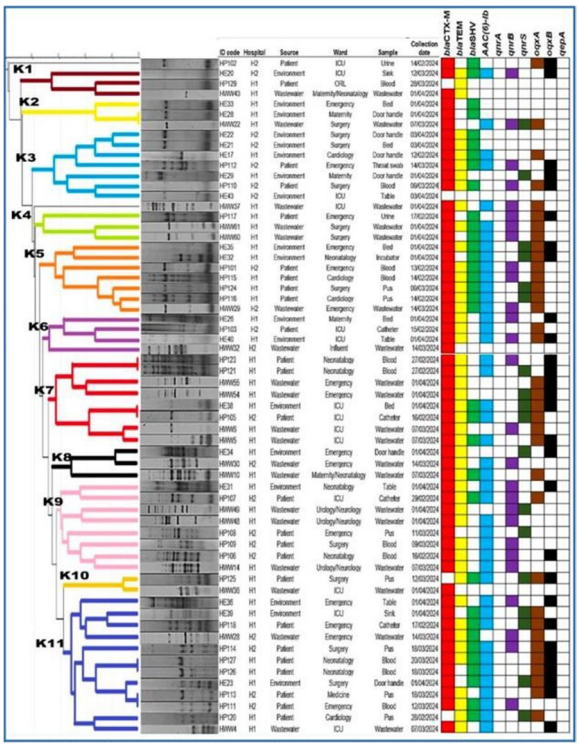

Fig. 2 (abstract O46). Genetic relatedness of ESBL-*K. pneumoniae* (N = 62) isolated from hospitalized patients (n = 25), the hospital environment (n = 18) and wastewaters (n = 19) of two healthcare centers in Yaoundé, Cameroon. Genetic relatedness assessed using ERICPRC and dendogram generated using GeIJ software. H1 = Yaoundé Central Hospital, H2 = Yaoundé University Teaching Hospital, ICU = Intensive Care Unit

O47

Confronting antimicrobial resistance in India: a policy and systems review through a one health lens

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O47

Introduction: Antimicrobial resistance (AMR) is a growing public health emergency in India, contributing to nearly 290,000 deaths annually. Despite multiple national and subnational strategies, India remains one of the world's highest AMR burden countries. The drivers of resistance—ranging from unregulated antibiotic use across human and animal health to poor environmental safeguards—are well documented, yet progress toward coordinated, cross-sectoral response remains uneven. The country's complex health system, variable state-level capacities, and weak integration of the One Health approach further complicate implementation.While various reviews have explored AMR globally, few have critically analyzed India's AMR response in relation to systemic and policy-level enablers and barriers.
Objectives: To assess India's current AMR strategies through a systems lens, and identify missed opportunities to operationalize the One Health approach.
Methods: This narrative policy and systems review synthesizes evidence from peer-reviewed literature, policy documents, government reports, and global surveillance databases. The analysis focused on four domains: surveillance architecture, regulatory enforcement, stewardship practices, and subnational implementation. State-level innovations like Kerala's Antimicrobial Resistance Strategic Action Plan (KARSAP) were examined as models of localized, cross-sectoral governance.
Results: India has established important foundations through the National Action Plan on AMR (NAP-AMR), the AMR Surveillance Research Network (AMRSN), and public campaigns like the Red Line Initiative. However, persistent challenges remain: weak enforcement of over-the-counter antibiotic sales, fragmented human-animal-environment data systems, underfunded laboratories, and limited uptake of stewardship programs. Kerala's KARSAP stands out as a contextually grounded model, yet its replication remains limited. Opportunities exist in scaling integrated AMR education, expanding digital stewardship tools, and leveraging India's role in global AMR governance.
Conclusion: India's AMR strategy must evolve from a programmatic to a systems-level response, grounded in the operationalization of the One Health framework. A shift toward coordinated, multisectoral governance—backed by investment in innovation, regulatory reform, and data integration—is critical to ensure long-term containment of AMR.

Disclosure of Interest
None declared.

O48

Leveraging online interactive AMR case studies to address inappropriate antibiotic prescriptions among healthworkers: insights into processes, outcomes, and lessons learned

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O48

Introduction: The Infectious Diseases Institute (IDI) has been conducting online courses for health workers' (HWs) in anti-microbial stewardship since 2016. In 2023 through the onsite follow up visits, IDI realized that more cases of anti-microbial resistance (AMR) were reported. An assessment identified the health workers were given a lot of theoretical knowledge during the courses but less of real- life cases and experience.
Objectives: To bridge the gap between theoretical knowledge and practical application
To improve health workers' clinical decision-making and antimicrobial stewardship
To increase engagement and motivation in AMR training
Methods: IDI started adopting real life cases of anti- microbial resistance from partner clinics. The doctors in the clinics identified challenging AMR cases during routine clinic days. The cases were reviewed by a physician who compiled them into case write ups and provided funding for further investigations. The cases are then presented at the multi-disciplinary team meetings at IDI for review and approval. The physician then forwarded the cases to the eLearning team who made them interactive, illustrative and motivating for learning. This included adding graphics, illustrations, animations and voice over recordings. All cases were reviewed for quality assurance by an independent medical specialist prior to uploading. In 2024, the IDI website was upgraded to open access and interactive format. This website hosts the real-life AMR interactive cases, the HWs log on, study the cases, complete the assessments and are rewarded CPD points and e-certificates.
Results: Over 42 real-life cases were uploaded and the uptake was very good. A total of 3,103 certificates were downloaded. One participant quoted "The visual effects and voice narrations mimic real patient interaction and have made learning less monotonous, I always look forward to more cases" Most importantly, the IDI Annual report 2024 reported a decrease in AMR from 54% in 2019 to 38% in 2024 in the project area.
Conclusion: Innovations in learning are essential for knowledge retention and health outcomes and AMR reduction.

The interactive studies are very engaging and motivation for learning and have been adopted by the Ministry of Health to conduct continuous Medical sessions

Disclosure of Interest
None declared.

O49

Decoupling contamination from infection: a seven-year surveillance of post-endoscopic bacteremia and microbiological correlation at a tertiary academic center in Singapore

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O49

Introduction: Endoscope-associated infections (EAIs) are an underrecognized subset of healthcare-associated infections. Despite advances in reprocessing, concerns about transmission from contaminated instruments persist, while robust surveillance systems to track EAIs and link contamination to infections remain limited.
Objectives: This study aimed to examine the incidence of post-endoscopic bacteremia and assess potential correlations with microbiological surveillance findings of endoscopes in a large academic center in Singapore.
Methods: A retrospective analysis was conducted at Singapore General Hospital from January 2018 to December 2024. Patients who underwent endoscopic procedures were monitored for bacteremia within 14 days post-procedure. Concurrently, endoscopes underwent routine microbiological surveillance post-reprocessing. Pathogens identified from positive blood cultures were matched with those detected on endoscopes used in the corresponding procedures to determine potential epidemiological links.
Results: A total of 528,008 endoscopic procedures and 1,344 blood cultures were reviewed. The overall incidence of bacteremia was 2.53 per 1,000 procedures. The highest rates were observed in ERCP at 41.3/1,000 procedures and bronchoscopy at 28.4/1,000. Lower rates were recorded for gastroscopy (5.6/1,000), cystoscopy (3.3/1,000), and colonoscopy (1.0/1,000). Despite extensive matching, no epidemiological link was established between endoscope contamination and post-procedure bacteremia.
Conclusion: This large-scale surveillance confirms that while ERCP and bronchoscopy are associated with higher bacteremia rates, there is no evidence of exogenous transmission from contaminated endoscopes. These findings support the effectiveness of current reprocessing standards and suggest that endogenous or procedural factors are more likely contributors to post-endoscopic infections.

Disclosure of Interest
None declared.

O50

Point-of-care flow cytometry as a novel tool for assessing high-level disinfection of endocavitary ultrasound probes

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O50

Introduction: The decontamination of endocavitary ultrasound probes, classified as semi-critical devices, is frequently neglected and underestimated in clinical practice. In the Slovak Republic, high-level disinfection (HLD) protocols are not uniformly implemented.
Objectives: This study aimed to monitor and evaluate the contamination levels of transvaginal ultrasound probes using a mobile flow cytometer, both before and after implementing a chlorine dioxide-based high-level disinfection protocol.
Methods: The study was conducted at the Department of Obstetrics and Gynecology, Trnava University Hospital, between June 2024 and April 2025. Samples were collected from the handles and probe bodies of six ultrasound machines. Contamination was assessed using mobile impedance flow cytometry (CytoQuant, Romer Labs), which provides rapid and precise counts of viable bacterial cells within 30 s, without requiring pre-treatment, incubation, chemical reagents, and is unaffected by residual detergents or disinfectants. A chlorine dioxide-based HLD protocol (Tristel Duo ULT, Tristel Solutions Ltd.) was introduced to replace previous low-level disinfection with quaternary ammonium compounds. Statistical analysis was performed using the Wilcoxon signed-rank test.
Results: A total of 65 measurements were obtained before and 65 after the intervention. The mean viable bacterial count decreased from 6.81×10^6 intact cells per millilitre (IC/mL) (SD $\pm 9.48 \times 10^6$) pre-intervention to 7.13×10^5 IC/mL (SD $\pm 3.27 \times 10^6$) post-intervention. The median dropped to the lower detection limit of 1.5×10^4 IC/mL, and the interquartile range significantly narrowed, indicating reduced variability and high consistency of the intervention's effectiveness. The effect size was large ($r = 0.652$).
Conclusion: The intervention led to a statistically significant reduction in bacterial contamination, confirming the efficacy of the implemented disinfection protocol. Mobile flow cytometry proved to be a reliable and rapid method for evaluating hygiene interventions in clinical practice and may serve as a practical tool for real-time hygiene compliance monitoring.

Disclosure of Interest
None declared.

O51

Beyond efficacy: feasibility as the deciding factor in UVC disinfection device selection for hospital use

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O51

Introduction: The COVID-19 pandemic accelerated the adoption of ultraviolet C (UVC) disinfection devices in healthcare settings. However, hospitals faced significant uncertainty when selecting devices. While microbiological efficacy is now standardized by BS 8628:2022, successful clinical implementation depends on the device's feasibility for routine use in complex healthcare environments.
Objectives: To evaluate and compare UVC disinfection systems based on their physical and technological characteristics, as well as their feasibility of implementation and integration into existing hospital workflows.
Methods: A comprehensive evaluation of eight distinct UVC disinfection systems was performed at Mater Misericordiae University Hospital. Devices were categorized based on physical characteristics (tower size, number of lamps, power output), technological sophistication (basic manual versus IoT-enabled systems), and operational mode (stationary, mobile, ceiling-mounted). Feasibility was assessed in terms of staff training requirements, maneuverability, reliability, and integration into existing hospital workflows.
Results: Certified microbiological efficacy poorly predicted real-world performance; only systems with compact design, intuitive interfaces, and reliable operation integrated successfully into daily workflows. Devices that were bulky, complex, or unstable were rapidly abandoned, despite achieving in vitro efficacy benchmarks. This highlights the essential role of user-centered design in translating UVC disinfection technologies into clinical practice. Following the evaluation, a

UVC disinfection system meeting feasibility and operational criteria was integrated into the hospital's routine terminal cleaning protocol and is now systematically applied following the discharge of all long-stay patients and all patients colonized or infected with multidrug-resistant organisms. Over five years, the system has completed over 38,000 disinfection cycles (Fig. 1) with no reported CPE, VRE, or Norovirus outbreaks in the last four years.

Conclusion: Practical feasibility and user-centered design are critical determinants for the successful adoption and sustained use of UVC disinfection systems in healthcare settings. While certified microbiological performance (BS 8628:2022) remains important, real-world outcomes are ultimately dictated by operational reliability, usability, and integration into clinical workflows.

Disclosure of Interest

J. Jerry Employee of: Salary as an NHS employee.

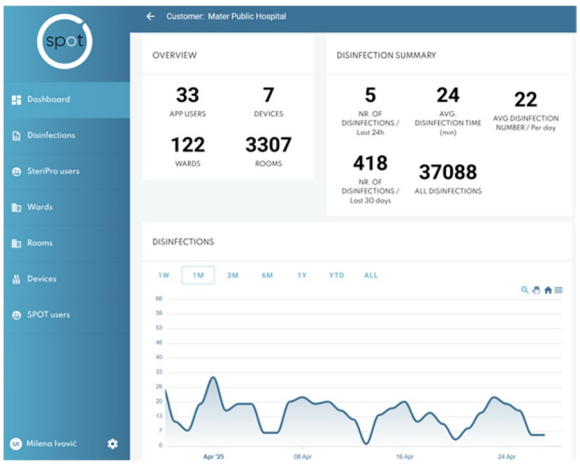

Fig. 1 (abstract O51). See text for description

O52

Use of bacteriophages to mitigate klebsiella pneumoniae in environmental settings: in vitro results from the fagolimp study

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O52

Introduction: FagoLimp is a clinical study conducted in São Paulo, Brazil, aiming to reduce the burden of multidrug-resistant *Klebsiella pneumoniae* (KPN) on hospital surfaces using tailored phage cocktails.

Objectives: In Phase 1, we evaluated the phages ability to eliminate KPN from abiotic surfaces and to retain their activity in the presence of hospital-grade disinfectants (HGD).

Methods: Phage persistence (phages X, Y, and Z) on abiotic surfaces was evaluated over 10-day period using the double agar overlay assay (DAO). To test the impact of disinfectant, phages were applied to glass, plastic, and stainless-steel surfaces and exposed to HGD. A neutralizing solution was used prior to DAO quantification (Fig. 1 A). To evaluate phage-mediated removal of *KPN*, phages A, B, and C targeting MDR clones ST11, ST16, and ST307, respectively, were applied to surfaces previously pre-contaminated with KPN (10^6 CFU/mL) and dried at room temperature. Phages were diluted in distilled water to achieve MOIs of 1, 10, and 100, and applied for 15 or 30 min. Two control groups were included. Post-treatment, surfaces were stamped onto MacConkey agar plates and incubated overnight at 37 °C. All assays were performed in biological and experimental triplicates. Data were analysed using Tukey's multiple comparison test.

Results: Phage persistence varied depending on the phage evaluated; however, all phages maintained a stable log concentration for at least three days (Fig. 1B). Regarding disinfectant interactions, sodium hypochlorite (1%) and hydrogen peroxide (1%) significantly reduced phage activity (Fig. 1 C). All tested phages were able to reduce the bacterial load by ~ 1 log on all hard, non-porous surfaces after just 15 min of exposure (Fig. 1D-E). Interestingly, MOI did not influence the outcome, as similar reductions in bacterial load were observed across all tested phage concentrations.

Conclusion: Phase 1 results were essential to the design of the intervention phase. Given the lack of significant variation across concentrations, daily phage applications at 10^6 PFU/mL were implemented, typically in the evenings to minimise interference from routine disinfectants since the cleaning solution contained bleach.

Disclosure of Interest

None declared.

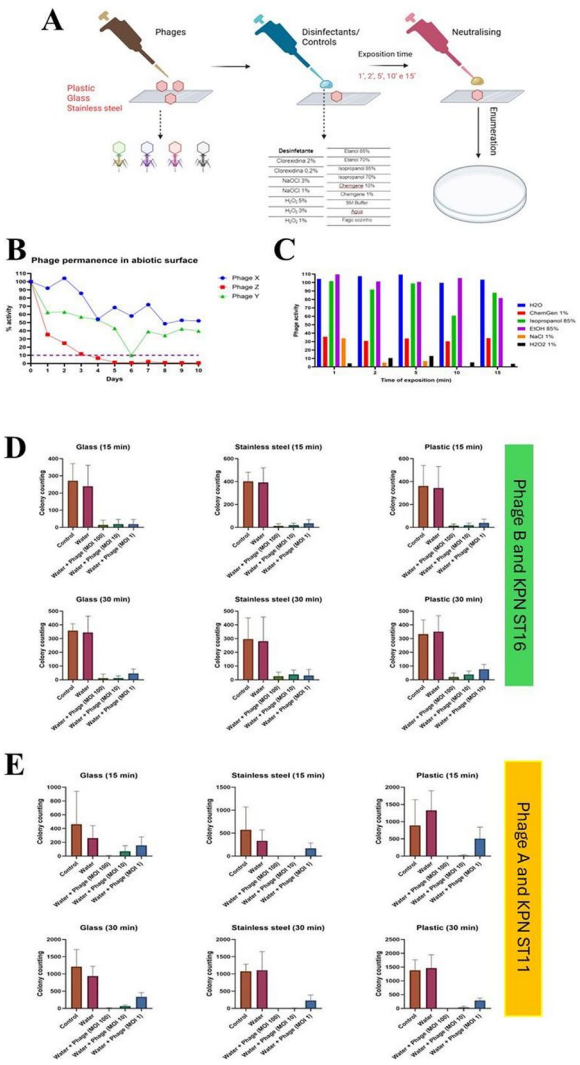

Fig. 1 (abstract O52). See text for description

O53

Is the disposal of medical consumables stored in rooms of patients colonized with mdros necessary?

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**O53

Introduction: Environmental contamination with multidrug-resistant organisms (MDROs) in hospitalized patients with MDRO colonization and further transmission is well established. However, there is limited knowledge regarding the risk for contamination of medical consumables stored in patient rooms in this context. Consequently, a common approach is to dispose of these consumables upon patient discharge.
Objectives: We aimed to assess the contamination of medical consumables stored in rooms of patients colonized with MDROs.
Methods: We conducted a prospective study in a Swiss tertiary hospital (07/2024—01/2025). According to a predefined protocol, we collected six swabs from medical consumables (plastic cover of infusion and dressing material, plastic container, gloves) stored in single-patient rooms on general wards with implemented contact precautions due to MDRO colonization (e.g. methicillin-resistant *Staphylococcus aureus* [MRSA], vancomycin-resistant enterococci [VRE], non-*Escherichia* [*E.*] *coli* extended-spectrum beta-lactamase [ESBL] Enterobacterales and carbapenemase-producing organisms [CPO]). First sampling was performed at the earliest 48 h after admission to a room, second sampling before discharge.
Results: Patient rooms hosted in 58.3% (n = 35) patients colonized with non-E.coli ESBL-producers, in 20.0% (n = 12) with MRSA, in 18.3% (n = 11) with CPOs, and in 15% (n = 9) with VRE. In total, 330 swabs were collected from medical consumables of 60 patient rooms. In median, initial samplings were performed after 4.0 days (IQR: 2.0–60.0) of room occupancy. In 18 (33%) rooms, a second sampling was appended 9.5 days after admission (median, IQR: 6.0–49.0). The presence of MDROs was not detected in any of the 330 sampled consumables. As a quality control, additional swabs from the handle of the medical consumables storage unit and from bed equipment were performed and revealed VRE contamination in one sample (handle) and CPO in another one (bed trapeze).
Conclusion: There was no contamination of medical consumables stored in patient rooms of MDRO colonized patients. Disposal of medical consumables after patient discharge may be discontinued, especially in the setting of well-maintained hand hygiene compliance and low MDRO prevalence.

Disclosure of Interest
None declared.

O54

Impact of cohorting carbapenem-resistant acinetobacter baumannii (CRAB) patients combined with enhanced environmental cleaning on CRAB bloodstream infections: a prospective surveillance-based study

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Introduction: Carbapenem-resistant *Acinetobacter baumannii* (CRAB) infections carry high case-fatality rates. Although the incidence of these infections is increasing and therapeutic options are limited, effective interventions to prevent the cross-transmission of CRAB have rarely been tested.
Objectives: We aimed to assess the impact of cohorting CRAB patients combined with intensified environmental cleaning on CRAB bloodstream infections (BSI).
Methods: This was a quasi-experimental study at a tertiary hospital during January 2022 – June 2024. Following an increase in CRAB acquisitions at our institution, we implemented a bi-faceted intervention by cohorting all patients with CRAB (either colonization or infection) hospitalized in the internal medicine departments. Simultaneously, we performed a twice-daily routine and a double terminal cleaning of all hospital rooms occupied by CRAB patients.
We calculated the monthly acquired CRAB BSI rates and estimated the incidence rate ratio (IRR) using Poisson regression discontinuity analysis with robust standard errors, controlled for the influx of CRAB patients into the hospital.
Results: During January 2022 to June 2024, we identified 610 hospitalized patients with CRAB, 350 (57%) of whom acquired the bacterium in hospital and 138 (40%) developed acquired BSI.
The overall 30-days mortality rate remained stable at 61% throughout the study period.
Cumulative BSI incidence decreased by 55%, from 1.43 per 10,000 hospitalization days before the intervention to 0.65 afterwards.
The slope of the BSI incidence rate decreased by 9% per month (adjusted IRR 0.909, 95% CI 0.834-0.990, p = 0.029) (Fig. 1).
A similar trend was observed in CRAB BSI cases occurred in the internal medicine departments, although it did not reach statistical significance.
The decrease in CRAB BSI remained consistent despite a constant increased influx of CRAB patient into the hospital.
Conclusion: Cohorting CRAB patients in the internal medicine departments, combined with intensified cleaning throughout the hospital, significantly reduced the incidence of CRAB BSI across the entire institution.

Disclosure of Interest
None declared.

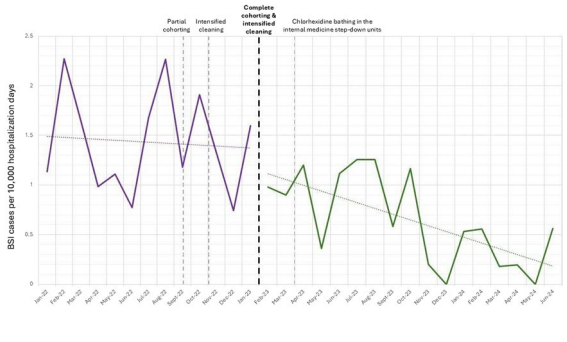

Fig. 1 (abstract O54). See text for description

O55

Extended spectrum betalactamase and carbapenemase producing gram negative bacteria from healthcare workers lab coat IBB specialized hospital, Minna, Nigeria

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Abstract video clip description:
Introduction: Extended-spectrum beta-lactamase (ESBL) and carbapenemase-producing (CP) gram-negative bacteria are significant contributors to hospital-acquired infections globally. Healthcare workers'(HCWs) lab coats can serve as vectors for these multidrug-resistant organisms, posing risks for cross-contamination within clinical settings.
Objectives: To determine the prevalence and resistance patterns of gram-negative bacteria on healthcare workers' lab coats, including

ESBL and carbapenemase production and to explore associations with laundering practices and Labcoat-related factors.
Methods: A cross-sectional study was conducted from August to October 2023 at IBB Specialized Hospital in Minna, Nigeria. we collected 228 swab samples from healthcare workers'lab coats, cultured them on MacConkey agar and identified gram-negative bacteria using standard biochemical techniques. ESBL and carbapenemase production were screened with CHROMagar and confirmed using combination disk and modified carbapenem inactivation methods.
Results: Out of 228 lab coat samples collected from healthcare workers at IBB Specialized Hospital; 108 (47.4%) exhibited bacterial contamination. A total of 118 g-negative bacteria were isolated with Escherichia coli being the most prevalent (24.6%, 56 isolates), followed by Klebsiella pneumoniae (15.7%; 36 isolates). The overall multidrug resistance (MDR) rate among these isolates was 32.9% (75 isolates). Specifically; 17 isolates (14.5%) were identified as extended-spectrum beta-lactamase (ESBL) producers and 24 (10.5%) as carbapenemase-producing (CP) bacteria. Significant associations were found between bacterial contamination and factors such as labcoat type ($p = 0.031$), laundering habits ($p = 0.035$), number of coat owned ($p = 0.001$), and washing frequency per week ($p = 0.027$).
Conclusion: The study reveals a concerning prevalence of ESBL and CP gram-negative bacteria on HCWs'lab coats, highlighting the potential role of these garments in the transmission of multidrug-resistant organisms. These findings underscore the necessity for stringent infection control measures, including regular laundering protocols and hygiene practices, to mitigate the risk of hospital-acquired infections.

Disclosure of Interest
None declared.

O56

Stopping infections in their tracks: adults intensive care units based strategies to tackle multi drug resistant organisms in tertiary care hospital in Saudi Arabia

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O56

Introduction: Multidrug-resistant organisms (MDROs) are a major challenge in healthcare settings, particularly in intensive care units (ICUs). In Saudi Arabia, Prince Sultan Military Medical City (PSMMC) serves as tertiary referral center for 26 Ministry of Defense Hospitals. Reducing MDROs in ICUs is top priority to improve patient outcomes.
Objectives: This study aimed to assess the impact of evidence-based strategies on MDRO infections and HAIs in 110-bed ICU at PSMMC. The study examined trends in MDRO and HAI cases over two consecutive years(2023-2024), evaluated reductions in MRSA, VRE, Klebsiella pneumoniae, Escherichia coli, Acinetobacter MDRO, and Pseudomonas MDRO, and analyzed the effectiveness of intervention strategies.
Methods: A prospective interventional study was conducted. In 2024, interventions were introduced, including strengthening MDRO care bundle compliance. The antimicrobial stewardship program (ASP) was optimized to restrict inappropriate antibiotic use and promote targeted therapy. Environmental disinfection using ultraviolet-C (UV-C) technology to reduce microbial contamination. Real-time microbiological surveillance was implemented to track infections and provide immediate feedback to clinical teams.
Results: Following the interventions, total MDRO cases decreased by 54.5% (T-Test: 2.33, $p = 0.0502$), while HAIs dropped by 85.98% (T-Test: 3.24, $p = 0.0229$), both showing statistically significant reductions. The largest declines were observed in E. coli (total cases ↓ 66.67%, HAIs ↓ 93.75%), VRE (total cases ↓ 66.67%, HAIs ↓ 85.71%), and Acinetobacter MDRO (total cases ↓ 61.11%, HAIs ↓ 86.21%). Compliance with the MDRO prevention care bundle improved from 58 to 92%, demonstrating enhanced adherence to infection control measures. Environmental decontamination using UV-C technology significantly reduced MDRO colony-forming units from over 100,000 to less than 100 per sample (Paired t-test: 23,400.23, $p = 1.72 \times 10^{-13}$).
Conclusion: This study provides strong evidence that multi-faceted infection control strategies significantly reduce MDRO infections and HAIs in ICU settings. Expanding these strategies to other military hospitals can further enhance patient safety and reduce MDRO transmission.

Disclosure of Interest
None declared.

O57

Genomic epidemiology of multiresistant citrobacter freundii complex in a tertiary care hospital in Switzerland (2017–2022)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**O57

Introduction: *C.freundii* complex is an emerging nosocomial pathogen.
Objectives: We conducted a genomic and epidemiological study to investigate the transmission chains of multiresistant *C. freundii* complex collected at Geneva University Hospitals (HUG) between Jan 2017 and Dec 2022.
Methods: All first ESBL- or CP-producing *C. freundii* isolates from clinical and screening samples were included. Whole-genome sequencing (WGS) was performed using Oxford Nanopore long-read sequencing. cgMLST analysis, MLST typing, plasmid incompatibility group typing, and resistome profiling were also performed. Transmission events were defined based on genetic relatedness (≤ 30 cgMLST loci), plasmid similarity and patient trajectories.
Results: Overall,105 patients at HUG were identified as infected or colonized with multidrug-resistant *C. freundii* complex, predominantly from rectal swabs (72%) and urinary samples (20%). Most patients were male (60%) and ≥ 65 years old (58%). Among 90 isolates available for WGS; 73% were confirmed as *C. freundii* sensu stricto, while others included *C.portucalensis*, *C.werkmanii*, *C.braakii*, *C.europaeus*, *C.pasteurii* and *C.amalonaticus*. A high genetic diversity was observed, with 48 distinct sequence types, including predominant STs such as ST114, ST98 and ST22.ESBL was identified in 59% of isolates;18% co-produced ESBL and carbapenemase; 3% were exclusive carbapenemase and 20% had other resistance mechanisms. Transmission chain analysis revealed that 37% of patients were involved in putative clonal transmission and 21% in putative plasmid-mediated dissemination events. Combined genomic and epidemiological data analyses highlighted ongoing transmission dynamics across multiple hospital units, particularly in abdominal surgery, geriatrics, and septic orthopedics, often involving *C. freundii* harboring $bla_{\text{CTX-M-15}}$, $bla_{\text{OXA-48/CTX-M-14b}}$ and $bla_{\text{OXA-181}}$ on IncHI2-IncHI2A, IncM1 and IncX3 plasmids, respectively.
Conclusion: This genomic analysis revealed high genetic diversity within the *C. freundii* complex and emphasized the contribution of both clonal and plasmid-driven resistance spread.These findings support sustained WGS surveillance to curb silent dissemination in hospitals.

Disclosure of Interest
None declared.

P1001

Impact of multimodal preventive measures on catheter-associated infections in a neonatal intensive care unit: a quasi-experimental retrospective study

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Introduction: Neonates in the neonatal intensive care unit (NICU) are highly vulnerable to infections, particularly central line-associated bloodstream infections (CLABSI), due to their immature immune systems, frequent exposure to invasive devices, and prolonged hospital stays. CLABSI are among the most common healthcare-associated infections in NICUs, with rates significantly higher than in adult or pediatric intensive care units.
Objectives: To evaluate the impact of a multimodal preventive strategy on the incidence of CLABSI among neonates hospitalized in the NICU of Geneva University Hospitals (HUG).
Methods: We conducted a quasi-experimental study over five years (January 2019–December 2023) including all neonates hospitalised in the NICU with a central venous catheter inserted. The study period was divided into a baseline phase and an intervention phase, during which a multimodal preventive intervention was implemented. The intervention targeted four areas: good practices promotion for hand hygiene, catheter management, environmental disinfection, and feedback provision. The primary outcome was CLABSI, defined using European Centre for Disease Prevention and Control (ECDC) criteria. Incidence rates were expressed per 1000 catheter-days and compared between periods using segmented Poisson regression.
Results: A total of 6725 catheter-days were included. Thirty-eight CLABSI were recorded in the baseline period and fifteen in the intervention period. The incidence of CLABSI decreased from 10.8 to 5.3 per 1000 catheter-days (Incidence Rate Ratio for the intervention period: 0.49; 95% CI 0.26–0.91; p = 0.019), indicating a 51% reduction of CLABSI following implementation of the multimodal strategy (Fig. 1). The most identified microorganism was *Staphylococcus epidermidis* (26/57; 45.6%).
Conclusion: Implementation of a multimodal, interdisciplinary CLABSI prevention strategy significantly reduced CLABSI incidence in the NICU. These findings emphasize the importance of tailored infection prevention programs in neonatal care and the need for further neonates-specific implementation research.

Disclosure of Interest
None declared.

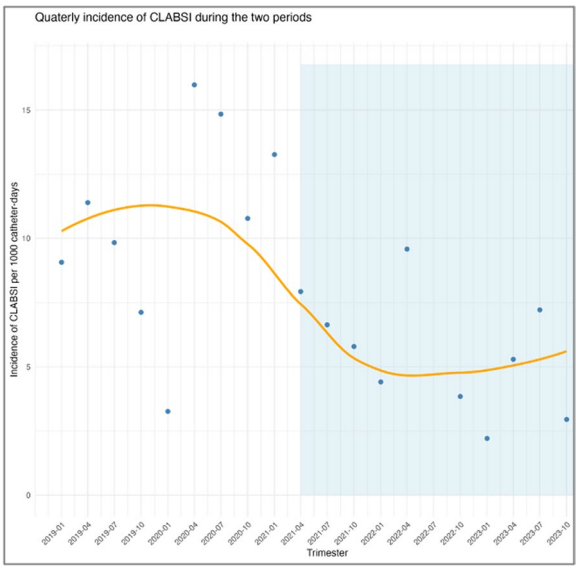

Fig. 1 (abstract P1001). See text for description

P1003

From risk to rounds: a team-based approach to central line safety
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1003

Introduction: Central Line Associated Infections (CLABSIs) have a significant impact on patient outcomes. To enhance patient safety and decrease CLABSIs, this project implemented a proactive approach: daily interdisciplinary central venous catheter rounds. This strategy acknowledges the elevated CLABSI risk associated with central venous catheter dwell time and maintenance practices.
Objectives: To evaluate the effectiveness of daily interdiscipinary central venous catheter rounds on CLABSI rates and device utilization.
Methods: A multidisciplinary team, comprising of physicians, nurses, infection preventionists, and quality leaders, conducted daily rounds on all hospitalized patients with central venous catheters. All observations were entered into an electronic database. Immediate feedback was given to staff during rounds. These rounds aimed to facilitate prompt interventions, enhance adherence to best practices, and reduce CLABSIs.
Results: Over six months, 2298 central venous catheters were reviewed, with 39% (900) requiring intervention, including dressing changes, line removals, and goals of care reviews. While the CLABSI Standardized Infection Ratio (SIR) decreased from 1.097 to 0.476, this change was not statistically significant (p = 0.2492). However, central venous catheter utilization significantly decreased, with the Standardized Utilization Ratio (SUR) decreasing from 0.482 pre-intervention to 0.429 post-intervention (p < 0.001).
Conclusion: The implementation of daily interdisciplinary rounds fostered a culture of proactive central line management. Staff demonstrated increased awareness of line duration and maintenance, addressing potential issues even before rounds. The team's engagement with staff facilitated productive conversations about unit-level challenges, further contributing to improved practices.

Disclosure of Interest
None declared.

P1004

Improve patient safety among our most vulnerable: a central line associated bloodstream infections reduction strategy in a tertiary neonatal intensive care unit
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1004

Abstract video clip description: BLOOD STREAM INFECTION
NICU
INFECTION CONTROL
DECREAE CLABSI
CLABSI IN NICU
CENTRAL LINE
Introduction: Prevention of Central Line associated Bloodstream Infections (CLABSI) is a key indicator for patient safety and quality of care. A quality improvement project (QIP) implemented for a period of six months in Level 3 NICU in order to decrease CLABSI rate.
Objectives: Decrease CLABSI incidence rate (from 4.58 CLABSI/1000 CL days) to reach NHSN benchmark (1.12 CLABSI/1000 CL days) within six months (by end of August 2024) in NICU-PSMMC

Methods: Gap analysis conducted in March 2024 using a risk assessment checklist with 16 evidence-based updated standards for CLABSI prevention in NICU and Plan – Do- Check – Act cycle applied. Hand hygiene and central line care bundles compliance were monitored. Assigned team enhanced assessment and follow up of central line related supplies. Dedicated 'Vascular Access Team' (VAT) and infection control (IC) link nurses were designated after competency assessment
Results: Two (2) IC link nurses and 38 NICU staff selected as VAT for our project. Daily bath of patients aged more than 2 months with chlorhexidine (CHG) preparation was successfully implemented and monitored, the aqueous 2% CHG for skin antisepsis dedicated for neonates less than 2 months of age or less than 1.5 kg of weight provided to NICU and applied and critical supplies related to central line (CL) greatly improved. Full Compliance to SHEA/CDC/MOH standards increased from 25% to 87.5%, care bundle and hand hygiene compliance rates improved over the project period. Therefore, CLABSI rate decreased from 4.58 (2 CLABSI, 437 CL days; March 2024) to ZERO (0) CLABSI/1000 CL days after QIP implementation for consecutive Two months (July & august 2024) and maintained for September 202
Significant Decrease of CLABSI incidence rate from 4.58 CLABSI/1000 CL days (March 2024) to **ZERO CLABSI** after 6 months of QIP implementation for TWO Months (July & August
Conclusion: Conclusion: Teamwork and leaders support contributed to reaching more than our target and improving patient safety in NICU.

Disclosure of Interest
None declared.

P1005

Patient safety initiative to reduce central line–associated bloodstream infections among adult icu patients in a tertiary care hospital in saudi arabia: a "zero harm" approach

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1005

Introduction: Central Line–Associated Bloodstream Infections (CLABSIs) are associated with patient harm and health care costs. At Prince Sultan Military Medical City (PSMMC), Riyadh, Saudi Arabia, a tertiary referral hospital to 26 Ministry of Defense Hospitals (MOD), 42 preventable CLABSI events were recorded from January to September 2023 at a rate of 7.3 per 1,000 central line (CL) days, resulting in 378 extra ICU days and additional costs of 3,024,000 SR.
Objectives: The study aimed to reduce CLABSI incidence rate and associated costs among adult ICU patients over one year (September 2023–September 2024). The target was a 50% reduction in the first six months aligning with MOD and NHSN benchmarks and ultimately achieving ZERO Infection Rate.
Methods: A quasi-experimental quality improvement project was implemented using the THREE Plan-Do-Study-Act (PDSA) cycles by multidisciplinary team. A root cause analysis employing fishbone diagrams, Pareto charts, and gap analysis identified key issues: inconsistent supply availability, nonstandardized CL practices, and insufficient staff training. In response, the team standardized supplies, developed clinical practices guidelines for CL insertion, maintenance, and removal, instituted daily catheter reviews, enhanced staff training, updated checklists, and introduced innovative disinfection technology (Ultraviolet)—all monitored through continuous audits.
Results: Interventions led to significant reduction in the CLABSI rate from 7.3 to 2.2 per 1,000 CL days ($p < 0.05$), with zero infections observed between April-August 2024. Average ICU stay decreased from 42 to 16 days, and per-patient costs nearly halved. Compliance with insertion and maintenance protocols exceeded 95%, while staff competency improved to over 88% across all groups. Strong positive correlation was observed between CLABSI rates, increased costs, and supply shortages.
Conclusion: This evidence-based initiative improved patient safety and reduced costs, prompting its adoption across military hospitals in Saudi Arabia. Ongoing education and rigorous monitoring ensure sustained, zero-harm ICU practices.

Disclosure of Interest
None declared.

P1006

Epidemiology and outcomes of catheter-related bloodstream infections in hematology patients: a 6-year prospective cohort study

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1006

Abstract video clip description: NO video
Introduction: Hospital-acquired bloodstream infections (HA-BSIs), particularly catheter-related BSIs (CRBSIs), significantly impact morbidity/mortality in hematology patients. CRBSIs are considered preventable, unlike non-CRBSIs.
Objectives: This study aimed to characterize CRBSIs vs. non-CRBSI in hematology patients and compare their characteristics.
Methods: We conducted a prospective observational study of adult patients ($\geq$ 18 years) admitted to two hematology wards and one bone marrow transplant unit at a medical center in northern Taiwan from 2018–2023. CRBSI was defined by a differential time to positivity > 2 h between peripheral and central line cultures or growth of 15 colony-forming units (cfu) from a 5-cm segment of the catheter tip by semiquantitative (roll-plate) culture. Only the first BSI per hospitalization was analyzed. Demographics, microbiology, and outcomes were collected. The primary outcome was 14-day all-cause mortality. Multivariable logistic regression was performed using stepwise selection
Results: Among 753 patients with HA-BSIs, acute leukemia was the most common diagnosis (61%), followed by lymphoma (24%). The median hospital stay was 47 days, with BSI onset occurring 16 days post-admission. Of the BSIs, 31% were classified as CRBSIs. The predominant pathogens included gram-negative bacilli (GNB) at 63%, followed by gram-positive cocci (15%) and polymicrobial infections (12%). Carbapenem-resistant GNB (CR-GNB), methicillin-resistant Staphylococcus aureus (MRSA), and vancomycin-resistant Enterococci (VRE) accounted for 6.9%, 0.4%, and 5.5% of cases, respectively. Fourteen-day mortality was significantly higher among patients with CR-GNB BSI (22% vs. 9.3%, $P = 0.005$) and VRE BSI (24% vs. 9.3%, $P = 0.005$). Multivariable analysis revealed that older age, lymphoma diagnosis, longer admission duration before BSI onset, candidemia, CR-GNB, and VRE were independently associated with increased 14-day mortality.
Conclusion: CRBSIs accounted for nearly one-third of HA-BSIs in hematology patients, with GNB predominating. Resistant pathogens (though uncommon) dramatically increased short-term mortality. Findings underscore the need for enhanced CRBSI prevention and rapid management of resistant organisms in high-risk populations.

Disclosure of Interest
None declared.

P1007

Interventions to prevent bloodstream infections associated with central venous access devices: priorities for an adaptive platform trial

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1007

Introduction: Healthcare-associated bloodstream infections are serious complications of central venous access devices (CVADs). Numerous preventative interventions exist, but most without high-level evidence. The IVCare adaptive platform RCT is a global effort funded by the Australian government and will provide multiple answers for infection prevention.
Objectives: To prioritise interventions for testing in the IVCare adaptive platform trial.
Methods: We undertook a prioritization study with Australasian infection preventionists using the SHEA CLABSI prevention framework. The study was carried out in conjunction with the Australasian College of Infection Prevention and Control 2024 pre-conference workshop on preventing bloodstream infections in vascular catheters. A facilitator moderated the session and presented 17 of the SHEA recommendations including a summary of evidence. Anonymous online voting then occurred as to priorities and current practices.
Results: Of 80 attendees, 65 responded (81%). We identified the highest priorities for Australasian ICPs to progress to IVCare intervention testing as: vascular access teams, education and competency assessments for CVAD insertion and post-insertion care, sutureless securement devices, connector types, and connector decontamination methods. All interventions were present in some respondents'hospitals but no intervention had complete uptake across all hospitals.
Conclusion: We identified the priorities of key experts to inform the trial's initial interventions in Australasia and confimred wide practice variation. Similar prioritisation studies are needed in other regions to inform IVCare expansion globally and answer relevent questions.

Disclosure of Interest
C. Rickard Grant/Research support from: BD; ICU Medical; Solventum; Spectrum Vascular, Consultant for: BBraun; BD; ITL Biomed; Solventum, A. Stewardson: None declared, S. Havers: None declared, N. Buetti: None declared, J. Schults: None declared.

P1008

Consumer prioritisation of clinical endpoints for the IVcare adaptive platform trial

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Introduction: Complications associated with central venous catheters place significant burden on the community and health system. The IVCARE adaptive platform trial seeks to test infection prevention and control interventions for intravascular catheters globally. Endpoint selection is a complex process. To ensure trial endpoints are clinically meaningful to consumers it is important to understand what endpoints are most important to them.
Objectives: To identify meaningful and consumer prioritised endpoints for the IVCARE trial.
Methods: We conducted a cross-sectional ranking survey across Australia. Consumers were eligible to participate if they had experience with a central venous catheter. Surveys were distributed through consumer advisory networks and via social media. The survey was co-design with a consumer investigator (SS) and trialled with 2 consumers prior to distribution. Participants first completed 2 demographic questions followed by a ranking exercise where catheter-related endpoints (previously determined through a review of the literature) were ranked in order of perceived importance'ideal endpoint'using an online Microsoft Form. All endpoints were weighted equally, with no composite measures presented.
Results: A total of 51 consumers completed the survey. Consumers required central venous catheters for parenteral nutrition, cystic fibrosis and cancer treatment. Central line associated bloodstream infection (CLABSI) was the top ranked clinical endpoint. Catheter failure, venous thromboembolism, and suspected CLABSI were ranked in the top 5 clinical endpoints. Local catheter complications (occlusion, phlebitis, dislodgement) were ranked lowest.
Conclusion: Optimisation and selection of endpoints for the IVCARE clinical trial is a complex process with variation in end user priorities. Through a consumer-focused ranking activity, we identify CLABSI as the top ranked clinical end point for a clinical trial of infection prevention products for central venous catheters. This data can inform trial endpoint selection and trial design. Next steps are the development of a causal model linking consumer prioritised endpoints with underlying disease mechanisms and clinical processes.

Disclosure of Interest
None declared.

P1009

Reducing acquired blood stream infections at a hospital-based level using a multifaceted intervention

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1009

Introduction: Hospital-acquired bloodstream infections (HA-BSI) increase morbidity and mortality among hospitalized patients. These infections may result from several potential sources including peripheral or central intravascular catheters, pulmonary infections, urinary tract infections mainly catheter associated, surgical site infections, and skin soft tissue infections especially related to chronic wounds or decubitus ulcer.
Objectives: Our main aim was to reduced HA-BSI using a multifaceted intervention.
Methods: At our hospital, a 350-bed hospital in Northern Israel, we started monitoring all-cause hospital-onset bacteremia since 2022. We defined HA-BSI as a BSI occurring three or more days after admission. Blood culture contaminations were excluded. Due to a rise in HA-BSIs during 2023, we implemented a multifaceted intervention. The intervention focused on CLABSI and VAP prevention which constituted 19% and 50% of cases, respectively. The intervention constituted of:—Hands on workshops for central line insertion and maintenance for all physicians and nurses authorized to perform these procedures.—A mandatory rotation for physicians in ICU before receiving authorization to insert CVCs at the medical ward.—Defining indications for CVC insertion.—Use of ready-made sets for CVC insertion and maintenance (including needleless use, chlorhexidine 2% based dressing etc.).—Implementation and monitoring of CLABSI and VAP prevention bundles in medical wards. We calculated rates and compared the post-intervention period to the pre-intervention period
Results: HA-BSIs were reduced from 10.8 cases per 10,000 patient days in the pre-intervention period to 5.7 in the post intervention period (47% reduction, IRR 0.527). Focusing on medical wards HA-BSIs were reduced from 26.1 to 11.2 cases per 10,000 patient days in the post intervention period (57% reduction, IRR 0.43).
Conclusion: Prevention of HA-BSIs at the hospital level necessitates continuous monitoring, investigating the underlying causes and focusing the interventions based on these results. This approach lead to 47% reduction of HA-BSIs at our hospital.

Disclosure of Interest
None declared.

P1010

Increased cost of care and length of stay due to potentially preventable catheter related complications in us inpatient data during 2022 and 2023

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Introduction: This study aims to understand differences in cost of care and length of stay (LOS) for patients with potentially preventable catheter-related infections (PPCRI), as defined by a grouper methodology [Solventum™ Potentially Preventable Complications version 38].
Objectives: This methodology identifies different types of complications that occur during an inpatient stay and includes clinical exclusions to prevent a complication from being assigned if it represents an inevitable progression of a pre-existing condition. Focusing on potentially preventable outcomes allows for more actionable decisions.
Methods: A retrospective cohort analysis was performed using the Premier Healthcare Database for calendar years 2022 and 2023. Actual PPCRI cases (865 in 2022 and 575 in 2023), and a pool of non-PPCRI cases at-risk for developing PPCRI were identified. We matched PPCRI cases with a non-PPCRI case based on age, race, sex, diagnostic-related group, and severity of illness through propensity score matching. After matching, the two arms had no significant differences in patient demographics.
Results: The analysis showed significantly higher total cost of care and LOS. Average total cost of care was approximately $162,000 in 2022 and $187,000 in 2023 for the PPCRI group vs approximately $44,000 and $40,000 respectively for the non-PPCRI group ($p < 0.0001$). The normalized average excess LOS was 38 and 44 days for the PPCRI group in 2022 and 2023 and 6 and 5 days, respectively, for the non-PPCRI group ($p < 0.0001$). LOS was greater than expected in PPCRI cases, 97% vs 63% in non PPCRI cases in 2022, and 98% vs 63% in 2023. There was no significant difference in cost per day. Mortality was significantly increased for the PPCRI cases vs non-PPCRI 17% vs 6% ($p < 0.0001$) in 2022 and 12% vs 2% ($p < 0.0001$) in 2023. More patients were discharged to home care in the non-PPCRI group 48% vs 21% ($p < 0.0001$) in 2022 and 52% vs 23% ($p < 0.0001$) in 2023.
Conclusion: This study showed that the excess days spent in the hospital after a PPCRI event drove the exponentially increased cost seen in the total cost of care. By focusing on preventing actionable events like PPCRIs, facilities could save around $100,000 per case.

Disclosure of Interest

L. Soloway Employee of: Solventum Medical and Surgical Division, T. Karpanen Employee of: Solventum Medical and Surgical Division, A. Guy Employee of: Solventum Health Information Systems Division.

P1011

Implement the chlorhexidine wipe and patch to reduce the incidence of healthcare-associated bacteremia

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Introduction: Healthcare-associated bloodstream infection (BSI) are important in pediatric intensive care units (PICUS). BSI occupy the most part of the healthcare-associated infection (HAI) and increase mortality and morbidity.
Objectives: This study aimed to investigate the effect of chlorhexidine (CHG) wipe at central line catheter surface/junction and chlorhexidine patch for dressing on BSI.
Methods: Daily use CHG wipe at central line catheter surface and catheter junction. Every 7 days use CHG patch for central line dressing. These all started from 2024/3. The rate of BSI pre (2023/3-2024/2) and post-intervention (2024/3-2025/2) was evaluated at a teaching hospital PICU.
Results: A total of 1,456 patients (pre/post, 763/693) were included in this study. There are significant difference between 2 phase's bloodstream infection rate (p value <.005). (Table 1).
Conclusion: This study showed CHG wipe and CHG patch may be an effective strategy for reducing the BSI in PICU.

Disclosure of Interest

None declared.

Table 1 (abstract P1011). See text for description

phase	BSI(n)	Total day of hospitalization	Rate(‰)	Fisher's Exact Test (*P* value)
2023/3-2024/2 Pre intervention	22	6467	3.4	-
2024/3-2025/2 Post intervention	5	6057	0.83	<.005

P1012

Identifying infection prevention and control priorities to enhance peripheral intravenous catheter care: a national Agenda

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Introduction: Despite evidence-based guidance, peripheral intravenous catheter (PIVC) practices remain suboptimal in Australia, causing preventable complications and patient harm. Inconsistent training, policy gaps and competing clinical priorities contribute significantly to deficiencies.
Objectives: This study aimed to identify national infection prevention and control (IPC) priorities for improving PIVC care and outline actionable strategies to facilitate practice improvements.
Methods: A priority-setting exercise was conducted at an annual IPC meeting with 65 multidisciplinary clinicians, primarily IPC specialists. Discussions focused on identifying priorities and strategies to improve PIVC care. Qualitative data were collected, thematically analysed, and validated by participants. Findings were mapped to the Consolidated Framework for Implementation Research (CFIR) and Expert Recommendations for Implementing Change (ERIC) to identify barriers and solutions.
Results: Nine key priorities emerged from discussions, including enhanced consumer engagement, simplified and standardised guidelines, improved resource allocation, elimination of low-value practices, better documentation and data integration, and regular auditing for compliance. Actionable strategies included standardised training, improved ultrasound-guided insertion skills, and robust auditing systems.
Conclusion: Effective improvement in PIVC practices requires national coordination, strong leadership, and strategic investment in IPC

resources. Aligning national policy with identified priorities can mitigate current deficiencies in PIVC care and enhance patient outcomes.

Disclosure of Interest
None declared.

P1013

Knowledge, attitude, and practice (KAP) regarding clabsi prevention among nurses in medical wards, tertiary teaching hospital: a cross-sectional study

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Introduction: Central line-associated bloodstream infections (CLABSIs) remain among the most preventable healthcare-associated infections. Compliance and implementation challenges persist despite prevention bundles, especially in non-intensive care unit settings.
Objectives: This study assessed nurses'baseline knowledge, attitudes, and practices (KAP) regarding CLABSI prevention in Universiti Malaya Medical Centre (UMMC) medical wards.
Methods: A cross-sectional study was conducted among 198 (190 females,8 males) medical ward nurses at UMMC. The CLABSI bundle (insertion and maintenance) was introduced in 2016. Validated electronic KAP questionnaires were administered before an intervention. Descriptive and inferential statistical analyses were performed using SPSS version 29. Significance was set at $p < 0.05$
Results: Most respondents were female, 190 (96%), with a median age of 30. The overall knowledge score was 48.6%. High scores were noted for hub disinfection (91.9%), post-transfusion set replacement (90.4%), and antiseptic use at insertion site (88.4%), while only 26.8% answered correctly about antibiotic ointment. Attitudes were generally positive (>80%). Practice adherence was high (>90%), especially for barrier precautions and chlorhexidine use, although responses for securement device use were more inconsistent (range 2%−39%). Training needs were significantly associated with attitudes toward insertion site monitoring ▫▫2 6.280 (df = 2), (p = 0.043) and allowing antiseptics to dry ▫▫2 9.601 (df = 2), (p = 0.008). Older age correlated with higher practice scores, H = 3925.0 (mean rank 107.07) (p = 0.030)
Conclusion: Nurses in UMMC medical wards demonstrated positive attitudes and high self-reported CLABSI prevention practices, though knowledge was moderate. Associations with training needs and age suggest that experience and education influence adherence. These findings support the need for continuous education to strengthen CLABSI prevention and improve patient safety

Disclosure of Interest
None declared.

P1014

Reducing central line-associated bloodstream infection in intensive care units: an improvement project in a tertiary care centre in south India

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Introduction: Central line-associated bloodstream infections (CLABSI) pose a significant healthcare challenge, with mortality rates ranging from 12 to 25%. These infections prolong hospital stays, increase healthcare costs, and lead to excessive antimicrobial use, worsening patient outcomes.
Objectives: This study aimed to reduce the CLABSI rates from 4.47 in the Neuro Ortho ICU and 4.2 in the GIICU to 2 within six months and sustain these lower rates.
Methods: Conducted as a single-centre, pre-post quasi-experimental study at Amrita Institute of Medical Sciences in South India, the research spanned four years (October 2017 to February 2022) across two surveillance units.
The study comprised three phases, monitoring CLABSI rates pre- and post-intervention (see Fig. 1).
The pre-intervention phase involved identifying CLABSI cases, analysing rates, and auditing central line practices.
The first intervention phase included modifications to the central line care bundle, bedside training, monitoring by silent observers, and the introduction of medication trolleys.
The second phase, initiated in February 2021, aimed to further reduce CLABSI rates by reinforcing bedside training, auditing practices, and implementing visual alerts for central line days.
Results: Initial CLABSI rates were 12.90 ± 7.14 in the Neuro Ortho ICU and 5.30 ± 4.53 in the GIICU. Post-intervention, rates significantly decreased to 5.62 ± 7.45 and 4.22 ± 5.67, respectively. Further interventions resulted in sustained reductions by February 2022.
Conclusion: This study emphasizes the importance of sustaining improvements in central line handling, enhancing bedside training, reinforcing infection prevention communication, and implementing vigilant monitoring systems.

Disclosure of Interest
None declared.

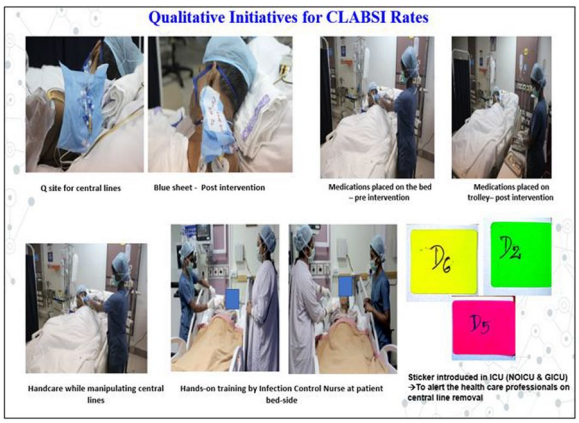

Fig. 1 (abstract P1014). Multimodal qualitative intervention implemented to reduce CLABSI rates in ICUs

P1015

Epidemiological shift in bloodstream infections in Iran: gram-negative bacteria surge as gram-positive pathogens decline over 16 years

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Introduction: Bloodstream infections (BSIs) are a major public health concern, with shifting trends in pathogen distribution influencing treatment strategies and outcomes. Most Gram-negative BSIs tend to be more severe due to endotoxins, with different treatment approaches compared to Gram-positive infections.

Objectives: We aimed to analyze the trends of BSIs caused by different types of Gram-negative and Gram-positive bacteria over a 16-year period at a tertiary referral hospital in Iran.
Methods: We conducted a retrospective observational study at Professor Alborzi Clinical Microbiology Research Center, affiliated with Shiraz University of Medical Sciences, Shiraz, Iran, over 16 years (2008–2024). Bloodstream isolates were obtained from patients with suspected sepsis. Bacterial identification was performed using API and Microgen systems. Data were analyzed with WHONET 5.6 and SPSS version 27 software, and trends were evaluated through linear regression models.
Results: A retrospective analysis was conducted on 12,134 BSI cases from 2008 to 2024. Pathogens were classified as Gram-negative (GN) or Gram-positive (GP), and trends were analyzed using linear regression models. The most prevalent GN pathogens (N = 8,913; 74%) including *Stenotrophomonas maltophilia* (N = 2,037; 17%), *E. coli* (N = 1,416; 12%), and *Pseudomonas* spp. (N = 1,380; 11%). Of the GP pathogens (N = 3,125; 26%), *Staphylococcus* spp. (N = 1,456; 12%) and *Enterococcus* spp. (N = 1,041; 9%) were predominant. Over the 16-year period, GN bacteria increased significantly ($\beta = 3.393$, $p = 0.010$), while GP bacteria decreased significantly ($\beta = -3.643$, $p = 0.032$). Among GN pathogens, *P. maltophilia*, *Klebsiella* spp., and *Enterobacter* spp. showed non-significant increasing trends, whereas *Pseudomonas* spp. and *E. coli* exhibited non-significant declines. *Acinetobacter* spp. decreased significantly ($\beta = -0.929$, $p = 0.049$). Among GP pathogens, *Staphylococcus* spp. and *Enterococcus* spp. had non-significant decreasing trends, while *Streptococcus* spp. declined significantly ($\beta = -1.345$, $p < 0.001$).
Conclusion: The significant rise in GN bacteria and decline in GP pathogens in Iranian BSIs underscore the urgent need for enhanced antimicrobial stewardship and infection control measures, particularly targeting multidrug-resistant GN organisms.

Disclosure of Interest
None declared.

P1016

Evaluation to compliance with measures to prevent catheter-related blood stream infection in intensive care unit

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1016

Introduction: Catheter-related blood stream infection (C-BSI) is of great relevance in the care of critically ill patients. However, compliance with recommendations for preventing these infections is still low.
Objectives: To evaluate the compliance with the healthcare team of an intensive care unit (ICU) to C-BSI prevention measures.
Methods: Descriptive study, carried out in the ICU of a tertiary university hospital. We constructed a checklist with prevention measures recommended by the National Health Surveillance Agency. Data collection took place from October 2024 to April 2025, in the three work shifts. For each measure, a compliance percentage was calculated, being the number of observations in which there was compliance divided by the number of observations of the measure, multiplied by 100.
Results: There was a justification for the permanence of the central venous catheter in 73 times (52.1%). When we observed whether there was a date on all devices used, such as equipment, taps, connectors, among others, this was present in 92 cases (86.8%). Regarding the catheter dressing being fully adhered to the skin and the insertion protected by the dressing, this was compliant in 107 cases (77%). Regarding the dressing not showing dirt, moisture or presence of blood, there was compliance in 100 cases (71.9%).
Conclusion: We conclude that the compliance rate to the measures to prevent this infection needs to be improved, mainly in relation to the recording of the catheter indication.

Disclosure of Interest
None declared.

P1017

Survival of severe sepsis and septic shock patients in rajavithi hospital, bangkok metropolis

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Introduction: Prompt treatment of severe sepsis and septic shock in patients could lead to an improved outcome. Survival in these patients depends on many factors, including patient-related and ward-related factors.
Objectives: To evaluate the survival rates and survival factors in severe sepsis and septic shock.
Methods: A retrospective cohort study involving 400 patients during the years 2019 to 2023. Survival curves were estimated by the Kaplan-Meier method. Multivariable analysis were conducted by Cox's proportional hazard regression model.
Results: This study found that hospital-acquired sepsis 57.3%. Comorbidities 89.3%, The respiratory tract was the most common site of infection. Causative pathogens were identified from 72.8% with gram-negative bacterial, hemoculture was taken before administered antibiotics 96.5% and antibiotic in 1 h after the onset 92.3%, fluid resuscitation above 30 ml/kg was given to 91.1% and vasoactive agents were given to 97.8% and mortality rate of the patients with sepsis was 38.1%. The factors related to survival rate were age of ≥ 60 years (HR adj = 3.52; 95%CI = 2.84-3.96), cause of hospital-acquired sepsis (HR adj = 2.51; 95%CI = 2.43-2.93), and organ dysfunction (HR adj = 3.13, 95% CI = 2.94-3.46), antibiotic was initiated within 1 h after the onset (HR adj = 3.07; 95%CI = 2.83-3.75), and fluid resuscitation above 30 ml/kg (HR adj = 3.11, 95%CI = 2.94-3.48)
Conclusion: Prevention of hospital-acquired sepsis, early action in coordinated manner reduced mortality of affected patient, monitoring in patients with organ dysfunction, appropriated fluid therapy is necessary for outcome improvement.

Disclosure of Interest
None declared.

P1018

Evaluation of (ARC) a novel technology sample preparation for rapid and direct maldi-tof identification in a tertiary care hospital in Saudi Arabia

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Introduction: Rapid and accurate microbial identification is crucial for timely initiation of appropriate antimicrobial therapy, particularly in cases of sepsis and bacteremia. While (MALDI-TOF MS) has revolutionized microbial identification, there's a continuous need for further optimization to reduce time-to-result.
Objectives: This study evaluates the performance of Accelerate ARC®, a novel technology designed to accelerate sample preparation for MALDI-TOF MS.

Accelerate ARC® enables rapid, automated microbial identification on the Bruker MALDI Biotyper® CA System directly from positive blood culture samples

Methods:

- A total of 69 positive blood culture tested using both Accelerate Arc® and Sepsityper for sample preparation.
- **Routine MALDI-TOF MS:** using Brucker BD®
- **Accuracy and Reportability:** Comparison of microbial identifications between the two methods.
- **Time-to-Result:** Comparison of turnaround times for microbial identification.

Results: Polymicrobial Infections: E.Coli + Klebsiella: Explained that polymicrobial identification was detected using routine 'Vitek 2', not routine MALDI-TOF, due to the limitations of the latter in such cases.

ARC Performance:

- **GNR vs GP:** Highlighted the strong performance of Accelerate ARC® for Gram-negative bacteria (GN), while acknowledging the challenges with Gram-positive rods bacteria (GPR) due to their cell wall structure (thick and dense cell walls), even with routine MALDI-TOF.

Conclusion: Accelerate ARC® demonstrated strong agreement with current routine Maldi-TOF method, significantly reducing the time-to-result for pathogen identification. By accelerating sample transfer to MALDI-TOF, it shortened the turnaround time for sepsis and bacteraemia diagnoses by approximately one day. This rapid identification facilitates timely and appropriate antimicrobial therapy, improving patient outcomes.

Accelerate ARC® complements MALDI-TOF's extensive microbial database, offering a valuable tool for epidemiological surveillance. MALDI-TOF as a more efficient and strong rapid diagnostic solution, bridging the gap between traditional culture-based methods and molecular technique.

Disclosure of Interest

None declared.

P1019

Investigating the reasons for nosocomial methicillin resistant staphylococcus aureus bacteraemia

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Introduction: Methicillin resistant Staphylococcus aureus (MRSA) bacteraemia is an infection prevention performance indicator for our institution. There has been no introduction of new interventions for MRSA bacteraemia in recent years. These include cohorting of MRSA patients, universal screening upon admission, decolonization therapy, and contact precautions.

Objectives: We aim to investigate the reasons for nosocomial acquisition of MRSA by identifying the source of infections.

Methods: HO-MRSA bacteraemia is defined by the acquisition of MRSA in the bloodstream from day-4 of inpatient stay. All hospital-onset MRSA (HO-MRSA) bacteraemia cases were prospectively identified between January 2023 till April 2025, and each case has a root-cause analysis (RCA) conducted to determine the likely source for the bacteraemia. Descriptive analysis is performed using STATA version 17 (StataCorp, College Station, TX, USA).

Results: The HO-MRSA incidence rate is 0.16 incidences per 10,000 patient days. Characteristics of all patients with PCP MRSA bacteraemias is shown in Fig. 1. All HO-MRSA (n = 11) were cases contributed by medical disciplines. 81% (n = 9) of HO-MRSA patients were bedbound and require extensive nursing care. During the RCAs, we found that 6 patients were admitted for skin conditions such as necrotizing fasciitis or admitted with bed sores that developed from the nursing homes contributing to the HO-MRSA, at time of blood culture; none of which were easily preventable. MRSA colonized patients have an OR 9.5 (95%CI: 2.0–59.0, p-value: < 0.001) higher odds of developing HO-MRSA compared to non-colonized patients, suggest HO-MRSA is more likely an endogenous infection despite similar comorbidities. 3 cases had blood culture contamination after reviewing the cases because patients were not clinically septic. At present, there is no quantitative threshold for hand hygiene association and MRSA bacteraemia.

Conclusion: The RCA illustrates the importance of reviewing cases to identify gaps in practices and suitable interventions to reduce HO-MRSA, such as improve blood culture collection practices to prevent contamination. Additionally, such RCAs should be expanded to include Methicillin susceptible *Staphylococcus aureus* for completeness.

Disclosure of Interest

None declared.

Variable	HO-MRSA (n = 11)	C-MRSA (n = 96)	p-value
Age, mean (SD)	74 (12)	71 (14)	0.45
Male gender, n (%)	7 (64)	65 (68)	0.78
Ethnicity, n (%)			
Chinese	6 (55)	57 (69)	
Malay	2 (18)	24 (18)	-
Indian	3 (27)	9 (27)	
Others	0 (0)	6 (0)	
Multiple MRSA bacteraemia admissions	-	24 (25)	0.12
Colonized with MRSA upon admission	8 (73)	21 (22)	<.001
Admitted to the ICU	-	3 (3)	1.00
Charlson's Comorbidity index (CCI), mean (SD)	2 (2)	2 (2)	1.00
Days to positive culture, mean (SD)	22 (27)		
Hand Hygiene compliance rate, mean (SD)	88 (10)		
RCA analysis for HO-MRSA, n (%)			
Skin conditions (e.g. Bed sores, Poor skin condition)	6 (55)		
Contamination	3 (27)		
Line Related (Peripheral IV & Central lines)	1 (9)		
No clear source	1 (9)		

For categorical variables, frequencies and proportions are computed. Group comparisons were performed using Chi-square test or Fisher's exact test, where appropriate. For continuous variables are summarized as mean and standard deviation is computed. Comparisons between groups is performed using Student's t-test, accounting for unequal variances and sampling size.

Fig. 1 (abstract P1019). Demographic off all MRSA Bacteraemias occurring at changi General Hospital

P1020

Evaluation of microbiological efficacy of 2% chlorhexidine gluconate cloths versus 4% chlorhexidine gluconate soap for preoperative preparation/shower in total joint arthroplasty: a single-centre randomised controlled trial

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Introduction: Preventing surgical site infections (SSI) is crucial and, among preventive measures, preoperative shower is recommended to decrease skin bacterial colonisation. However, there is no recommendation on the use of Chlorhexidine gluconate (CHG) impregnated cloths in this indication.

Objectives: The objective was to assess the microbiological efficacy of 2% CHG cloths versus 4% Chlorhexidine gluconate soap for preoperative preparation/shower in total joint arthroplasty.
Methods: In this single-centre parallel group trial, patients were randomised (1:1) to receive either 2% CHG cloths (intervention) or 4% CHG soap (standard-of-care) the night before and the morning of the surgery. Samples were taken to assess skin bacterial colonisation in colony forming units (CFU)/cm^2 at the surgical site: before (T1) and after (T2) the first preparation/shower, before (T3) and after (T4) the second preparation/shower, and before antisepsis in the operating theatre (T5). Side effects were evaluated; patients and healthcare workers (HCW) answered a survey to assess adherence.
Results: From 07/07/2022 to 25/05/2023; 64 patients were included; 32 in each group. There was no significant difference in the median reduction of CFU/cm^2 between T1 and T5: median reduction of 100% (IQR:100-100) in both groups. There was a greater reduction in the intervention group after the 1 st preparation/shower (T1-T2): 100% (IQR:100-100) versus 99.9% (IQR:99.3-100) in the standard-of-care group ($p = 0.0001$). Side effects were slightly more frequent in the intervention group, but all of them were mild. Satisfaction of patients and HCW was globally high despite ecological concerns.
Conclusion: The use of CHG cloths for preoperative preparation/shower seems to be a good alternative. These results must be confirmed by assessing the impact on SSI.

Disclosure of Interest
None declared.

P1021

The safety of a broad-spectrum perioperative antibiotic prophylaxis in elderly orthopaedic patients – 2nd partial interim analysis of the baptist trials

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Introduction: The proportion of prophylaxis-resistant pathogens of surgical site infections (SSSI) in orthopedic surgery oscillates between 20%−30%. For some exceptional interventions, a broader-spectrum prophylaxis may theoretically offer extended benefit.
Objectives: The safety profile of such a broader prophylaxis requires a thorough evaluation, especially with regard to nephrotoxicity in multimorbid elderly patients and serious adverse events (SAEs).
Methods: The BAPTIST Trial is a randomized clinical trial in which eligible adult orthopedic patients with a presumed high-risk of SSI due to resistant pathogens are allocated in a 1:1 ratio to receive either a (cefuroxime) perioperative prophylaxis or a broad-spectrum prophylaxis consisting of a single-dose of vancomycin (1 g) combined with gentamicin (5 mg/kg). This 2nd interim analysis.
Results: Among 508 orthopedic surgeries, 270 perioperatively received the"standard"prophylaxis, while 238 received vancomycin and gentamicin. In total, 64 SAEs were documented in the standard prophylaxis group (64/270; 24%) and 57 in the vancomycin-gentamicin group (57/238; 24%; Pearson χ^2-test, $p = 0.95$). Notably, none of the recorded SAEs were associated with worsening renal function, even among patients with pre-existing chronic renal insufficiency. For the substrata of implant-related surgeries, the corresponding incidences of SAEs was 28% vs. 26%, and for non-implant surgeries 18% and 21%, respectively (both χ^2-tests, $p > 0.63$). The risks for prophylaxis-related SAE was equally distributed among both arms; with no drug intolerances except for one"Red Man"syndrome due to an erroneously rapid infusion of vancomycin.
Conclusion: We practically observed equivalent proportions in the SAEs between multimorbid patients receiving a"standard"prophylaxis or vancomycin-gentamicin. None witnessed a new renal impairment, not even with pre-existing renal insufficiency.
Trial registration: ClinicalTrial.gov NCT05502380.

Disclosure of Interest
None declared.

P1022

Broad-spectrum versus standard antibiotic prophylaxis during orthopaedic interventions under concomitant therapeutic antibiotic use for infection– a partial 2nd interim analysis of the baptist trials

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Introduction: The antibiotic prophylaxis with 1 st or 2nd-generation cephalosporins is evidence-based in elective, non-infected orthopedic surgery with surgical skin closure; but not always.
Objectives: We evaluate a broad-spectrum prophylaxis in operated patients who are already under concomitant antibiotic treatment for an orthopedic infection of their surgical site.
Methods: We run a prospective trial randomizing (1:1) eligible patients into a “standard” (cefuroxime) vs. a broad-spectrum prophylaxis (single-shot of vancomycin 1 g & gentamicin 5 mg/kg). In case of concomitant antibiotic treatment, the “standard” prophylaxis represented the continuation with the individual therapeutic agent.
Results: Among 1084 surgeries, we performed 466 under systemic antibiotic therapy; of which 54% were implant-related. These 466 episodes were kept for further analysis: 253 surgeries received a “standard prophylaxis"and 213 vancomycin-gentamicin. Compared to standard, surgical interventions with a broad-spectrum prophylaxis witnessed a similar number of additional debridement (median numbers 2 vs. 2; Wilcoxon-ranksum-test; $p = 0.72$) with a similar risk of new pathogens (21% standard vs. 20% broad-spectrum arm (χ^2-test; $p = 0.82$). These new germs were resistant to current therapeutic antibiotics in 47 cases (47/466; 10%), for which the clinicians broadened the therapeutic antibiotic spectrum. The increased antibiotic resistance among the new intraoperative pathogens could be associated with early treatment failure depending on the interpretation (17% failures with new resistant SSIs vs. 8% failures for unchanged SSI microbiology ($p = 0.02$). We tendentially saw more UTIs in the standard arm.
Conclusion: When orthopedic patients are operated under concomitant systemic antibiotic treatments, a single-shot broad-spectrum prophylaxis with vancomycin and gentamicin failed to reduce the selection of new (and resistant) microbiological SSI pathogens in the infected orthopedic site. This is the 2nd interim analysis.

Disclosure of Interest
None declared.

P1023

Timing of cefazolin antibiotic prophylaxis in clean surgery: prophylaxis given less than 20 minutes before incision has higher surgical site infection rates

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Introduction: The impact of surgical prophylaxis timing in the hour before incision on surgcal site infection (SSI) rates is undefined.
Objectives: We analysed the SSI rates for timing of cefazolin in the hour before incision to see if there was evidence for an optimal timing to reduce SSIs.
Methods: The Southern Cross Hospital network provides elective surgical procedures which may be privately or publicly funded. Since 2004 we have performed prospective surveillance on selected procedures at each hospital and have used a quality improvement model to reduce SSIs. Procedures from 2005-2023 were included. Patients were followed for 30-days and USA CDC NHSN SSI definitions applied. We analysed the SSI rates for clean procedures when cefazolin was used for prophylaxis and its administration had been recorded in minutes in relation to incision time. The SSI rates for 10-min time periods within the hour before incision were compared. Univariable analysis was performed.
Results: See Fig. 1.
Conclusion: The SSI rates for prophylaxis given < 21 min before surgery are higher than prophylaxis given ≥ 21 min before incision. Nevertheless, more outcome data are required before recommendations can be made for fine tuning cefazolin prophylaxis within the hour before incision. The finding may not be applicable to non-clean procedures and for non-cefazolin prophylaxis.

Disclosure of Interest
None declared.

Time	No SSI	SSI	Total	SSI %	OR	95% CI	P value
After incision	3 941	94	4 035	2.3	2.43	1.84-3.20	<0.001
1-10 mins	14 638	194	14 832	1.3	1.34	1.07-1.71	0.014
11-20 mins	16 096	206	16 302	1.3	1.30	1.03-1.64	0.03
21-30 mins	11 295	111	11 406	0.97		Reference	
31-40 mins	4 597	58	4 655	1.3	1.28	0.93-1.77	0.15
41-50 mins	1 566	25	1 591	1.6	1.62	1.05-2.52	0.04
51-60 mins	647	5	652	0.8	0.79	0.32-1.93	0.75
>60 minutes	691	12	703	1.7	1.77	0.97-3.22	0.09
Total	53 471	705	54 176	1.3			

Fig. 1 (abstract P1023). See text for description

P1024

Adherence to antimicrobial perioperative prophylaxis at a cancer center in Oman: a retrospective cohort study

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Introduction: Surgical antimicrobial prophylaxis (SAP) is essential for preventing surgical site infections (SSIs), particularly in oncology patients. However, adherence to SAP guidelines globally remains inconsistent.
Objectives: This study evaluated adherence to SAP protocols at a tertiary oncology center and assessed associated factors with non-adherence.
Methods: A retrospective review was conducted at Sultan Qaboos Comprehensive Cancer and Research Center from August 2022 to July 2023. SAP prescriptions were assessed based on antibiotic choice, weight-based dosing, re-dosing, and duration. Patient and surgical variables were collected. Bivariate and multivariate analyses identified factors linked to SAP non-adherence. The cumulative incidence (CI) of SSIs was also calculated.
Results: Of the 261 surgeries reviewed, overall adherence to SAP protocols was 67.8%. Weightbased- dosing adherence was highest (99.6%), while re-dosing adherence was lowest (79.4%). Bivariate analyses showed non-adherence linked to higher patient weight ($p = 0.016$), male gender ($p = 0.009$), surgical specialty ($p < 0.01$), wound classification ($p = 0.002$) and longer surgery duration ($p < 0.001$). In multivariable logistic regression, procedure type was significantly associated with adherence to SAP; compared to breast surgeries, general surgery (OR: 0.35; 95% CI: 0.17–0.71; $p = 0.004$), head and neck (OR: 0.12; 95% CI: 0.04–0.34; $p < 0.001$), OBGYN (OR: 0.12; 95% CI: 0.04–0.32; $p < 0.001$), and urology (OR: 0.31; 95% CI: 0.11–0.89; $p = 0.030$) procedures had significantly lower odds of adherence. The cumulative incidence of SSIs was 8.4%, comprising 52% organ -spaced, 33.3% deep SSI, and 14% superficial SSIs.
Conclusion: The study found suboptimal overall adherence to SAP protocols, particularly in re-dosing practices. Targeted antimicrobial stewardship interventions are warranted to address these gaps and minimize infection risk, especially in high-risk oncology populations.

Disclosure of Interest
None declared.

P1025

The impact of a multidimensional intervention on surgical site infection at a tertiary care hospital system in Saudi Arabia

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1025

Introduction: Surgical site infection (SSI) is a significant cause of morbidity and mortality in patients undergoing surgery.
Objectives: The objective was to examine the impact of a multidimensional intervention in improving the staff awareness about SSI and to reduce the SSI rates.
Methods: The study was done at all operating room (OR) of the Ministry of National Guard Health Affairs hospitals in Saudi Arabia. The multidimensional intervention included OR audit tool and SSI education and training module. The infection prevention and control (IPC) department developed the OR audit tool to monitor the IPC practices by surgical team during the preoperative, intraoperative, and cleaning and disinfection. Observations were conducted by a well-trained OR nurses. The IPC department created a specialized educational and training intervention with the outcome measured before and after the intervention. The education and hands on practice/competencies covered appropriate IPC practices related to SSI prevention.
Results: The OR Nurses observed 3968 surgeries from different specialties. There was an improvement of infection control practices overall, in all elements with 31% relative improvement from baseline for pre-operative elements; 17% for Intra-operative elements and 15% for cleaning and disinfection elements ($p < 0.001$ for all). Approximately 772 healthcare workers attended the surgical module workshop from different specialties and department. The average grades of pre-test are 16 and post-test 19 with overall relative improvement from baseline 18.8%. ($p < 0.001$) (Fig. 1). There was a mild reduction of SSI rate among patient who underwent caesarian Sect. (2.32 to 2.13 per 100 surgeries) and Knee prosthesis (2.62 to 1.90 per 100 surgeries). However, the reduction did not reach statistical significance ($p = 0.652$ and $p = 0.637$, respectively).
Conclusion: Implementation of a detailed OR audit tool and a special surgical education module were associated with improved compliance with appropriate IPC practices in OR and enhanced knowledge about SSI. There was also a minor improvement of SSI which did not reach statistical significance. The findings may indicate the need for continuous auditing and education of surgical team to further improve the SSI rates.

Disclosure of Interest
None declared.

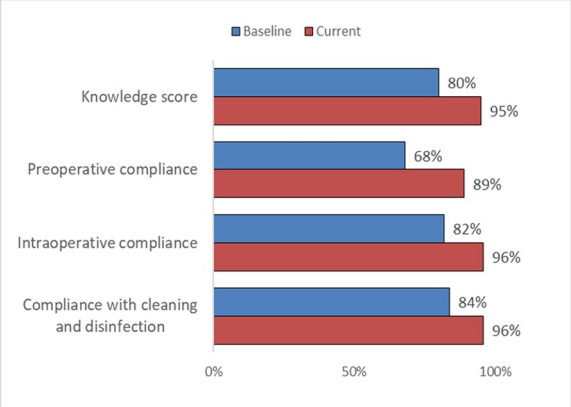

Fig. 1 (abstract P1025). See text for description

P1026

Reducing caesarean section surgical site infection rate in a tertiary care hospital in India: a quality improvement initiative

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1026

Introduction: Surgical Site Infections (SSI) are a significant healthcare concern, particularly in patients undergoing clean Lower Segment Caesarean Section (LSCS) surgeries. SSIs can lead to severe complications, extended hospital stays, and increased healthcare costs.
Objectives: To reduce the SSI rate among patients undergoing clean LSCS surgeries by 50% within 12 months in Amrita Institute of Medical Sciences, Kochi by implementing evidence-based quality improvement initiatives
Methods: A multidisciplinary quality improvement team utilized the PDSA model (Figs. 1 and 2) to design and implement strategies aimed at reducing SSIs in LSCS surgeries. They designed two quantitative interventions comprising a care bundle for healthcare professionals, bystanders, and patients, as well as interventions for appropriate surgical prophylaxis and antibiotic regimens for patients with risk factors. The key components of this care bundle include sensitization sessions for nursing staff, an alert system for identifying risk factors, patient leaflets, and wound care audits focusing on hand hygiene.
Results: The implementation of care bundle and targeted interventions led to significant reduction in the rate of SSI following caesarean surgery. The rate decreased from 6.69%(from February 2021 to January 2023) to 3.12% within 12 months (Fig. 3).
Conclusion: This initiative underscores the preventability of SSIs through evidence-based interventions. Key to success were the comprehensive training and sensitization of healthcare staffs, patient and bystander education, and the implementation of standardized prophylactic measures. Sustained quality improvement efforts are vital for maintaining these gains and further enhancing patient outcomes in a tertiary care setting.

Disclosure of Interest
None declared.

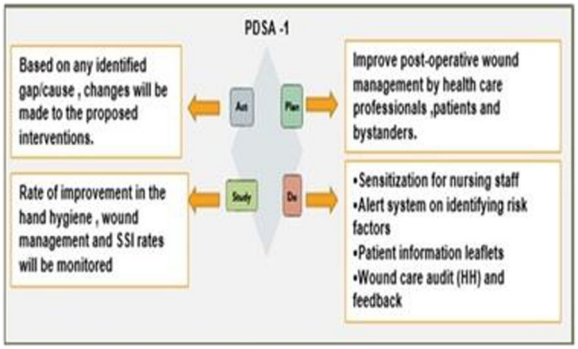

Fig. 1 (abstract P1026). See text for description

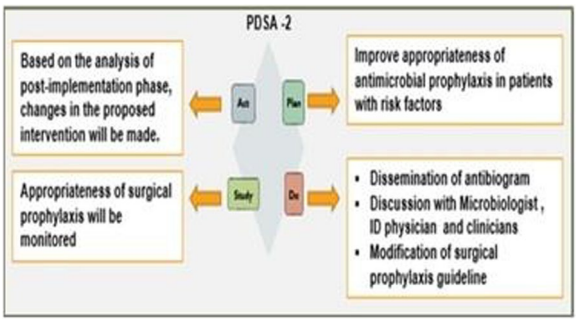

Fig. 2 (abstract P1026). See text for description

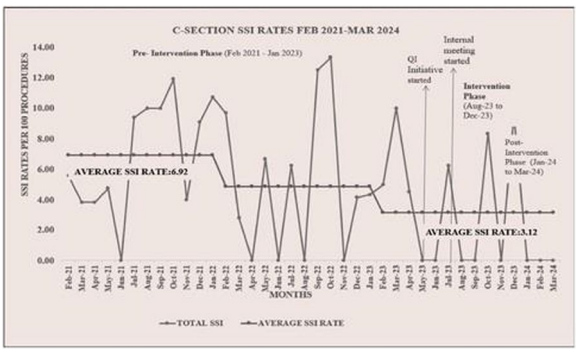

Fig. 3 (abstract P1026). See text for description

P1027

Risk factors of surgical site infection in total knee arthroplasty: impact of an infection prevention and control intervention in a tertiary hospital in Barcelona

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Introduction: A progressive increase in surgical site infections (SSI) following total knee arthroplasty (TKA) was observed in early 2018 in a third-level hospital in Barcelona. An infection prevention and control (IPC) intervention was implemented, reinforcing prevention bundles, and redistributing senior surgeons and high-risk patients across schedules.
Objectives: Assess risk factors associated with SSI in TKA and evaluate the impact of the IPC intervention.
Methods: Our retrospective cohort study (n = 463) compared SSI incidence in pre (January-June) and post-intervention (July-December) periods using survival analysis to assess time to SSI over a 90-day follow-up per 1000 patient-days. Risk factors in the pre-period were analyzed using Cox proportional hazards models with Hazard Ratio (HR). Differences in factor distributions in both periods were estimated. Kaplan–Meier curves and log-rank tests compared SSI incidence, with sensitivity analyses stratified by NNIS and ASA risk.
Results: Incidence declined significantly post-intervention (pre: 0.752; CI95%: 0.384–1.121, post: 0.256; CI95%: 0.032–0.481, p = 0.030). Obesity (HR: 3.63; CI95%: 1.02–12.86; p = 0.040) and afternoon surgery (HR: 3.02; CI95%: 1.02–8.92; p = 0.040) were significant risk factors in the pre-intervention. ASA and NNIS high-risk proportions, and inadequate antibiotic prophylaxis decreased in post-intervention (p < 0,001). The intervention reduced SSI risk by 66% (HR: 0.34; CI95%: 0.13–0.94; p = 0.029) (Fig. 1). A consistent, though not statistically significant, reduction was observed in high-risk NNIS and ASA groups (Table 1).
Conclusion: Our study showed the impact of a PCI intervention addressing risk factors and reducing SSI incidence.

Disclosure of Interest
None declared.

Table 1 (abstract P1027). SSI in TKA pre- and post-intervention periods and stratified by NNIS and ASA

Population	*Period*	*Incidence*	*95%CI*	*HR*	*95%CI*	*p value*
All patients	***pre***	0.752	0.384–1.121	**Ref**		**0.037**
	post	0.256	0.032–0.481	**0.344**	**0.126–0.938**	
NNIS low risk	***pre***	0.500	0.188–1.333	Ref		0.579
	post	0.337	0.127–0.899	0.676	0.169–2.701	
NNIS high risk	***pre***	0.903	0.513–1.591	Ref		0.065
	post	0.130	0.018–0.926	0.147	0.019–1.130	
ASA low risk	***pre***	0.539	0.257–1.130	Ref		0.256
	post	0.263	0.099–0.700	0.491	0.144–1.676	
ASA high risk	***pre***	1.087	0.566–2.089	Ref		0.195
	post	0.273	0.038–1.938	0.255	0.032–2.016	

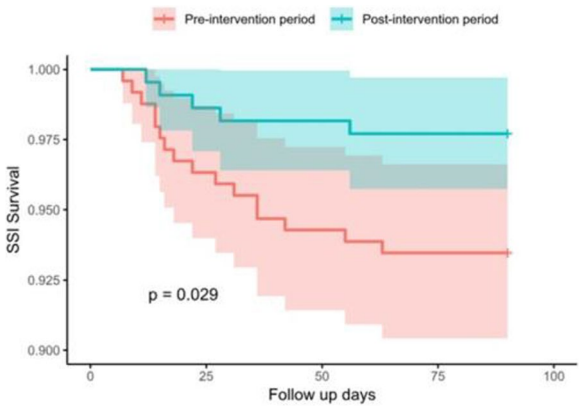

Fig. 1 (abstract P1027). Kaplan Meier estimate SSI in TKA comparing pre- and post- intervention periods

P1028

Development and implementation of audits for best practices in hospital hygiene in a multidisciplinary operating room

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Introduction: Surgical site infections (SSIs) are the most common healthcare-associated infections in Switzerland. We report the development and implementation of an internal assessment tool for hygiene practices in the operating room.
Objectives: Our aim was to identify opportunities for improvement in the perioperative care of patients.
Methods: The developed tool was based on institutional procedures and expert recommendations. It consists of three components: 1) "*General Architecture*", which evaluates the rooms in terms of design, workflow, equipment, and maintenance. 2) "*Hygiene Standards*", which evaluates institutional procedures, the availability and validation of documentation for staff and patients, the provision of professional attire and personal protective equipment, hand hygiene (training, product availability, compliance), and the hygiene training of new staff members. 3). "*Surgical Procedure*", which assesses infection risks related to the patient (preoperative preparation), the procedure itself (skin asepsis, surgical draping, environmental cleaning), air quality during surgery (team behavior and air treatment efficiency), general organization, and infection risks related to healthcare personnel (personal hygiene, attire, behavior).
Results: The "*Surgical Procedure*" component was the first implemented. After testing the audit grid and the operational process, a first evaluation of practices was conducted in one of the three operating rooms within our hospital network. Out of 176 observed criteria, 17 non-conformities were identified. Corrective actions were implemented. The results were presented in a report to hospital management and operating room supervisors and were also shared with the care teams during a multidisciplinary meeting.
Conclusion: This standardized internal evaluation of hygiene practices in the operating room allowed for the identification of gaps in infection prevention measures and the implementation of corrective actions. This tool contributes to improving surgical patient care and reducing surgical site infections.

Disclosure of Interest
None declared.

P1030

Improving quality and compliance of surgical hand scrubbing practices: a two-cycle clinical audit

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1030

Abstract video clip description: Introduction
Surgical site infections (SSIs) are a critical concern in healthcare, particularly in developing countries, where they are among the most prevalent and challenging hospital-acquired infections. Adherence to proper hand hygiene practices is essential to prevent SSIs. However, compliance among surgical teams remains suboptimal due to factors such as time constraints, lack of training, and resource limitations.
Objectives
This study evaluates and enhances adherence to surgical hand scrubbing protocols at Osman Degna Teaching Hospital using World Health Organization (WHO) guidelines.
Methods
An observational cross-sectional audit was conducted in two cycles between August and October 2024, with 54 observations per cycle. Baseline adherence was assessed in the first cycle. Targeted interventions, including video demonstrations, hands-on training, and feedback, were implemented before the second cycle. Data were collected using a structured checklist and analyzed quantitatively to compare compliance rates and qualitatively to identify barriers to adherence.
Results
Compliance with hand scrubbing protocols improved significantly from 63.1% in the first cycle to 94.3% in the second. The most notable improvement (51.5%) was observed in rotational rubbing with clasped fingers. Other areas, including scrubbing palms and rinsing hands, showed substantial increases (30.3-42%). These findings highlight the effectiveness of structured training and feedback in enhancing adherence.
Conclusion
Targeted educational interventions significantly improved compliance with surgical hand scrubbing protocols, contributing to better infection control practices. While these improvements demonstrate the potential of training programs, continued efforts and long-term strategies are necessary to sustain progress and further reduce the risk of SSIs.

Disclosure of Interest
None declared.

P1031

Interdisciplinary strategies to reduce surgical site infections in the operating theatre: a scoping review and future directions

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1031

Introduction: Surgical site infections (SSIs) are associated with adverse health outcomes. While international guidelines are well defined, their interdisciplinary application within operating theatres (ORs) remains inadequately conceptualised and inconsistently implemented.
Objectives: To identify and characterise existing interdisciplinary strategies for SSI prevention in the OR and assess their contribution to implementation effectiveness.
Methods: A scoping review was conducted in accordance with the JBI methodology. From 1,679 references retrieved, 18 studies met inclusion criteria following a two-step screening process. Data extraction focused on modes of interdisciplinary collaboration, implementation strategies, organisational structures, and reported outcomes.
Results: Key preventive measures—such as antibiotic prophylaxis, antiseptic skin preparation, hair removal, and maintenance of normothermia—were often integrated into care bundles, leading to improved compliance and reductions of postoperative complications. However, no standardised models of interdisciplinary coordination were identified. Descriptions of collaborative mechanisms between surgical, anaesthesia, and nursing teams were often vague, inconsistent, or context-specific, limiting reproducibility. Most studies focused on intermediate process outcomes, with patient-centred outcomes underreported.
Conclusion: The findings underscore a critical gap in the formal structuring of interdisciplinary approaches to SSI prevention in the OR. In the absence of shared protocols, coordination relies on informal and locally variable practices. These results advocate for the development of a co-designed organisational model to support the integration of evidence-based guidelines into shared perioperative workflows.

Disclosure of Interest
None declared.

P1032

Prevalence and costs of surgical site complications after cardiac surgery in France in 2018: a study based on data from the French national database (PMSI)

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1032

Introduction: In France, surgical site infections (SSIs) make up 15.92% of reported nosocomial infections, and they have required additional surgery in 49.2% of cases in 2018.
Objectives: Our goal was to measure the frequency and cost of SSIs in France for cardiac surgery through the costs of the index admission and any readmissions due to surgical site complications (SSCs).
Methods: This descriptive study using a national database includes the prevalence and impact of SSIs for patients admitted in 2018 (from the French database Programme de Médicalisation des Systèmes d'Information or PMSI). Patients were categorized by type of surgical site complication (infection related to surgery per diagnostic code; infection considered associated to surgery; non-infectious complication; no complication related to the surgical incision). The first 2 combined are considered SSIs. Data was analyzed using the Groupements Homogènes de Séjours (GHS) costs for 2018-2019 readmissions due to SSCs.
Results: A total of 262,163 patients were included in the analysis. The rate of SSIs was 1.6% and the rate of overall complications was 14.91%, of which most (89.26%) were non-infectious. The rate of readmissions was 5.7% at 90 days. The average cost of index admission was 7,382 €, and average readmission costs were 8,023 € at 90 days (in € 2018). Important differences were seen between the types of complications for these findings (Fig. 1), with a general trend towards increasing length of stay (LoS), readmissions, and costs with infectious

complications versus non-infection complications versus no complications. We further evaluated a subgroup of propensity score matched, high severity patients (n = 854) having specifically received major revascularization surgery and found that readmission rates were generally higher.
Conclusion: The occurrence of an SSI alters the care pathway and increases readmissions in cardiac surgery compared to patients without infection. This data invites us to reflect on protocol improvements, consider the use of innovative medical technologies, revise pay for performance programs, and establish a surveillance program using control charts for SSI indicators.

Disclosure of Interest
P. Talla Employee of: EMPLOYEE of SOLVENTUM, V. ARAGNO: None declared, S. Sanchez: None declared, F. Maunoury: None declared, B. Thome: None declared.

	Total: 262,193 patients (All cardiac patients)			
	Mean LoS for IH (days)	Mean IH costs (€2018)	ReaS rates at 90 days	Mean ReaS costs at 90 days (€2018)
For patients with infectious complications related to surgery per diagnostic code	32.20	30,256	23.1%	10,809
For patients with infectious complications considered associated to surgery	22.26	25,423	12.5%	9,837
For patients with non-infectious complications (dehiscence, hematoma, edema)	12.87	13,691	13.0%	8,006
For patients with no complications related to the surgical incision	4.15	6,019	4.3%	7,840

LoS: length of stay; IH: Index hospitalization; ReaS: readmission related to surgery

Fig. 1 (abstract P1032). See text for description

P1033

Systematic review and meta-analysis of outcomes associated with incisional and organ/space surgical site infections in abdominal surgery patients

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Introduction: Surgical site infections (SSI) are associated with worse health outcomes and increased costs. Risk factors and outcomes differ between incisional and organ/space SSI. Abdominal surgery has the largest SSI incidence and worst mortality rates compared to other surgeries. However, reported outcomes in abdominal surgery are often aggregated, masking potential differences.
Objectives: The impact of incisional and organ/space SSIs as individual subtypes in abdominal surgery has not previously been described. We aim to quantify and compare the outcomes associated with incisional and organ/space SSIs in abdominal surgery with a 30-day follow-up period.
Methods: A systematic search of PubMed, Embase, and CINAHL was conducted for studies published between 1992 and 2024. Studies reporting at least one outcome of interest for either incisional or organ/space SSI in abdominal, gastrointestinal, hernia, liver, small bowel, endocrine, rectal and colorectal surgeries for adult patients were included. Outcomes of interest were excess postoperative hospital length of stay in days, mortality risk reported as log odds ratio, and proportions of SSI patients who are readmitted and who undergo repeat surgery.
Results: Twenty studies with 23,505 patients were included. 5 reported outcomes for only incisional SSI, 1 for organ/space SSI only and remaining 14 for both SSI types. Incisional SSI patients had an average excess LOS of 5.02 days (3.04–7.01), while those with organ/space SSI had a longer excess LOS of 14.40 days (10.11–18.69). Incisional SSI were associated with a weakly increased mortality risk (1.62, 0.74–2.50), while organ/space SSI had increased mortality risk (2.75, 2.56–3.54). Proportions of readmissions were 16% (5–27%) for incisional SSI and 37% (5–69%) for organ/space SSI. Proportions of patients undergoing repeat surgery were 4% (0–9%) for incisional and 9% (4–14%) for organ/space SSI.
Conclusion: This study revealed a significant burden of SSI, in particular organ/space SSI, which are associated with prolonged hospital stays, larger mortality risks, and increased proportions of readmissions and repeat surgeries. Infection prevention and control strategies to reduce the impact and cost of SSI might be improved, with targeted efforts against organ/space SSI.

Disclosure of Interest
None declared.

P1034

A qualitative inquiry informing the design of a social network analysis survey on surgical site infection prevention

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Introduction: Social networks among hospital staff might play an important role in surgical site infection (SSI) prevention, but more evidence is needed to better understand their impact.
Objectives: To design a social network survey that explores how interpersonal relationships across surgical and infection prevention teams influence SSI prevention practices.
Methods: We conducted a qualitative study in five acute care hospitals, including 11 semi-structured interviews and 10 h of direct observation – to inform the design of the survey. We used thematic analysis to identify patterns in communication, collaboration, team roles, and belief systems related to SSI prevention. These themes inform the design of a structured survey.
Results: Based on our thematic analysis, we identified three intertwined social networks, i.e. operational, formal, and informal networks—as relevant for successful SSI prevention. Role-specific positions within these networks (e.g., "Boundary spanners") appear to influence how information flows (anesthesia nurse: "They are from another planet!") and belief systems (surgical nurse: "Contaminated elevator buttons"), ultimately affect prevention measure adoption and execution. Therefore, the planned survey incorporates role-specific questions, network mapping elements, and–as an innovative approach–a patient narrative to probe perceptions of infection risk and prevention practices across healthcare professional groups. The resulting survey tool is designed to collect data on attitudes, perceived social norms, behavioural control, and the intentions to comply with SSI prevention measures (Theory of Planned Behaviour).
Conclusion: The design of the survey is informed by an extensive pre-study and its results are intended to capture reality and dynamics within IPC and surgical teams. Planned deployment in over 100 Swiss hospitals aims to generate actionable insights for targeted IPC strategies and behavioral interventions.

Disclosure of Interest
None declared.

P1035

Enhancing post-discharge surveillance of surgical site infections with whatsapp: a novel automated system

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1035

Introduction: Post-discharge surveillance (PDS) for surgical site infections (SSIs) is increasingly recognized as a crucial component of comprehensive infection prevention programs globally. While a legal mandate in specific nations like the UK and the Netherlands, PDS is a strong recommendation by international bodies such as the WHO and national guidelines in countries like the US, Australia, and Brazil, driven by the understanding that many SSIs manifest post-hospitalization.
Objectives: Our study aims to: 1) Present a WhatsApp-based application for automated SSI PDS; 2) Evaluate the feasibility and accuracy of a model that predicts SSI from patient-reported signs and symptoms collected through this application.
Methods: Data from discharged surgical patients are retrieved from Electronic Medical Records, and an AWS cloud application (SACIH) automates patient contact via WhatsApp by sending standardized messages. Staff conduct phone surveillance only for patients reporting symptoms. A multivariate logistic regression model for SSI prediction was built using responses to six automated patient questions: suture dehiscence, wound pain, heat/redness, fever, antibiotic use, or purulent discharge.
Results: SACIH, developed using Angular, Node.js, Meta API, and MySQL, automates WhatsApp messaging for surgical patients. A sample of 6,724 patient responses from nine hospitals in Minas Gerais State, Brazil (Jan-Dec/2024), was used to build and validate an SSI logistic regression model. Purulent discharge and total symptom count (0-6) were significant SSI factors (Table 1). Both datasets showed a 0.77 ROC curve, indicating moderate predictive capacity.
Conclusion: WhatsApp automation for messaging and data collection eliminated manual work and rework, providing real-time reports. The multivariate logistic regression model showed moderate predictive capacity, aiding in identifying patients at risk for SSI. This modeling addressed the common issue of patients responding via WhatsApp but not answering phone calls to confirm/rule out SSI.

Disclosure of Interest
None declared.

Table 1 (abstract P1035). See text for description

Variable	Coeff	Std error	p-value	OR	[95% C.I.]
Number of signs and symptoms	+0.31	0.065	< 0.001	1.4	[1.2; 1.5]
Presence of Purulent Discharge Pus	+2.00	0.159	< 0.001	7.4	[5.4; 10.1]
Constant	−4.07				

P1036

Open fractures managed with external fixation are characterised by prolonged hospital stay and persistent, polymicrobial wound infection in a resource-limited orthopaedic trauma ward in kano, Nigeria

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Introduction: External fixation devices are frequently used for open fractures in Nigeria and are associated with surgical site infections (SSIs). However, little is known about infection dynamics over time in these cases.
Objectives: The aims of this study were to assess infection incidence, length of hospital stay (LOS) and causes of infection in patients assigned to four surgical categories: external fixation (EF), internal fixation, amputation only, and debridement/closure.
Methods: Patients with open fractures were enrolled and metadata on injury type, surgery, antibiotic treatment, and LOS were collected. Weekly wound swabs were taken until patient discharge and cultured for bacterial identification. A metagenomic case study was conducted on an EF patient with a prolonged hospital stay. DNA from wound swabs was extracted (PowerSoil Pro Kit, Qiagen, Germany) and sequenced (Oxford Nanopore Technologies, UK) for shotgun metagenomic analysis.
Results: 63 patients were enrolled from May 2024 to January 2025. Wound infection incidence ranged from 64-93%, depending on surgical category (Fig. 1). EF patients had > 40 days longer mean LOS than patients in other categories. 87.5% (35/40) infections were polymicrobial, with each consisting of an average of 4 different species. Predominant species isolated were *Pseudomonas aeruginosa* (in 67.5% patients, n = 27/40), *Escherichia coli* (n = 25/40), and *Proteus mirabilis* (n = 22/40). Metagenomic analysis revealed that while the composition of the infected wound community remained stable over four months, relative abundances of species and antibiotic resistance genes (ARGs) fluctuated.
Conclusion: The high incidence of fracture-related SSIs in resource-limited settings involves complex polymicrobial communities, which may result in treatment failure and prolonged hospital stays. There is an urgent need for sanitation and IPC interventions in resource-limited settings where open fractures are managed and treated.

Disclosure of Interest
None declared.

Surgery Type	Patients (n)	Infection Rate (%)	Avg. Length of Stay (days)	Significant Differences (vs. other groups)
External Fixation	13	93.00	92.5	Longer LOS vs. all groups (p < 0.001) Higher infection vs. Debridement (p = 0.032)
Internal Fixation	22	91.00	49.7	Longer LOS vs. Amputation (p < 0.001) Higher infection vs. Debridement (p = 0.048)
Amputation Only	4	75.00	22.5	Shorter LOS vs. all groups (p < 0.001)
Debridement & Closure	14	64.00	46.5	Lower infection rate than External (p = 0.032) and Internal Fixation (p = 0.048)
Total / Mean	**53**	**80.75**	**52.4**	

Fig. 1 (abstract P1036). Statistical comparisons of clinical outcomes by surgical category. Fisher's exact test was conducted to compare infection rate and One-Way ANOVA with Tukey HSD was used to compare length of stay (LOS). Significance level p<0.05. Ten enrolled patients could not be included in this analysis due to inaccurate recordings of length of stay caused by ward transfer (n=7), death (n=2) or abscondment (n=1)

P1037

Impact of monsoon season and environmental contamination on surgical site infection rates: a prospective observational study

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Introduction: Surgical Site Infections (SSIs) significantly contribute to postoperative morbidity, extended hospital stays, and increased healthcare costs. Environmental factors, including seasonal variations like the monsoon season and environmental contamination, may influence SSI rates, particularly in resource-limited settings.
Objectives: This study aimed to evaluate the impact of the monsoon season and environmental contamination on SSI rates and identify potential mitigation strategies.
Methods: A prospective observational study was conducted from January 2024 to December 2024, encompassing both monsoon and non-monsoon periods. Patients presenting to the Department of Surgical Disciplines, AIIMS, New Delhi for different kinds of surgeries were included in the study and monitored for SSI development. Environmental surveillance of operating rooms (ORs), postoperative wards, and air quality was performed to assess microbial contamination. Data on patient demographics, surgical procedures, infection control practices, and environmental parameters were recorded and analysed.
Results: The SSI rate was significantly higher during the monsoon season i.e. July, August, September being 8%, 9.78% and 7.1% ($p < 0.05$, correlation coefficient 0.7133) compared to non-monsoon months. The SSI rate was not statistically significant different based on the maximum and minimum temperature (p value 0.89 and 0.48). The monsoon months also showed increased environmental contamination including elevated levels of airborne bacterial counts and surface contamination in ORs. Other risk factors associated with higher SSI rates included prolonged surgery duration, and lapses in hand hygiene compliance. SSI rate was inversely proportional to the hand hygiene compliance rate, though no statically significant association was found.
Conclusion: The monsoon season poses a significant risk for increased SSIs, primarily due to heightened environmental contamination. Strengthening infection prevention protocols with special emphasis on hand hygiene and improving environmental hygiene during high-risk periods can mitigate SSI rates. Further studies are warranted to develop season-specific guidelines for SSI prevention.

Disclosure of Interest
None declared.

P1039

National surgical site infection surveillance (SNICH2): analysis of 2023–2024 data from IRCCS Ospedale Policlinico San Martino, Genoa

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Abstract video clip description:

Introduction: In 2023 and 2024, the IRCCS Ospedale Policlinico San Martino in Genoa participated in the National Surgical Site Infection Surveillance protocol (SNICh2), coordinated by the Istituto Superiore di Sanità (ISS).
Objectives: The main objective of the protocol is to monitor the incidence of surgical site infections (SSIs) and to analyze the clinical characteristics of patients and surgical procedures.
Methods: Data were collected from October to December of both 2023 and 2024, focusing on four surgical categories: colon surgery (COLO), knee prosthesis (KPRO), coronary artery bypass graft (CABG), and coronary artery bypass graft involving both thoracic and donor site incisions (CBGC).
Results: As illustrated in Fig. 1, a total of 188 procedures were included in the surveillance, with completed follow-up data completed for 159 cases (84.57%), distributed as follows: 76 COLO (47.8%), 50 KPRO (31.4%), 13 CABG (8.2%), and 20 CBGC (12.6%). The average patient age was 71.9 years (±10.62), with a median of 70.94 years. Procedures were classified as clean (W1; 50.3%) and clean-contaminated (W2; 47.8%). Most patients belonged to ASA classes 2 (54.7%) and 3 (39.6%).
Seven SSIs were identified, corresponding to an incidence of 4.4% (7/159). Infection occurred in 4 COLO cases, 2 CABG/CBGC cases, and 1 KPRO case. The mean onset time of SSIs was 16.86 days postoperatively (median 15; range 6–30 days). The mean duration of procedures complicated by SSI was 177.86 min (median 200; range 80–280 min).
Infection types included 2 superficial, 3 deep incisional, and 2 involving organ/spaces. Five infections were detected post-discharge and two occurred during hospitalization. Patients who developed SSIs were classified as ASA 2 (1 patient), ASA 3 (5 patients), and ASA 4 (1 patient).
Conclusion: SSIs were observed following COLO, KPRO, and CABG procedures. COLO surgeries performed laparoscopically showed lower infection rates compared to national figures. Conversely, higher-than-average SSI rates were observed for KPRO and CABG procedures. This analysis confirms the value of sustained monitoring and tailored strategies to prevent SSIs.

Disclosure of Interest
None declared.

Total surgical procedures	188
Procedures for which follow-up was completed	159 (84.6%)
Distribution of procedures completed with follow-up	
COLO	73 / 78 (93.6%)
KPRO	56 / 66 (84.8%)
CABG	13 / 18 (72.2%)
CBGC	17 / 26 (65.4%)
Sex (n. 159)	
- **Female**	78 (49%)
- **Male**	81 (50.9%)
Age (n. 159)	Median: 73 (IQR: 63.5; 79) Mean: 71.29 SD: 11.25
Age of patients who did NOT develop SSI (n. 152)	Median: 72 Mean: 70.96
ASA score (n. 159)	
A1	1 (0.6%)
A2	87 (54.7%)
A3	63 (39.6%)
A4	7 (4.4%)
A5	1 (0.6%)
Surgical class (n. 159)	
I / clean	83 (52.2%)
II / clean-contaminated	76 (47.8%)
III / contaminated	0 (0%)
IV / dirty-infected	0 (0%)
Unknown	0 (0%)
Procedure duration (n. 159)	Median: 180 (IQR: 100; 251) Mean: 178.67 minutes
Procedure duration where SSI did NOT develop (n. 152)	Median: 180 (IQR: 100; 250.75) Mean: 178.71
Procedure duration by category:	
COLO	
* **Laparoscopic**	Mean: 208.92; Median: 210
* **Open**	Mean: 231.15; Median: 240
KPRO	Mean: 179.5; Median: 180 Mean: 99.14; Median: 85
CABG + CBGC	Mean: 273.6; Median: 255
Pre-operative hospital stay (days) (n. 159)	Median: 1 (IQR: 1; 1)
Post-operative hospital stay (days) (n. 159)	Median: 7 (IQR: 6; 10)
Post-operative hospital stay (days) by procedure	
COLO	Median: 7 (IQR: 5; 10)
* **Laparoscopic**	Median: 7 (IQR: 5; 8)
* **Open**	Median: 9 (IQR: 5; 12.5)
KPRO	Median: 7 (IQR: 5.75; 11)
CABG + CBGC	Median: 8 (IQR: 7; 13.75)
Type of procedure (n. 159)	
Elective	131 (82.38 %)
Urgent	26 (16.35 %)
Unknown	2 (1.27 %)
Surgical Technique (n. 159)	
Traditional	114 (72%)
Videoscopic	44 (27.6%)
Unknown	1 (0.4%)
Surgical Site Infection (SSI)	7 / 159 (4.4%)
Mean number of days to surgical site infection (SSI) onset	Mean: 16.86 days Median: 15 SD: 10.02
Procedure duration for cases with SSI (n.7)	Median: 200 Mean: 177.86 minutes SD: 78.7
Age of Patients with SSI (n. 7)	Median: 79 (IQR 75.5; 82.5) Mean: 78.43
ASA Score distribution among SSI patients (n. 7)	
- ASA 2	1 patient
- ASA 3	5 patients
- ASA 4	1 patient
Type of SSI	Deep: 3 cases Superficial: 2 cases Organ/space: 2 cases
SSI	Nosocomial: 2 Post-discharge: 5

Fig. 1 (abstract P1039). See text for description

P1040

Reasons for acute surgical site infections after elective orthopedic surgery—according to a prospective individual medical evaluation

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Introduction: We ignore the proportion of intraoperatively versus postoperatively-acquired surgical site infections (SSI) in elective orthopedic surgery.
Objectives: A better overview would help to allocate resources for infection control instead of solely aiming for the perioperative period.
Methods: We use of prospective database composed of four prospective-randomized clinical trials and surveillance registers. We concentrate on acute SSIs with complete documentation and evaluate each SSIs clinically and anamnestically by searching for potential postoperative events that could plausibly cause a postoperative acquisition of bacteria.
Results: Among 370 orthopedic SSI cases in adult patients, we estimated 241 SSIs (65%) to be acquired intraoperatively, and 129 (35%) postoperatively. There was a clear gradient from the shoulder to the (diabetic) foot. The shoulder yielded the highest part of plausible intraoperative SSIs (93%), and the foot the lowest (29%). By excluding foot SSIs, the proportion of plausible intraoperative SSIs rose to 83% (204/242 cases). The three most frequent reasons for"postoperative SSI acquisition"were iterative wound debridement, skin breakdowns and local surgical complications such as hematoma, dehiscence, and necrosis. Hematogenous SSIs were rare (3%) and intraoperative SSIs were due to skin commensals.
Conclusion: According to our prospective clinical evaluation, one-third of acute orthopedic SSIs were associated with a postoperative complication that could plausibly be a preceding cause of SSI. By excluding adult (diabetic) foot surgeries, this postoperative proportion is reduced to one-sixth. Aside from reviewing the initial surgical justifications in high-risk patients and promoting (hand) hygiene, we require additional preventative bundles for the initial postoperative period that might differ from those for the perioperative intervention. Trials registrations: BASEC 2022-00800, 2019-00778, 2021-00137, 2023-0009, 2019-00646

Disclosure of Interest
None declared.

P1041

Epidemiology, characteristics, and risk factors of surgical site infections in a tertiary care hospital in West bank: a retrospective cohort study

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Introduction: Surgical site infections (SSIs) are significant complications following surgery, impacting patient recovery and increasing healthcare costs. SSIs can lead to prolonged hospitalization, excessive medical expenses, and even death. Identifying risk factors and implementing effective prevention strategies is essential to improve patient safety. The incidence of SSIs is notably higher in developing nations, ranging from 2.5% to 41.9%. However, data from Palestine is scarce.
Objectives: This study aims to determine the SSI incidence among patients at An-Najah National University Hospital (NNUH) from 2018 to 2020 and identify associated risk factors.
Methods: This analytical retrospective cohort study included 1,157 patients who underwent surgery between January 2018 and December 2020 at NNUH. Sociodemographic and clinical data were collected and analyzed using descriptive and analytical methods, including binary logistic regression to assess potential risk factors. A significance level of 5% was applied, and IBM SPSS Version 21 was utilized for data analysis.
Results: The study found an overall SSI incidence rate of 7.65% among 1,157 surgical patients. The rate decreased from 18.2% in 2018 to 6.6% in 2019, and further to 0.6% in 2020. Higher SSI rates were observed in patients undergoing prosthesis implantation, longer surgical procedures, and non-laparoscopic surgeries ($p \leq 0.05$). Additionally, patients with an ASA index of IV or higher had a significantly increased risk ($p < 0.001$). Logistic regression indicated that surgeries lasting over two hours were approximately 17 times more likely to result in SSIs ($p < 0.001$), while those with prosthesis implants were nine times more likely ($p = 0.002$). Contaminated wounds increased infection risk by 23 times ($p = 0.005$), and each additional hospital day raised the SSI odds by 4.6% ($p < 0.001$).
Conclusion: The SSI surveillance program at NNUH underscores the importance of minimizing surgery duration, managing blood glucose and temperature post-surgery, and adhering to infection control policies to reduce SSI incidence. Further research is needed to evaluate the effectiveness of these strategies across diverse surgical settings and patient demographics.

Disclosure of Interest
None declared.

P1042

Evaluation of the simplified surgical site event risk assessment (SSERA) scoring system in predicting post-cesarean surgical site infections

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Introduction: Post-cesarean SSIs represent a significant healthcare burden, with global incidence rates of 5.63%. Cipto Mangunkusumo National Hospital in Indonesia has reported a surgical site infection (SSI) prevalence of 4.14% among cesarean sections. Excessive incidence of such infections lengthens the hospital stay and increases health care and economic costs, with risks of undesired outcomes.
Objectives: This research seeks to present and assess the effectiveness of the Simplified Surgical Site Event Risk Assessment (SSERA) scoring system (Fig. 1) as a consistent and functional risk prediction instrument for surgical site infections (SSIs) in individuals undergoing cesarean delivery.
Methods: This retrospective study included 46 patients who underwent or underwent follow-up post-cesarean sections between June 11 and 23, 2024. The SSERA scoring system identified and assessed six aspects. We then calculated these groups and assigned numbers corresponding to the moderate, elevated, and high-risk criteria (Fig. 1).
Results: Out of 46 cesarean sections written in the study, there were 7 cases (15.2%) with elevated rates and 39 cases (84.8%) whose cesarean section was high risk (Fig. 2). We found that all 5 SSIs (10.86%) fell into the high-risk category. We found that emergency surgery was the most common risk factor, present in 4 out of 5 SSI cases (80%). Other factors included prolonged operative time durations (20%), obesity (40%), diabetes mellitus (20%), and ASA > 2 (20%).
Conclusion: All cases with SSIs that were scored by SSERA were correctly put into the high-risk category. However, the fact that 84.8 percent of patients are in the high-risk category makes it harder to tell them apart. The system shows promise as a risk stratification tool, particularly in identifying emergency surgery as a key risk factor (Fig. 2).

In the future, more extensive prospective quality trials should be conducted to optimize score cutoffs and demonstrate their predictive validity.

Disclosure of Interest
None declared.

Risk Factor	Score/Condition	Impact on Risk Level
BMI	Class I- III Obesity	Contributes to risk
Diabetes	Uncontrolled blood glucose	Contributes to risk
ASA Score	ASA ≥ 3	Contributes to risk
Wound Classification	Class III (contaminated) or IV (infected)	Automatically high risk
Wound Classification	Class II (clean-contaminated)	Contributes to risk
Surgery Duration >120 minutes (preoperatively known)	>120 minutes (preoperatively known)	Automatically high risk
Surgery Duration >120 minutes (postoperative adjustment)	>120 minutes (postoperative adjustment)	Contributes to risk
Surgery Duration (60-120 minutes)	60-120 minutes	Contributes to risk
Urgency of Surgery	Emergent	Automatically high risk

Fig. 1 (abstract P1042). Decision rules for SSREA. Note: High risk is any combination of 3 factors or Wound classification III/IV or Emergent surgery, Elevated risk is any 2 risk factors, and Moderate risk is any one risk factors

Risk Factor Category	Subcategory	Count (n=46)	Percentage
Surgery Duration	>120 mins	13	28.3%
	>60-120 mins	32	69.6%
	>30-60 mins	1	2.1%
Incision Class	Clean-contaminated	46	100%
ASA Classification	ASA 3-5	35	76.1%
	ASA 2	11	23.9%
Diabetes Status	Present	3	6.5%
	Absent	43	93.5%
BMI Category	Class II Obesity (35-39.9)	7	15.2%
	Class I Obesity (30-34.9)	5	10.9%
	Normal	34	73.9%
Procedure Type	Emergency	28	60.9%
	Elective	18	39.1%
Overall Risk Assessment	High Risk	39	84.8%
	Elevated Risk	7	15.2%

Fig. 2 (abstract P1042). SSREA risk factor prevalence analysis

P1044

Bacteriological profile of infections on osteosynthesis material in traumatology and orthopaedic surgery at angre's university hospital from 2021 to 2024

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Introduction: Infections on osteosynthesis material (IOM) represent a great complication in trauma surgery, and require a multidisciplinary therapeutic care.
Objectives: This study aimed to describe bacterial epidemiology involved in this infections.
Methods: A cross-sectional study was conducted in the medical biology department. Pus samples from patients admitted to trauma surgery for IOM from 2021 to 2024 were analysed. Bacteria isolated were identified by standard bacteriological methods. Study of sensitivity to antibiotics using an automated system (VitekMD2 Compact®). Data were analysed using SPSS v.26 software.
Results: Among 664 patients; 70 (10.54%) were clinically suspected of IOM, and 43 (61.42%) were culture positive. Average age of the patients was 46.15 years, and male predominated (57.14%; 40/70). Staphylococcus aureus predominated at 20.93% (9/43) followed by Pseudomonas aeruginosa (13.95%) and Klebsiella pneumoniae (13.95). Multidrug resistant bacteria (MDRB) represented 86.04% (37/43). Extended beta-lactamase-producing Enterobacteriaceae (ESBL-E) were 32.55% (14/43) of this strains, Methicillin-resistant Staphylococcus aureus (MRSA) 16.27% (7/43), and imipenem-resistant Pseudomonas aeruginosa 4.65% (2/43). Only isolated strain of Klebsiella oxytoca produced a carbapenemase (2.32%). Imipenem-resistant Acinetobacter baumannii and Glycopeptide-resistant Enterococci (GRE) strains were note isolated. MRSA strains exhibited a KTG phenotype in 57.14% (4/7) and associated resistance to fluoroquinolones in 85.71% (6/7). However, sensitivity to vancomycin was preserved.
Conclusion: The increase in MDRB in infections after osteosynthesis requires strengthening of hygiene measures, microbiological monitoring, and updating of therapeutic algorithms

Disclosure of Interest
None declared.

P1045

Multidrug resistant pathogens causing hospital acquired infections in swiss acute care hospitals: data from the swissnoso point prevalence surveys

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Introduction: Antimicrobial resistance is one of the major public health threats of this century. Hospital acquired infections due to antimicrobial resistant organisms can lead to increased morbidity, mortality, and healthcare costs.
Part of the strategy to combat rising resistance is to use surveillance to inform and monitor Infection Prevention and Control initiatives. Swissnoso has conducted a yearly point prevalence survey (PPS) in Swiss Hospitals since 2017 encompassing healthcare associated infections and antimicrobial use. This survey includes antimicrobial susceptibility results from all tested micro-organisms.
Objectives: We compare the ratios of Carbapenem Resistant *Pseudomonas aeruginosa* and Vancomycin resistant Enterococci and relevant antimicrobial use between 2017 and 2024.
Methods: 96 and 103 Hospitals participated in the 2017 and 2024 PPS. Patients from all inaptient wards except psychiatry were included and data was collected on a single day per ward with a maximum timeframe of 2 weeks for the entire survey. The most recent European Centre of Disease Prevention and Control (ECDC) PPS protocol was used as a guide with all data uploaded to a centralized databank.
Results: Compared to 2017, the proportion of *Pseudomonas aeruginosa* isolates with carbapenem resistance increased from 12.2% (5.3 to 25.5%) to 32.6% (20.5 to 47.5%) (Fig. 1 top). If only hospitals participating in both years are analysed, the increase was from 18.5% (8.2 to 36.7%) to 30.8% (18.6 to 46.4%) (Fig. 1 bottom). Similarly, the proportion of Enterococci with vancomycin resistance increased from 2.2% (0.6 to 7.8%) to 9.1% (4.7 to 16.9%) (Fig. 1 top). This trend was also observed for hospitals participating in both surveys (2.7% (0.8-9.5%) to 10.0% (4.9 to 19.2%)) (Fig. 1 bottom). The proportion of Carbapenem resistant Enterobacterales (CRE), Extended-spectrum beta-lactamase (ESBL) producing organisms, Methicillin resistant *Staphylococcus aureus* has remained stable over the period of 7 years. From the PPS data, antimicrobial use has not changed significantly for carbapenems, beta-lactam/beta-lactamase combinaitions, or cephalosporins.
Conclusion: The Swissnoso PPS is a tool to monitor resistance among pathogens causing healthcare associated infections. The ratios of

CRPA and VRE have increased over 7 years, while the ratios of MRSA, ESBL, and CRE have remained stable.

Disclosure of Interest
None declared.

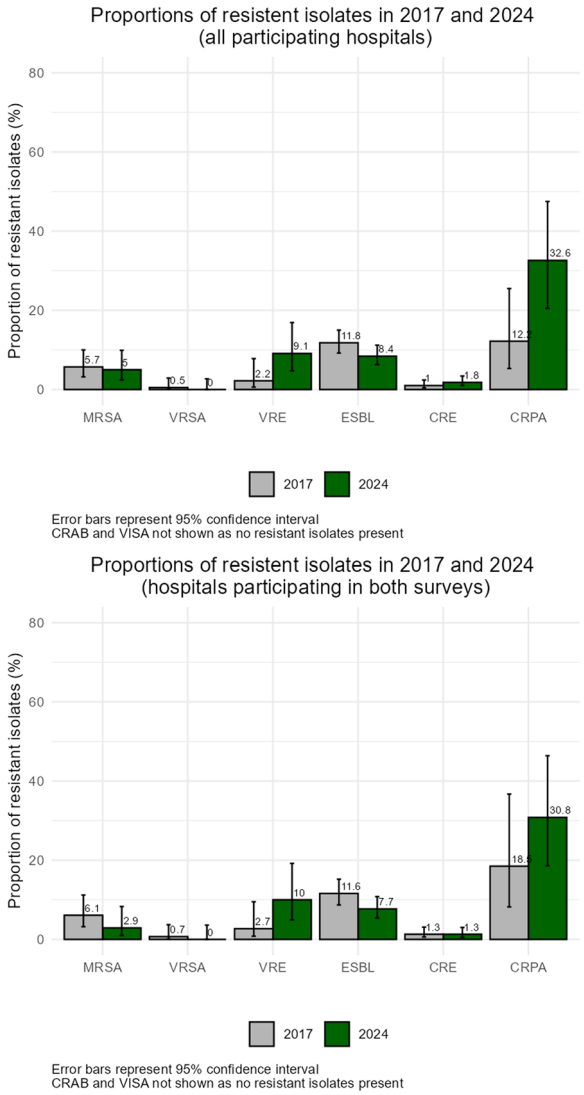

Fig. 1 (abstract P1045). See text for description

P1046

Evaluating the impacts of the covid-19 pandemic on antibiotic resistance in hospitals

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Introduction: The COVID-19 pandemic led to major disruptions in care organization and antibiotic use in hospitals and the community. The resulting impact on antibiotic-resistant bacteria (ARB) spread in hospitals is difficult to predict and presumably depends on bacterial species and hospital wards.
Objectives: We evaluated the evolution of ARB dynamics in French hospitals during the pandemic.
Methods: We retrospectively collected longitudinal data on patients admitted to the intensive care unit (ICU) of the University Hospital Center of Guadeloupe (UHCG), a tropical overseas island, before the pandemic ($n=127$), during the Alpha ($n=142$), Delta ($n=224$), and Omicron ($n=137$) waves. For each patient, we extracted antibiotic use, mechanical ventilation, COVID-19 status, and microbiological results from clinical tests and routine surveillance of extended-spectrum beta-lactamase-producing Enterobacterales (ESBL-E). Using a mechanistic individual-based model, we quantified the variation in nosocomial ESBL-E acquisition rates across periods. We analyzed these variations in light of observed ARB dynamics in hospitals at the national scale during the same periods.
Results: The analysis of global French surveillance data showed a significant decrease of ESBL-producing *E. coli* incidence (up to 33% [16%−46%]) in ICUs during the pandemic, but only during periods of strong anti-COVID-19 restrictions for ESBL-producing *K. pneumoniae* (24% [6%−38%]). Interestingly, the trend was different in the UHCG with a higher incidence of ESBL-E infections during the Alpha wave (20 [13-29] cases per 1,000 bed-days) compared with the pre-pandemic period (6 [2-13]). COVID-19 (adjusted hazard ratio (aHR): 2.7 [1.5–5.0]) and early use of third-generation cephalosporins (aHR: 2.3 [1.3–4.0]) were major risk factors of nosocomial ESBL-E infection.
Conclusion: Our results highlight how a viral pandemic may perturbate ARB epidemiology in hospitals with pathogen-specific impacts.

Disclosure of Interest
None declared.

P1047

Characterization of antibiotic resistance profiles and associated factors of acinetobacter baumannii infections among patients admitted to a large tertiary hospital

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Introduction: *Acinetobacter baumannii* (*A. baumannii*) is one of the most important types of bacteria associated with hospital-acquired infections worldwide. Infections caused by *Acinetobacter baumannii* are considered a major concern because *Acinetobacter baumannii* shows extensive resistance to antibiotics and is linked to high mortality rates.
Objectives:
Aimed to describe the epidemiology, demographic and clinical characteristics of patients with *A. baumannii*,as well as antimicrobial resistance pattern of the *A. baumannii* isolates and antibiotic utilization. This will help determininig the risk of colonization or infection with *A. baumannii* and the best empiric regimen.
Methods:
A retrospective cross-sectional study conducted at a tertiary care and academic hospital, An-Najah National University Hospital (NNUH), in the West Bank of Palestine. Data were collected from patients who had positive *A. baumannii* cultures during their hospital stay from January 1, 2020, to September 30, 2023. The final sample size was 211 patients
Results:*A. baumannii* isolates were detected more in males (57.8%) than in females (42.2%) with the majority of patient were in the surgical ICU (22.7%) and medical ICU (21.3%). Sputum cultures were the predominant site of isolation (18.8%). Overly, 56.4% of the isolated were presented on admission. Multi-drug resistant (MDR) isolates comprised 52.6% with

55.5% resistance rate to meropenem, 44.1 to TMP-SMX, and 6.6% to ampicillin-sulbactam. Invasive device use ($p<0.001$), recent antibiotic use ($p=0.008$) were significantly associated with MDR strains. As overall outcome, 43.6% of the patients were deceased. The most frequently used antibiotics were piperacillin/tazobactam (8.5%), colistin (7.1%), and a combination of colistin with tigecycline (6.6%).
Conclusion: *A. baumannii* isolates were highly multirug resistant so combination of antibiotics was needed for treatment. Implementing antimicrobial stewardship programs and infection control measures can help reduce drug resistance and improve outcomes

Disclosure of Interest
None declared.

P1048

High burden of fluoroquinolone and multidrug resistance among clinical isolates from seven tertiary health hospitals in Northwestern Nigeria: a cross-sectional study

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Introduction: Several antibiotic classes available for bacterial pathogens, including the potent fluoroquinolones, have been reported to be resistant to priority clinical bacterial isolates of public health relevance. The AMR burden is huge in developing countries where AMR surveillance and stewardship may be weak and unstructured.
Objectives: This study aimed to determine the burden of fluoroquinolone resistance among clinical bacterial isolates from Northwestern Nigeria and detect plasmid-mediated quinolone resistance genes (*qnrA*, *qnrB*, and *qnrS*) using molecular techniques.
Methods: Using a cross-sectional study, a total of 1,000 bacterial clinical isolates of varied sample types were processed and obtained from hospital wards with ethical approval. Isolates were identified using Microbact identification kits, and antimicrobial susceptibility testing was performed using the disc diffusion method against Norfloxacin, Levofloxacin, Ciprofloxacin, Ofloxacin, Colistin, Tigecycline, Imipenem, and Ceftazidime in the AKTH. 35 non-duplicate Enterobacteriaceae isolates resistant to fluoroquinolones and ESBL producers were selected for molecular analysis. Primers specific to *qnrA*, *qnrB*, and *qnrS* genes were used and PCR products were purified, sequenced at Nuclix BioSolution Laboratory in Malaysia.
Results: The mean age of participants was 30.14 ± 17.48 years (range 1–61), with 515 (51.5%) isolates from males. Predominant bacterial isolates were *Escherichia coli* (390; 39.0%) and *Klebsiella pneumoniae* (165; 16.5%). High resistance was observed to Norfloxacin (744; 74.4%), Ofloxacin (627; 62.7%), Ciprofloxacin (518; 51.8%), and Levofloxacin (611; 61.1%), as well as other antibiotic classes. Figure 1 shows the distribution of qnr genes by state and bacterial species. Among 35 isolates; 22 (62.9%) carried both *qnrA* and *qnrB*, 2 (5.7%) had *qnrA* alone, 9 (25.7%) had *qnrB* alone, and 2 (5.7%) carried neither gene; *qnrS* was not detected.
Conclusion: This study highlights the significant burden of fluoroquinolone and multidrug resistance. *qnrA* and *qnrB* resistant genes were detected in *Escherichia coli* and *Klebsiella pneumoniae* isolates across Northwestern states. These findings underscore the urgent need for enhanced antimicrobial stewardship and policy changes to curb the spread of resistant strains in Northwestern Nigeria.

Disclosure of Interest
A. Adeleye Conflict with: No conflict of interest., A. Arzai Conflict with: Conflict with: No conflict of interest., M. Mukhtar Conflict with: Conflict with: No conflict of interest. Non is applicable to the author, S. Shuaibu Conflict with: Conflict with: No conflict of interest., F. Jegede Conflict with: Conflict with: No conflict of interest.

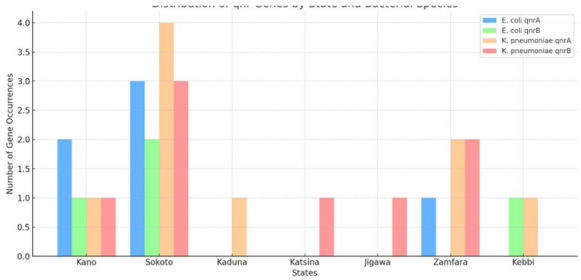

Fig. 1 (abstract P1048). Distribution of qnr Genes by state and Bacterial Species

P1049

16-year trends of antimicrobial resistance in escherichia coli bloodstream isolates: a linear regression analysis from a tertiary teaching hospital in Iran (2008–2024)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1049

Introduction: The marked increase in ciprofloxacin resistance and persistently high resistance to other antibiotics emphasize the urgent need for targeted antimicrobial stewardship programs. These findings highlight the importance of continuous AMR surveillance to inform empirical treatment strategies in Iran.
Objectives: We aimed to analyzes 16-year trends of antimicrobial resistance (AMR) in *E. coli* bloodstream isolates from Shiraz, Iran.
Methods: We conducted a retrospective observational study at Nemazee Teaching Hospital a tertiary hospital in Shiraz, Iran, between 2008 and 2024. Bloodstream isolates were obtained from patients with suspected sepsis. Bacterial identification was performed using API and Microgen systems. Antimicrobial susceptibility testing was conducted via MIC determination and/or disk diffusion. Data were analyzed with WHONET 5.6 and SPSS version 27 software, and trends were evaluated through linear regression models.
Results: Among 1,416 Escherichia coli BSI isolates, significant declining trends were observed for: chloramphenicol ($\beta = -3.68$, $p=0.041$), tetracycline ($\beta = -2.51$, $p=0.004$), amoxicillin/clavulanic acid ($\beta=-2.26$, $p=0.006$), Ampicillin ($\beta=-0.98$, $p=0.045$), and ESBL production ($\beta = -5.75$, $p=0.008$). A concerning increase in ciprofloxacin resistance trend ($\beta = +2.48$, $p=0.045$) and ticarcillin ($\beta=2.95$, $p=0.006$) were noted. Although there were notable resistance rates among all isolated strains including 29% for gentamicin, 40% for tobramycin, and 73% for trimethoprim/sulfamethoxazole, these agents exhibited non-significant downward trends ($p>0.05$). Resistance rates for other antibiotics varied, including 3% for imipenem, 7% for meropenem, 10% for amikacin, 57% for aztreonam, 57% for ceftazidime, 64% for cefotaxime, and 70% for cefuroxime, all showing non-significant upward trends ($p>0.05$).
Conclusion: The marked increase in ciprofloxacin resistance and persistently high resistance to other antibiotics emphasize the urgent need for targeted antimicrobial stewardship programs. These findings highlight the importance of continuous AMR surveillance to inform empirical treatment strategies in Iran.

Disclosure of Interest
None declared.

P1050

The prevalence and risk factors of mrsa, ESBL, and MDR bacterial infections among admitted patients at Silliman University Medical Center Foundation Inc. from january 2021 – october 2024

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1050

Introduction: Managing MDR, ESBL, or MRSA infections remains challenging in both the treatment aspect and infection control. This study explores their occurrence, acquisition, and possible risk factors among inpatients at SUMCFI, a private tertiary hospital in Dumaguete City, Philippines.
Objectives: To evaluate the prevalence and pattern of MRSA, ESBL, and MDR infection among admitted adult patients at SUMCFI
Specific Objectives:
To determine the demographic & clinical profile of patients with the said infections
To determine the risk factors of admitted patients for infection with MRSA, ESBL or MDR organisms
Methods: This retrospective descriptive study (Jan 2021–Oct 2024) included patients ≥ 18 years admitted to ICUs or wards with MRSA, ESBL, or MDR isolates from blood, respiratory, or other specimens. Descriptive statistics was used to analyze demographic and clinical profiles. Univariate logistic regression explored associations between patient characteristics and the incidence and outcomes of MRSA, ESBL, or MDR infections.
Results: A total of 375 patients were included (248 females; 127 males). The mean age was 64 ± 10 years, with an average hospital stay of 14 ± 7 days. Existing co-morbidities OF patients included DM type 2 (76.3%), hypertension (51.2%), and respiratory conditions (29.3%). 62.8% received antibiotics in the past 3 months. Commonly isolated organisms were *E. coli, Klebsiella pneumoniae, Pseudomonas aeruginosa*, and MRSA. The highest prevalence of MRSA (38.6%) was from wound cultures of chronic wounds (i.e. Diabetic foot, decubitus ulcers). The highest prevalence of MDR organism was that of *E. coli* isolated from blood cultures (Fig. 1).
Conclusion: There is a growing number of antibiotic-resistant organisms at SUMCFI, similar to trends seen in the Philippine national data from tertiary government hospitals. The Department of Health (DOH) Antimicrobial Resistance Surveillance Program (ARSP) also shows rising rates of these bacterial pathogens considered of public health importance. Significant risk factors for infection with ESBL (+), MRSA, and MDR organisms include age above 65 years old, previous hospitalization for the past 3 months, previous antibiotic use, and having DM Type 2.

Disclosure of Interest
None declared.

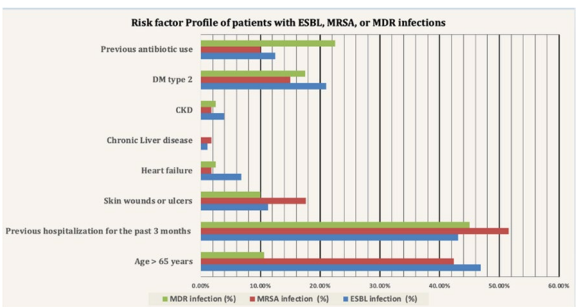

Fig. 1 (abstract P1050). See text for description

P1054

Determinants associated with multidrug-resistant organisms among hospitalized covid-19 patients in Indonesia

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Introduction: The COVID-19 pandemic significantly influenced the prevalence of multidrug-resistant organisms (MDROs) worldwide. However, the epidemiological patterns of MDROs among COVID-19 patients in Indonesian hospitals are largely uncharacterized.
Objectives: To analyse the determinants associated with MDRO in clinical cultures among COVID-19 patients.
Methods: A prospective observational cohort study was carried out in the COVID-19 wards of a secondary care hospital and a tertiary care hospital in Indonesia. Adult patients admitted to these wards between March 2022 and March 2023 were enrolled, and clinical specimens – such as blood, lower respiratory tract samples, pus, and urine – were collected as part of routine care. MDROs were identified using the Vitek2 system. The epidemiological characteristics of COVID-19 patients, both with and without MDRO, were analysed using a multivariate analysis.
Results: Of the patients enrolled, 37/190 (19%) had positive blood cultures. In total, 195/605 (32%) patients had at least one MDRO in a clinical culture, with extended-spectrum beta-lactamase-producing organisms being the most prevalent (21%). Tertiary care hospital (odds ratio [OR] 25.775), presence of urinary catheter (OR 2.785), and presence of endotracheal tube (OR 4.691) were independent determinants for MDRO infections.
Conclusion: MDRO was found in clinical cultures of nearly one-third of hospitalized COVID-19 patients, with higher risk linked to tertiary care settings and use of invasive device. Strengthened infection control and antimicrobial stewardship are urgently needed in high-risk hospitals.

Disclosure of Interest
None declared.

P1056

Perspectives for improving the prevention and control of antimicrobial resistance-associated infections in Benin, 2025–2030

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Introduction: Antimicrobial resistance (AMR) is a major threat to health and sustainable development in Benin. Yet, only 23% of the 2019-2024 multisectoral national action plan was implemented.
Objectives: To identify key obstacles to the prevention and control of AMR-associated infections (IPC) in Benin and propose innovative strategies for 2025-2030 based on the One Health approach.

Methods: Secondary analysis of the AMR plan evaluation and consultations with 209 stakeholders from human, animal, and environmental sectors in six departments, using semi-structured interviews, focus groups, and workshops supported by WHO and FAO (May-October 2024). The analysis focused on barriers and One Health levers.
Results: Of 224 activities; 40.2% had not started and only 3.6% were fully completed. Main barriers included lack of structured multisectoral coordination, limited resource mobilization (9%), insufficient monitoring and evaluation, sectoral silos, lack of ongoing training, and weak community engagement. Perspectives for 2025-2030 include establishing a One Health Multisectoral Coordination Group, integrating IPC/AMR training into veterinary, environmental and academic sectors, developing integrated AMR/IPC surveillance, intensifying community awareness, implementing effective monitoring and evaluation, and strengthening operational research. SB2HPCI plans a pilot mixed-methods interventional study to assess AMR and its determinants in all sectors, with targeted interventions using a One Health approach.
Conclusion: This work highlights strategic levers to strengthen AMR control by 2030, including operationalizing One Health, training, integrated surveillance, and action research. Increased technical and financial support is essential to accelerate progress and improve infection prevention and control in Benin.

Disclosure of Interest
None declared.

P1057

Co-development and implementation of IPC interventions to tackle AMR: insights from Colombia and Ghana

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Introduction: Infection prevention and control (IPC) interventions reduce healthcare-associated infections (HAIs) and curb antimicrobial resistance (AMR). Despite their importance, implementation in many low- and middle-income countries (LMICs) remains limited. The global AMR research agenda highlights the need for feasible, acceptable, and cost-effective IPC strategies. The International Centre for Antimicrobial Resistance Solutions (ICARS) partners with LMICs to co-develop and implement scalable IPC interventions tailored to local contexts.
Objectives: To co-develop and implement context-specific IPC interventions in LMICs ensuring relevance and further scalability.
Methods: Interventions are co-developed with policymakers, academia, and stakeholders to ensure ownership. The stepwise approach includes identifying priority problems, designing implementation concepts, and drafting research proposals. This model has been applied in Colombia and Ghana.
Results: In both countries, health ministries selected national research institutes to guide IPC initiatives. Stakeholder meetings ensured feasibility and acceptability. In Colombia, carbapenem-resistant Enterobacterales (CRE) infections more than doubled post-COVID-19, increasing by 112%, with a rise in isolates carrying blaKPC, blaNDM, and blaVIM genes (from 1.1% to 3.6%). Prioritization by clinical and administrative staff informed context-specific IPC measures. A mixed-methods approach, including quality improvement cycles, was adopted to improve hand hygiene, PPE use and environmental disinfection. In Ghana, low compliance with hand hygiene (49.4%) and facemask use (73.7%) among surgical teams contributed to high surgical site infections. Co-developed interventions addressed operating room traffic, disinfectant testing, IPC guidelines adaptation, and targeted IPC training. Hospital management involvement supported alignment with institutional practices. The projects will assess feasibility and sustainability through qualitative and cost-benefit analyses.
Conclusion: Co-developed IPC interventions in these countries show that simple and tailored approaches are feasible and potentially sustainable for reducing HAIs in LMICs.

Disclosure of Interest
None declared.

P1059

The assessment of an antimicrobial stewardship program in a cardiology hospital in Qatar

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Introduction: This study evaluates the implementation and impact of antimicrobial stewardship program in cardiac hospital aimed at optimizing antibiotic use, reducing multidrug-resistant organisms, and minimizing adverse drug events. It highlights the need for targeted interventions in prescribing to enhance patient outcomes and combat antimicrobial resistance across the hospital.
Objectives: To evaluate the effectiveness of antimicrobial stewardship program in optimizing antibiotic use and reducing antimicrobial resistance over an 8-year period.
Methods: The antimicrobial stewardship program (ASP) was initiated in 2015 with systematic data collection on antibiotic use and compliance with predefined guidelines. A multidisciplinary team conducted daily audits of new antibiotic prescriptions, focusing on restricted antimicrobials. Interventions involved daily ward rounds and consultations, ensuring treatment decisions were reviewed within 72 h. Antibiotic consumption was monitored using the Defined Daily Dose (DDD) per 1000 patient-days, following WHO AWaRe classification to prioritize prescribing. Trends in antibiotic use, de-escalation practices, and consumption patterns were analyzed statistically and reviewed quarterly in committee meetings.
Results: The overall antimicrobial consumption ranged from 310–450 DDD per 1000 patient-days, with most use in the narrow and Watch categories, consistent with expected usage patterns. Compliance with prophylactic antibiotic use in cardiothoracic surgeries exceeded 90%. Clostridioides difficile infections declined from 14 cases in 2017 to 4 in 2024 (Fig. 1b), and rates of MDROs like VRE and CRE remained low (Fig. 1a). However, increased trend in certain antimicrobials (e.g., daptomycin, tigecycline) indicated areas needing further evaluation.
Conclusion: The ASP successfully optimized antibiotic use, reduced adverse events and MDROs, and maintained high compliance with prophylactic guidelines. Ongoing education, multidisciplinary oversight, and targeted surveillance remain crucial in sustaining and improving prescribing quality in hospital settings.

Disclosure of Interest
None declared.

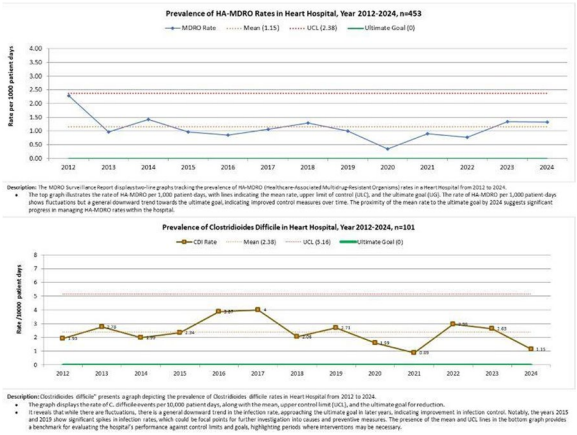

Fig. 1 (abstract P1059). See text for description

P1060

A prospective quasi-study on the implementation of an antibiotic stewardship program for pediatric pneumonia in a single center pediatric emergency department in Iran

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1060

Introduction: Improper antibiotic use has led to a global rise in drug-resistant bacteria, posing a serious health threat. The Antibiotic Stewardship Program (ASP) is a vital approach to promoting responsible prescribing in hospitals, proven to reduce resistance and costs. However, variations in hospital environments worldwide can affect research findings.
Objectives: This study aims to evaluate how the Antibiotic Stewardship Program affects antibiotic use in children with pneumonia in a pediatric emergency department in Shiraz, Iran, where no prior research on this topic has been conducted.
Methods: This prospective study compares data from children with pneumonia hospitalized in the pediatric emergency department before and after ASP implementation. Data from May 2024 to April 2025 will be compared to a control group from November 2022 to April 2023, focusing on demographics, clinical features, treatments, and outcomes. The main outcomes are treatment adherence, hospital stay length, complications, and mortality, analyzed using SPSS.
Results: In this prospective interventional study, there was no significant difference in age distribution between groups ($p = 0.841$), and the average age was comparable. The treatment protocol adherence rate was significantly higher in the NPG (96.6%) compared to the control group (74.2%) ($p < 0.001$). This was associated with decreased ICU admissions and lower mortality rates (0.10% vs. 2.20%, and 2.5% vs. 13.9%, respectively). The severity of pneumonia was similarly distributed in both groups, with no significant difference ($p = 0.257$). Clinical signs such as fever, rhinorrhea, cough, and cyanosis were comparable, though the incidence of drug-related adverse effects and pneumonia complications differed significantly. Rates of hospital-acquired infections and initial microbiological and radiological findings were similar across both groups, with no significant variations.
Conclusion: These findings indicate that implementing an antibiotic stewardship program for children with pneumonia enhances adherence to treatment guidelines and reduces complications and mortality, without altering disease severity or microbiological and physiological parameters.

Disclosure of Interest
None declared.

P1061

Improving feedback reporting on antimicrobial use in nursing homes; an qualitative interview study

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Introduction: Although feedback is an essential component of effective antimicrobial stewardship in nursing homes in the Netherlands, there is currently a lack of understanding about what type of feedback best aligns with the needs of prescribers in nursing homes.
Objectives: The aim of this study to gain insight into prescribers'experiences with the usability, comprehensibility and effectiveness of current feedback reports.
Methods: We conducted a qualitative interview study using a topic list based on the adapted Calgary Audit & Feedback Framework by Yeung et al. (2025). To determine additional (sub)themes and codes belonging to the themes of the framework, we conducted a literature review. A PubMed search was conducted using the following terms pertaining to three topics: 1. Audit & feedback, 2. Nursing homes, 3. Antimicrobials. Of the selected studies, the full text was reviewed and assessed for usefulness. The interviews were semi-structured in design, recorded, transcribed verbatim and then analyzed using deductive theme analysis. Two authors independently analysed the transcripts with MAXQDA 24.
Results: We found four articles with topics that we added to the (sub)themes of the adapted Calgary Audit & Feedback Framework, including leadership and accountability, engaging all stakeholders, a good relationship to rely on feedback and appointing a champion. The interviews took place from April 2025. The topics we found were clustered in all themes and subthemes of the adapted Calgary Audit & Feedback Framework (Organization, Question choice, Data representation, Relationship building, Facilitation, Reactions to data, Understanding & questioning, Justifying, contextualizing, Reflecting, sharing practices, discussing evidence, Change cues, Change talk & planning).
Conclusion: We will present the results of the ongoing interview survey. Ultimately, this information is invaluable for developing a template to feedback on antibiotic use to nursing homes.

Disclosure of Interest
None declared.

P1063

From overuse to stewardship: impact of one-page guidelines on antibiotic use in acute watery diarrhea

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Introduction: Diarrheal diseases are both preventable and treatable, yet they are the third-highest cause of mortality among children under 5, responsible for about 440 000 deaths each year, mainly because of dehydration and electrolyte imbalance. Infection and malnutrition are key risk factors in low-resource environments like Pakistan, where every diarrheal episode aggravates malnutrition. Diarrhea forms are acute watery diarrhea (AWD), acute bloody diarrhea, and chronic diarrhea; AWD is ≥ 3 loose stools/24 h more than baseline. The viral pathogens rotavirus cause 70–80% of infections, and focally contaminated water is the route of transmission. Treatment is with low-osmolarity

oral rehydration salts and zinc supplementation. Antibiotics should not be used except in dysentery, but are abused universally.
Objectives: To assess the impact of a one-page management guideline on antibiotic use in pediatric AWD.
Methods: We conducted a retrospective observational study at AKM-CCC Hyderabad, including all admissions for acute gastroenteritis from January 2023 to December 2024, excluding cases with concomitant diagnoses (celiac disease, cystic fibrosis, dysentery, cholera, persistent diarrhea). Pre- (2023) and post-intervention (2024) data were collected via structured proformas by a trained pediatric coordinator. Demographics, diagnosis, antibiotic use, outcomes, and admission/discharge dates were recorded. Antibiotic use rates were compared before and after guideline implementation.
Results: Among 884 children with AWD, antibiotic use declined from 61% (242/395) in 2023 to 24.3% (119/489) in 2024, with rates decreasing from 32% in the first half to 21% in the second half of 2024.
Conclusion: Implementation of a concise guideline and targeted training significantly reduced antibiotic misuse in pediatric AWD. Regular audits may further optimize stewardship.

Disclosure of Interest
None declared.

P1064

Expansion of antimicrobial stewardship (AMSP) and infection control program (ICP) of icmr in secondary care hospitals

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Introduction: Antimicrobial resistance (AMR) is a growing global health challenge, particularly in healthcare settings where antibiotics are often misused. Antimicrobial stewardship programs (AMSP) and infection control practices (ICP) are crucial for combating AMR. While tertiary care hospitals have successfully adopted these programs, secondary care hospitals face significant obstacles, such as limited resources and lack of awareness.
Objectives:—Expand ICMR's AMSP and IPC initiatives to secondary hospitals in Kochi, Kerala.
- Assess barriers and facilitators in implementing AMSP and IPC.
- Raise awareness and advocacy concerning AMR among stakeholders
Methods: This was a quasi-experimental, multicenter study conducted from August 2021 to August 2023 and mentored by Amrita Institute of Medical Sciences, Kochi, Kerala in collaboration with Indian Council of Medical Research and Pfizer. It involved seven hospitals—four mid-level and three small-level facilities. The project was divided into three phases: pre-implementation, implementation, and post-implementation. Baseline assessments of antibiotic use and healthcare workers'knowledge were conducted. AMSP and ICP committees were formed in each hospital, and hybrid training sessions were organized for staff. Antibiotic prescription audits and infection control measures were monitored throughout the study, and post-implementation data were collected for analysis.
Results: The results showed improved antibiotic prescribing and infection control practices in the participating hospitals. Full AMSP implementation was achieved in two hospitals, with the others facing challenges such as staff shortages and limited resources. However, knowledge and practices improved in all hospitals, with notable reductions in antibiotic misuse and HAIs (Fig. 1 and Fig. 2).
Conclusion: The study demonstrated the feasibility of implementing AMSP and ICP in secondary care hospitals despite challenges. Continued advocacy, training, and resource support are essential for sustaining these improvements and reducing AMR in India's healthcare system.

Disclosure of Interest
None declared.

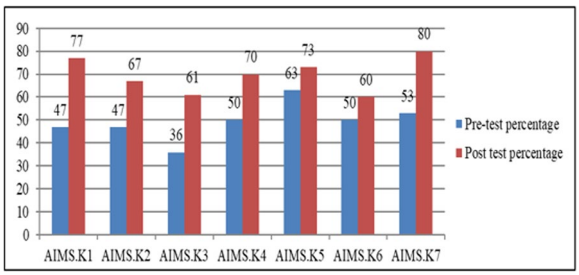

Fig. 1 (abstract P1064). See IPC pre-test and post-test percentage assessments

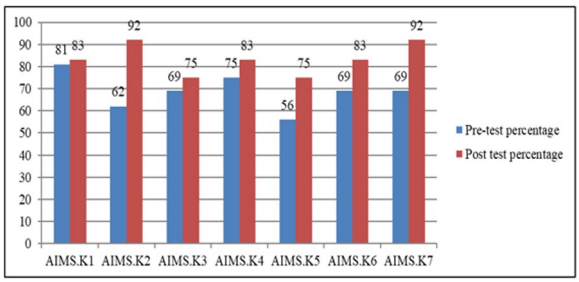

Fig. 2 (abstract P1064). AMSP pre and post-test percentage assessments

P1067

Impact of structured training program on community health workers knowledge, attitude, and practices towards antibiotic use and antimicrobial resistance

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Introduction: Antimicrobial resistance (AMR) is a growing global health threat, particularly in low- and middle-income countries like India where over-the-counter antibiotic use is common. Accredited Social Health Activists (ASHAs) play a crucial role in community-level healthcare delivery.
Objectives: This study aimed to evaluate the effectiveness of a structured training program in improving ASHAs' knowledge, attitude, and practices (KAP) regarding antibiotic use and AMR.
Methods: This is a pre-post interventional study conducted among 103 ASHAs working in Primary Health Centres (PHCs) in Mysuru City, Karnataka using convenience sampling method. A validated, structured questionnaire was used to assess KAP before and after four-day training program. The training was based on WHO Competency Framework for Health Workers' Education and Training on AMR and delivered using interactive methods, including role plays and group discussions. Pre- and post-intervention KAP scores were compared using paired t-tests, and correlation analyses were performed using Spearman's rho.
Results: The mean age of participants was 37.03 ± 7.00 years and majority (57.3%) of them had completed pre-university education. Regarding work experience, 40 (38.8%) had 1–5 years of experience. At baseline, ASHAs showed poor knowledge (mean score = 1.00), attitude (1.01), and practice (1.00) regarding antibiotic use and AMR. Post-intervention, significant improvements were observed in knowledge (1.57), attitude (1.91), and practice (1.67) scores ($p < 0.001$). Antibiotic use patterns also shifted significantly, with decreased inappropriate use for viral infections (common cold: 74.8% to 12.6%) and increased recognition of bacterial infections. Reliance on doctors' advice for treatment

duration increased from 14.6% to 75.7%. Correlation between knowledge and practice improved positively post-intervention (rho = 0.221, p < 0.001).
Conclusion: The structured educational intervention significantly enhanced ASHAs' KAP and antibiotic usage behaviour, supporting their critical role in community-level AMR containment. The training model shows promise for scale-up across similar settings.

Disclosure of Interest
None declared.

P1068"Mission antibiotix": a virtual escape game to promote appropriate antibiotic use

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Introduction: Urgent action is needed to raise awareness among prescribers about the importance of appropriate antibiotic use. Innovative educational tools could be more effective in improving antibiotic prescribing practices.
Objectives: To describe an educational game developed to support the World Antibiotic Awareness Week campaigns in 2023 and 2024.
Methods: The Infection Prevention and Control (IPC) units of the Canton of Vaud and CHUV, along with the Paediatric Infectious Diseases & Vaccinology unit of CHUV, developed *"Mission Antibiotix"*, a free online serious game, targeting antimicrobial-prescribing physicians. The Continuing Education Center of CHUV led the game development.
Results: The game: Players were invited to engage in clinical scenarios and make appropriate prescribing decisions to uncover clues within virtual patient rooms. Immediate feedback was provided after each decision-making moment. The 2023 edition focused on antibiotic indication and the 2024 on antibiotic allergies. Educational content was developed by physicians from all three units.
Its deployment: At CHUV, the game was used for interdepartmental championships in auditoriums or postgraduate training. An evaluation form was available both online and on-site in the auditoriums. Since its launch, the website has attracted over 850 visits. During the CHUV championships, over 320 players from 27 different wards participated. 90% of participants reported acquiring knowledge that would be useful in their practice.
Conclusion: This serious game encouraged physicians'involvement. Its easy integration into their work schedule contributed to increased engagement. Finally, the platform's flexibility allows for future updates in content and target audience.

Disclosure of Interest
None declared.

P1069

Behavior of antibiotics consumption in adult intensive care units, Colombia, 2019-2023

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Abstract video clip description: Nothing

Introduction: Globally, increased antibiotic consumption contributes to the development of bacterial resistance, hospital infections, mortality and costs.
Objectives: The aim of the study was to describe the notification, antibiotic consumption and its relationship with bacterial resistance in Intensive Care Units in the period 2019—2023.
Methods: Descriptive study based on reporting to the National Antibiotic Consumption Surveillance System in Colombia. The indicator of compliance in the notification and the Defined Daily Dose (DDD) per 100 beds/day was calculated, analyzing the trend of consumption by linear regression.
Results: An increase of 23.6% of reporting institutions was observed (335 in 2019 to 436 in 2023), and reporting compliance increased 11.5% (81.1% in 2019 to 90.4% in 2023). The time trend of antibiotic consumption showed decrease in cefepime (95% CI: −0.85 to 0.3; p = 0.226), meropenem (95% CI: −1.32 to 0.06; p = 0.062) and piperacillin (95% CI: −1.72 to 0.61; p = 0.229), without reaching statistical significance. A non-significant increase was observed in ceftriaxone (95% CI: −0.53 to 0.77, p = 0.601) and ertapenem (95% CI: −0.28 to 0.21, p = 0.700); p = 0,700). The antibiotic with the highest consumption was meropenem, with an average of 17.94 DDD/100 bed-days throughout the period. Vancomycin showed a statistically significant decrease (95% CI: −1.04 to −0.18; p = 0.020).
Conclusion: The study showed an increase in the reporting of antibiotic consumption between 2019 and 2023. A downward trend was observed in the consumption of cefepime, meropenem and piperacillin, and a significant decrease in vancomycin. Meropenem remained the most consumed antibiotic, which allowed strengthening the surveillance of antibiotic consumption in coordination with health institutions, contributing to a more robust surveillance. It is recommended to promote compliance with the goals of epidemiological surveillance, the Antimicrobial Optimization Program, and the implementation of actions to mitigate resistance.

Disclosure of Interest
None declared.

P1070

Global landscape of local production of alcohol-based handrub in health care: a scoping review

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Introduction: WHO has recently identified research priorities to explore interventions that support sustained system change for hand hygiene in health care. Local production of alcohol-based handrub (ABHR) offers a promising approach. An original WHO-led survey in 2011 of local ABHR production is now over a decade old, highlighting the need for an updated global assessment.
Objectives: To map the global evidence on local ABHR production in healthcare settings, with focus on production methods, quality, sustainability, and pandemic-related trends in low- and middle-income countries (LMICs).
Methods: We conducted a scoping review: the literature search was conducted through Embase, Medline, and CINAHL. Primary research articles that reported local ABHR production in health care in LMICs were considered, with the following exclusion criteria: ABHR not produced locally, ABHR production not related to health care, non-original articles and animal studies. Title-abstract screening, and full

text screening were conducted by three reviewers. Each article was screened by at least two reviewers. Conflicts were resolved by consensus among the three reviewers or by arbitration from a third reviewer when necessary. The data extraction was based on the pre-defined form.
Results: 2343 articles were screened among which 31 papers were identified for data extraction and synthesis. The studies were conducted in 19 countries. Eighteen articles were relevant to the COVID-19 pandemic.
Seventeen articles were single-year studies. In 22 and nine articles, ABHR was produced at healthcare facility level and manufactured at factories, respectively. Among the articles of ABHR production at healthcare facility level, pharmacists were the major professions in charge of the production. The majority of the funded studies (17 out of 24 articles) were supported by grants from high-income countries.
Conclusion: The local ABHR production was not frequently reported in the literature. Interest in the local ABHR production was increased in response to the COVID-19 pandemic. The heavy reliance on short-term, high-income country funded studies raises concerns about the long-term viability and sustainability of local ABHR production in low-resource settings.

Disclosure of Interest
None declared.

P1071

Surveillance of alcohol hand rub consumption in nursing homes and assisted living facilities – French national survey 2022-2023

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Introduction: Hand hygiene with alcohol-based hand rubs (AHR) is the reference method for preventing the cross-transmission of microorganisms in nursing homes (NHs) and in assisted living facilities (ALF) for people with disabilities.
Objectives: This surveillance aims to quantify hand hygiene compliance through a proxy indicator based on the annual consumption of AHR.
Methods: From March 1 to June 30, 2024, NHs and assisted living facilities across mainland France and overseas territories were contacted to participate in the surveillance. Organizational information, annual AHR consumption and facility activity were collected (2022 and 2023). The number of AHR actions per resident-day was estimated using the formula: (AHR liters × 1000) divided by (annual number of resident-day × 3 mL). Statistical analysis was performed (Wilcoxon test).
Results: A total of 2,173 NHs participated (28.6% of the 7500 NHs). 64.4% (n = 1,400) of NHs were public, an infection and control prevention (IPC) team was available in 86.0% (n = 1,869). The estimated median number of AHR actions per resident-day was 1.83 (interquartile range [IQR]: 1.22-2.53) in 2022 and 1.59 [1.07-2.23] in 2023. Significantly higher AHR consumption was observed for NHs with the following characteristics: public status (2023: 1.67 [1.17-2.27] vs 1.33 [0.92-1.99] for nonprofit NHs, $p < 0.01$), internal or mobile IPC team (2023: 1.62 [1.10-2.28] vs 1.40 [0.94-1.95] for others, $p < 0.01$). In the first year of inclusion, 240 ALF, including 199 specifically targeted ALF, participated in the study (6.9% of the ALF). Among those, 46.2% (n = 92) were public, and an IPC team was available in 67.3% (n = 134). The estimated median number of AHR actions per resident-day was 1.63 [1.18-2.70] in 2022 and 1.42 [0.94-2.34] in 2023. AHR consumption was significantly higher in public ALF (2023: 1.88 [1.04-2.55] AHR vs 1.20 [0.80-2.03] for nonprofit facilities, $p < 0.01$).
Conclusion: In 2022, [6].7% of NHs achieved at least 4 AHR actions per resident-day (targeted indicator of the 2022-2025 national strategy) compared to 3.6% in 2023. Despite potential biases, these results highlight the impact of an IPC team and the need to strengthen efforts in promoting hand hygiene through AHR.

Disclosure of Interest
None declared.

P1072

Current indirect hand hygiene indicators in nursing homes largely underestimate real number of hand hygiene opportunities

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Introduction: Data on hand hygiene (HH) compliance in nursing homes (NHs) are limited. Indirect HH indicators, such as those developed by the French National Health Authority, fix 5 HH opportunities/resident/day, providing a measure of performance based on the theoretical versus actual handrub solution consumption.
Objectives: This study aimed to evaluate the actual number of HH opportunities, according to the burden of care, in nursing homes in the Canton of Vaud, Switzerland.
Methods: Cross-sectional, multicentre study conducted in 2023 across NHs of canton Vaud. The care burden score (PLAISIR score, 1-12 scale) was available for each resident. Ten to 30 residents per NH were selected using stratified random sampling to respect institutional care burden strata. We calculated the daily number of HH opportunities/resident based on their individual caring plan assuming 4 HH opportunities for toileting assistance and 2 for other care activities. Hierarchical modelling was used to determine the mean HH opportunities per resident per day and to assess the impact of care burden on HH frequency.
Results: Care schedules from 1′633 residents (27.8%) across 117 NHs (95%) were analysed. The distribution of care burden scores between included and non-included residents was similar ($p = 0.31$), indicating a representative sample. Most residents (96%) required more than the assumed 5 HH opportunities/day. The mean number of HH opportunities was 21.7/resident/day (95% confidence interval (CI) 20.69–22.62). The care burden was significantly associated with an increased number of HH opportunities, with each 1-unit increase in the PLAISIR score corresponding to 2.93 additional HH opportunities (95% CI 2.76–3.10, $p < 0.01$).
Conclusion: Established indirect HH indicators rely on assumptions that substantially underestimate actual HH opportunities, as suggested by robust data from our canton. Moreover, in our setting, the burden of care significantly influences the number of HH opportunities, indicating that a fixed HH estimate across all residents may be inappropriate.

Disclosure of Interest
None declared.

P1074

Hand hygiene in catalonia: 20 years and a step beyond

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Introduction: The Ministry of Health, Government of Catalonia, has been leading hand hygiene best practices for over 20 years. Aligned with WHO global initiatives, it developed strategies to improve hand hygiene across healthcare settings. A digital platform for real-time monitoring of hand hygiene indicators is presently being deployed. In 2025, a new campaign reinforced these efforts, promoting hand hygiene and infection prevention, with an educational video and structured observation.
Objectives: 1. Describe actions implemented to improve hand hygiene in Catalonia over the last 20 years.
2. Assess the impact of these actions on patient safety.
Methods: A descriptive, retrospective, and longitudinal study was conducted to analyze hand hygiene improvement actions from 2005 to 2025. Led by the Service for Quality Promotion and Bioethics of the Ministry of Health, data were collected from official archives and annual reports. Indicators reported by healthcare centers were analyzed.
Results: From 2005 to 2025, Catalonia implemented actions aligned with WHO guidelines, including training sessions with healthcare professionals, hand hygiene plans in healthcare centres, educational materials, and awareness activities. A Hand Hygiene Action Plan was developed, incorporating the WHO self-assessment framework, action plans for centres, training, and direct observation. Annual indicators were added to patient safety dashboards. A website was created, and World Hand Hygiene Day campaigns were organized.
More than 23,000 professionals received accredited training as part of these initiatives.
In 2024, 99.9% of ICU beds and 88.1% of hospital beds had alcohol-based hand rub. Alcohol-based solution consumption was 101.5 L per 1,000 patient-days in ICUs, 30.8 L in hospital wards, and 14.8 L per 10,000 consultations in primary care. Hand hygiene compliance was 73.8%, and alcohol-based rub use was 68.9%.
Conclusion: Actions in Catalonia, following WHO guidelines, have improved patient safety, with clear improvements in hand hygiene compliance. The 2025 campaign strengthens these efforts, continuing to prioritize hand hygiene for patient safety.

Disclosure of Interest
None declared.

P1075

The impact of the first train-the-trainers in hand hygiene in Uganda: promoting the who multimodal improvement strategy

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Introduction: Train-the-Trainers in hand hygiene (TTT) is a standardized training originally developed by University of Geneva Hospitals, a WHO collaborating centre on infection prevention and control (IPC), and aims to promote the WHO multimodal improvement strategy. TTT was conducted more than 10 countries across the globe, however, South Africa was previously the only country in Africa where TTT was ever conducted. In December 2023, TTT was conducted for the first time in Uganda.
Objectives: The study aims to assess the impact of the first TTT in Uganda on their knowledge in hand hygiene and the hand hygiene promotion at their own institutes.
Methods: The TTT provided by is a 3-day course of hand hygiene (HH) training based on the WHO multimodal improvement strategy, consisting of lectures and hands-on sessions including video materials and role-plays. It aims to train trainers so they can further train others on their own facilities. IPC focal points were invited as a trainee from regional referral hospitals and the relevant organizations. Pre- and post-course evaluations were made to assess the improvement in HH knowledge, and HH Self-Assessment Framework (HHSAF), a standardized tool created by WHO, at the participants' health facilities was compared before and after TTT to measure the impact.
Results: Fourty nine IPC focal points across 20 districts participated in TTT. Among 44 participants who completed both pre and post-course evaluations (the maximum score 22), the score significantly improved after the training (the mean pre-course evaluation 7.2 vs post-course 11.8, 95% confidence interval of the difference 3.28-5.67, $p < 0.0005$ (paired-t test)). Among 16 hospitals where IPC focal points participated in TTT and conducted HHSAF pre and post TTT, the median HHSAF improved from 271.25 to 332.5 after TTT at facility level ($p = 0.03$ (Wilcoxon Signed-Rank test)).
Conclusion: The first TTT was conducted in a low-income country of Africa. The participants significantly improved their knowledge in HH, and the participants' hospitals significantly improved HHSAF after TTT participation.

Disclosure of Interest
None declared.

P1076

Assessment of hand hygiene practices in thirteen hospitals and perspectives for improvement

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Introduction: Hand hygiene (HH) is essential to prevent healthcare-associated infections (HAIs). The Beninese Society of Hospital Hygiene, Infection Prevention and Control (SBH2PCI) has been created and assessed HH practices during the 2024 World Hand Hygiene Day (WHHD).
Objectives: To identify gaps and improvement levers to strengthen patient safety.
Methods: A descriptive cross-sectional survey was conducted over 3 days in 13 hospitals (zone hospitals, CHUD, CHD) across 10 departments. A total of 231 healthcare workers (midwives, nursing assistants, nurses) were interviewed using semi-structured interviews. Direct observations were performed to assess available resources and hand hygiene practices. Self-assessment on a scale from 0 to 10 measured the frequency and perceived importance of HH. Qualitative analysis identified barriers and facilitators.
Results: Handwashing stations were present in 92% of maternity wards and 100% of surgical wards, with waste bins available at 100%. Continuous availability of alcohol-based hand rub was 58% in maternity and 71% in surgery, while availability of paper towels, water, and soap was 42% in both services. On average, each service had 3 handwashing stations, mostly equipped with manual taps (61.5%) and pump bottles (73.1%). An adherence score above 6/10 was reported for 77–82% of indications, but notable omissions were observed after the last contact with the patient or their environment. The perceived importance of hand hygiene was high (> 6/10) for the majority of staff; however; 30% did not consider it important before patient contact. The main barriers identified were insufficient product availability (25.6%), lack of time (19.9%), and risk non-perception (11%).
Conclusion: Despite a generally positive perception of the importance of HH, weaknesses persist in the continuous availability of supplies and adherence at critical moments. Building on its experience, SBH2PCI will launch in May 2026 a multi-year support program for

hospitals in the PIAS network, aiming to implement adapted multimodal strategies: strengthening protocols, continuous training, and supervision to sustainably improve HH adherence and reduce HAIs.

Disclosure of Interest
None declared.

P1077

The hand hygiene self assessment scores and provisions on enhancing hand hygiene in the NHO hospitals of the Kanto-Shinetsu region in Japan

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Introduction: Official multimodal hand hygiene programs still do not exsist in Japan. The hand hygiene initiatives are left to the infection control team of each hospital, and the NHO hospitals are no exceptions.
Objectives: To assess the level of the hand hygiene inititative of the NHO hospitals of the Kanto-Shinetsu region, by utilyzing the HHSAF, and to calrify the difficulties and the provisions.
Methods: A lecture on the HHSAF was given to the 36 hospitals in the on-line conference of the group comittee in July 2024. The infection control team of each hospital was required to submit their HHSAF scores, and answers to the following; 1) The question that relates to the minimum requirements for the multimodal strategy which is difficult to score, 2) their provisions to score more an each of the 5 components. The data was submmitted from each hospital from August to November 2024 via e-mail.
Results: The median score for the total HHSAF score was 259.5. The median scores for each of the 5 Components were Component1:87.5, Component2:42.5, Component3:55.5, Component4:42.5, Componen5: 25.0. The question that relates to the minimum requirements for the multimodal strategy which was most (8, 22.2% hospitals) regarded as difficult to score was Q5.2 the facility leadership's clear comittment. However, 17(47%) hospitals regarded that all questions that relates to the minimum requirements are possible to score. All hospitals had provisions to score more on each of the 5 components the HHSAF, and these were shared to all of the hospitals that submitted their data.
Conclusion: In the absence of national hand hygiene programs, the HHSAF scores of the NHO hospitals in the Kanto-Shinetsu region are low. Sharing the scores and the provisions of each hospitals, may enhance the hand hygiene inititatives of in this group.

Disclosure of Interest
None declared.

P1078

Impact of a hand hygiene promotion program on infection risk control in pediatric oncology

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Introduction: Hand hygiene represents the primary preventive measure against healthcare-associated infections (HAIs) in hospital environments. Its promotion is a strategic priority within the infection control program established in pediatric hematology and oncology units.
Objectives: The aim of this study is to evaluate the impact of a hand hygiene promotion initiative on compliance rates and the management of infection-related risks.
Methods: This prospective study was conducted over a two-year period in a pediatric oncology ward with 22 beds. The project was implemented following the Plan-Do-Check-Act (PDCA) cycle, also known as the Deming wheel. The initial phase involved a diagnostic assessment focusing on available resources, staff knowledge, and hand hygiene compliance. Data collection tools validated by the World Health Organization (WHO) were employed. Based on this assessment, an improvement plan was developed and implemented. The third phase centered on evaluating the outcomes of the intervention, using indicators such as hand hygiene compliance rates, HAI incidence, the cost of hygiene supplies relative to antibiotic expenditures, and the number of recorded deaths. The final phase allowed for reassessment and refinement of the improvement strategies.
Results: The initial audit showed low hand hygiene compliance (20%) and high HAI incidence (20/1,000 patient-days), with notable deficiencies in resources and staff training. After implementing targeted corrective actions, compliance improved to 52%, alcohol-based hand rub became the preferred method, and HAI incidence decreased to 15.8/1,000 patient-days.
Conclusion: The hand hygiene promotion initiative had a demonstrable positive impact on infection control, evidenced by improved compliance with hand hygiene practices and a reduction in the incidence of HAIs. These improvements were made possible through the commitment of healthcare personnel and the support of unit and institutional leadership.

Disclosure of Interest
None declared.

P1080

Human factors of hand hygiene in hospitals: a rapid review

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Introduction: Human factors science examines human performance with the aim of optimizing individual safety and overall system performance.
Objectives: To summarize literature about human factors as it relates to hospital hand hygiene.
Methods: Three databases were originally searched: Medline, Embase, EconLit. A human factors engineer was consulted, and the search was expanded to 4 more databases: Cochrane, BMJ Quality, Human Factors, Google Scholar. Literature was limited to publications in English from 1999-2025 that included human factors related to hand hygiene in hospitals. Studies in pediatric settings were excluded. Evidence was reported by PRISMA guidelines, and in accordance with the Systems Engineering Initiative for Patient Safety (SEIPS) model.
Results: A total of 590 articles were screened. Human factors were identified across 24 articles published in 7 countries from 2002-2024. There were 30 heterogeneous human factors organized into the SEIPS model (Fig. 1). The SEIPS model provided a structured lens for how human factors fit into five domains of the work system (organization, environment, person, task, and technology/tools). Human factors were used to understand people in the system, design infrastructure that made it easier to perform hand hygiene, automated data collection about hand hygiene compliance in real time, and influenced behavior without human intervention. For complex work systems, multimodal interventions were more impactful than single-domain interventions.

Human factors reframed non-compliance of hand hygiene as a signal of system faults, rather than individual errors.
Conclusion: Human factors can be used to transform the work environment of nurses. The existing literature informs hospital designs of hand hygiene infrastructure to support safer patient care.

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Work System Domains	Human Factors (n=30)
Organization (n=7)	Latent failures; Institutional safety climate; Compliance campaigns; Social cohesion; Administrative support; Multimodal interventions; Consult human factor engineers
Environment (n=6)	Ergonomic design; Placement convenience; Reduce complexity; Workflow efficiency improvements; Available supplies; Modify visual cues
People (n=9)	Cognitive load; Heuristic evaluations; Mental models; Error types (routine, situational, exceptional, erroneous); Training; Education; Feedback; Professional responsibility; Role models
Task (n=5)	Infection risk moment (IRM) inventories; IRM risk ratings; Task analysis; Card sorting methods; Fit-for-purpose criteria
Technology/tools (n=3)	Innovations such as internet applications; Automated hand hygiene monitoring systems; Behavioral nudges

Based on the *Systems Engineering Initiative for Patient Safety (SEIPS) model* (Carayon, 2006)

Fig. 1 (abstract P1080). Human Factors of Hand Hygiene in the SEIPS model

P1082

Strengthening hand hygiene compliance through positive reinforcement and multimodal engagement: a targeted campaign at a tertiary care center

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Introduction: Hand hygiene (HH) remains the most effective and simple measure to prevent healthcare-associated infections. Despite global awareness campaigns, compliance among hospital staff often remains suboptimal mainly for duration of hand rubbing. In May 2025, a targeted, positive-reinforcement campaign was launched at The American University of Beirut Medical Center in recognition of the World HH day, to enhance awareness, engagement, and adherence.
Objectives: To promote a culture of safety and accountability by embedding proper HH into routine clinical practice through behavior-based interventions
Methods: The Infection Control (IC) team designed a multifaceted action plan focused on positive reinforcement and behavior-based strategies. Highlights of the campaign were on social media (Fig. 1) and included:
1. Placement of new HH posters at nursing units and patient room doors
2. Broadcast of a video highlighting the impact of missed HH moments, shown during grand rounds, conferences and various meetings
3. Deployment of trained IC champions across units to provide encouragement and monitor compliance
4. Targeted celebrations on May 5, including educational booths, photo frames, quizzes, and multiple giveaways e.g. pocket size alcohol-based solution bottles
5. Share pre- and post-intervention of unit-specific HH compliance data
Results: Following the campaign, HH compliance is scheduled for reassessment, with focused monitoring in high-risk units. Initial feedback indicated improved staff motivation and strong support for the non-punitive approach. Medical teams reported that visual prompts and video content were especially impactful in reinforcing behavior. The video was positively received and was requested for continued use in orientation and educational sessions.
Conclusion: This campaign demonstrated that positive reinforcement, visual messaging, and targeted unit-based celebration can meaningfully enhance HH culture. Embedding the HH message in daily practice and reinforcing it with repetitive reminders rather than penalties raised a stronger sense of accountability and safety. These findings support the implementation of behaviorally focused interventions as part of sustained HH improvement strategies in hospitals.

Disclosure of Interest
None declared.

Fig. 1 (abstract P1082). See text for description

P1083

Effectiveness of a multimodal strategy on healthcare workers' knowledge and compliance on hand hygiene in a university hospital in Tunisia

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Introduction: The World Health Organization (WHO) multimodal strategy is a globally recognized framework designed to improve hand hygiene (HH) knowledge and compliance among healthcare workers (HCWs).
Objectives: Assess efficacy of WHO multimodal strategy on healthcare workers' knowledge and compliance on hand hygiene in a teaching hospital in Tunisia.
Methods: A quasi-experimental study with a pre- and post-intervention design was conducted. Baseline data were collected over 4 weeks, followed by a 3-month intervention period and a 4-week post-intervention assessment. To assess knowledge, a Validated WHO questionnaire was used on pre- and post-intervention (scores: 0–100%). To assess HH compliance, the WHO"Five Moments"framework observation was used. Chi-square tests evaluated categorical variables. A p-value < 0.05 was considered statistically significant

Results: Knowledge of major causes responsible for healthcare associated infections passed from 34% to 40.3%,(p = 0.19). Awareness of recommended duration of Alcohol-based hand rub or soap and water increased globally (41.8% VS 49.3%,p = 0.29). Concerning HH compliance, global rate significantly increased from 19.9% to 23.6% (p < 10-3). Whereas, the HH compliance rate with optimal respect of the prerequisites was marked by a slight drop overall (from 37.2% to 35.5%, p = 0.12)), and this drop was particularly noticeable among physicians (from 42.2% to 39.4%).
Conclusion: This study did not conclude on the efficacy of WHO HH strategy on HCWs knowledge. Whereas, a significantly increased HH compliance rate was globally observed.

Disclosure of Interest
None declared.

P1085

Clean hands save lives: improving hand hygiene amongst doctors

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Introduction: Infection Prevention and Control (IPC) is vital to preventing Healthcare-Associated Infections (HCAIs) and limiting antimicrobial resistance. At a large tertiary NHS Trust in West London, hand hygiene (HH) was identified as a key patient safety priority. Audit data showed consistently lower HH compliance among doctors compared to other staff. In response, a dedicated workstream was launched to improve doctors'HH compliance, aligned with WHO guidelines and embedded in the Trust's wider Quality Improvement (QI) programme.
Objectives: To improve HH compliance among doctors by promoting continuous learning, behaviour change, and a culture of safety through targeted QI initiatives. The project aimed to explore barriers to HH compliance and to co-design and trial specific change ideas to address these.
Methods: In November 2024, a Trust-wide QI project was launched by a multidisciplinary team (MDT), including patient safety staff, IPC consultant, infection control teams, resident doctors (RDs), and consultants. Using convenience sampling, 18 RDs from various specialties were recruited to lead eight QI projects.
The structured process included:
- Training RDs as HH auditors
- Collecting HH compliance data from medical peers
- Matching RDs with consultant mentors
- Providing ongoing coaching in QI methodology

Insights and learning from the QI projects were captured and analysed using thematic analysis, and findings were shared across local clinical teams. Change ideas based on identified barriers are currently being trialled.
Results: Thematic analysis revealed several key barriers to HH compliance among RDs, including:
- Lack of role modelling by consultants
- Limited training and education on HH
- Time pressures and workflow disruption
- Overuse or inappropriate use of gloves
- Perceived low priority of HH within medical culture

Change ideas currently being trialled include:
- Consultant led role-modelling initiatives
- Targeted HH training packages for RDs
- Workflow integrated reminders and visual prompts
- Peer-led feedback and accountability strategies

Conclusion: By coordinating systematic QI work, this project engaged RDs to identify specific HH barriers and implement targeted interventions. It strengthened ownership, collaboration and feedback, laying the foundation for sustainable improvement. Early successes are being built on, with plans for recurring HH training already in progress.

Disclosure of Interest
None declared.

P1087

Factors influencing hand hygiene quality in functional units

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Introduction: Hand hygiene is a crucial measure in preventing healthcare-associated infections. Despite an increasing number of hygiene surveillance programmes, blind spots remain, particularly in functional units like delivery or operating rooms and surgical outpatient clinics, where invasive procedures are common and high-quality hand disinfection is important.
Objectives: This study aimed to investigate hand hygiene performance in functional units using an electronic monitoring system (EMS) and to explore factors influencing hand hygiene behaviour.
Methods: We analysed data on disinfectant volumes per disinfection from an EMS installed in all functional units (endoscopy, delivery room, surgical outpatient clinic and operating room) of a German hospital from 2019 to 2022. The EMS tracked hand disinfections performed by staff members, categorised by profession (midwives, nurses, and doctors). These data were evaluated in light of the COVID-19 pandemic and regular hand hygiene feedback interventions, which had a focus on ward performance, not functional unit performance.
Results: Of the 1,193,738 recorded hand disinfections; 502,031 were associated with staff badges. Midwives in endoscopy used the least, less than 2 mL per hand disinfection, and doctors in endoscopy used the most disinfectant per disinfection, more than 3 mL per hand disinfection. The COVID-19 pandemic led to an increased use of disinfectant per disinfection during the first two waves, followed by a decrease during the third wave, with volumes finally stabilising above pre-pandemic levels during the fourth to sixth waves. Feedback interventions that were not specifically designed to improve behaviour in functional units did not significantly affect behaviour in functional units. Interestingly, healthcare workers performing similar tasks, such as those involved in surgical procedures, or those working closely together, showed similar use of hand disinfectant.
Conclusion: Hand hygiene in functional units is critical and influenced by many factors, yet remains under-researched. Our findings suggest that targeted interventions, specifically tailored to these high-risk areas, are essential to reduce healthcare-associated infections. Future research should focus on developing effective strategies to improve hand hygiene practices among healthcare workers in functional units.

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P1089

Hand hygiene and patients' participation

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Introduction: Hand hygiene (HH) has been considered the most important measure to reduce the transmission of microorganisms in health services for many years. This practice is recognized above all as a simple, effective and cost-effective way to reduce healthcare associated infections (HAIs) by international agencies such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) is known. Various interventions have been effective in improving hand hygiene, including the patients' participation in hand hygiene by health care workers.
Objectives: The main goal of this study was to involve patients and their companions in hand hygiene and to remind healthcare workers of this important issue.
Methods: This cross-sectional study was conducted in Akbar Children's Hospital of Mashhad in a period of one month in 2024. After obtaining the consent of the hospitalized patients and their companions, the hand hygiene educational package containing hand rub and short educational videos was given and they were asked to thank the health care workers (HCWs) for hand hygiene and remind them of this importance (regardless of whether that person washed their hands in their presence or not). Then, on the 1st-3rd day after hospitalization, the participation of patients and their companions in the field of hand hygiene reminders was evaluated. Data was entered into SPSS software version 26 and analyzed.
Results: Out of a total of 177 participants in this project, only 29% had warned patients about hand hygiene. Also, 13% believed that the health care workers took care of their patients without observing hand hygiene. Despite the training, only 30% had reminded HCWs about hand hygiene by thanking them for washing their hands. 122 people (69%) listed the most important reason for not notifying the HCWs, the observance of hand hygiene by the personnel themselves.
Conclusion: In this research, less than half of patients'companions participated to remind the health care workers about hand hygiene. More effective training and wide awareness in this field seems necessary.

Disclosure of Interest
None declared.

P1093

From culture to practice: workplace safety climate and needlestick injuries reporting among nurses

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Introduction: Safety climate is the perception of employees about the importance of safety in organizations. Positive safety climate reduces occupational hazards among healthcare workers and improves patient safety. Needlestick injuries are a recognized occupational hazard for nurses posing serious health consequences. Underreporting of such injuries is considered a major problem in healthcare settings.
Objectives: This study aims to assess workplace safety climate, needlestick injury occurance and underreporting among nurses in primary health care centers.
Methods: This cross-sectional study was conducted on 290 nurses working in primary healthcare centers in Ismailia city, Egypt. A mutistage sampling was used to enroll participants. Data was collected using an interview-structured questionnaire includes three sections: sociodemographic data, workplace safety climate assessed by a validated safety climate questionnaire composed of 7 dimensions and last section was related to needlestick injury episodes and reporting.
Results: Among the studied nurses, 70% were female with an average age of 36.30 ± 8.69 years. Regarding safety climate dimensions, the means of leader safety commitment, safety communication, safety training, coworker safety practices, safety equipment and housekeeping, safety involvement, and safety rewards score were 24.19 ± 2.60, 16.08 ± 1.97, 15.85 ± 2.30, 15.87 ± 2.13, 15.83 ± 2.19, 15.84 ± 2.31, 15.60 ± 2.43; respectively. Mean of the total safety climate score was 119.25 ± 12.4, representing 79.5% of the maximum score. With regards to needlestick injuries, 86.2% of nurses indicated that they did not have any needlestick injury in the last 12 months. 64% of nurses stated that they never report any needlestick injury. Half of nurses identified that believing the source is not infectious is the reason for not reporting.
Conclusion: Although the safety climate score indicates positive safety climate among nurses, there is a need for targeted interventions and regulare mointoring of safety climate dimensions to improve dimensions with lower scores which will advance healthcare setting environment. In addition, underreporting of needlestick injuries is still prevalent. So, strengthening the practice of needlestick injuries reporting will contribute to early prevention of infection among nurses.

Disclosure of Interest
None declared.

P1095

Effectiveness of a national simulation-based training program on central venous catheter insertion and maintenance knowledge in Israeli hospitals

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Introduction: Central line–associated bloodstream infections (CLABSIs) are a leading cause of morbidity and mortality in hospitalized patients. Proper aseptic insertion and maintenance of central venous catheters (CVCs) are essential to CLABSI prevention.
Objectives: We evaluated whether a nationwide simulation-based training (SBT) program improves healthcare professionals' knowledge and departmental readiness for aseptic central venous catheter (CVC) insertion and maintenance.
Methods: From January 2019 to March 2020; 26 Israeli hospitals deployed mobile-classroom SBT. Participants: 550 physicians and 450 nurses trained in CVC insertion; 700 nurses in CVC maintenance. Four validated instruments measured (1) pre-simulation knowledge, (2) post-simulation knowledge, (3) learner satisfaction, and (4) local equipment availability. The primary outcome was the change in mean knowledge score. Subgroup analyses compared hospital size (large $\geq$ 500 beds; moderate 200–499; small < 200) and department type (ICU, medical, surgical, ER, other). Paired t-tests and χ^2 tests; $p < 0.05$ was significant.
Results: All groups showed significant gains ($p < 0.001$) (Table 1). Baseline insertion knowledge was higher in large hospitals and ICUs than in small/internal-medicine wards ($p < 0.05$). Personal protective equipment (PPE)-inclusive CVC kits and disposable disinfectant wipes correlated with higher pre-training scores ($p < 0.01$).
Over 80% of participants rated the insertion simulation as highly satisfactory, and 75–90% gave top satisfaction scores for the maintenance simulation.
Conclusion: A national SBT initiative markedly improved CVC insertion and maintenance knowledge among physicians and nurses.

Ongoing training and targeted resource allocation—particularly in smaller hospitals and internal-medicine departments—are recommended to standardize best practices and reduce CLABSI risk.

Disclosure of Interest
None declared.

Table 1 (abstract P1095). Mean Knowledge Scores for CVC Insertion and Maintenance Pre- and Post-Simulation

Intervention	Participants (N)	Pre-training mean (%)	Post-training mean (%)	Δ (%)	p-Value
CVC insertion – physicians	**432**	**68.2**	**86.8**	**18.6**	**< 0.001**
CVC insertion – nurses	**374**	**61.8**	**88.3**	**26.5**	**< 0.001**
CVC maintenance – nurses	**619**	**78.2**	**94.6**	**16.4**	**< 0.001**

P1096

Perceptions of ipc professionals and healthcare workers on who's multimodal strategy: insights from a self-assessment survey in Türkiye

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Introduction: The implementation of the World Health Organization's (WHO) multimodal (MM) strategy is crucial for streghtening infection prevention and control (IPC) programs globally. In Türkiye, the Ministry of Health (MoH) has prioritized structured IPC initiatives since 2006 and adopted the MM strategy for enhancement since 2018.
Objectives: To evaluate and compare the perceptions of IPC professionals and healthcare workers (HCWs) regarding the effectiveness of the MM strategy.
Methods: A self-assessment survey addressing 5 MM components was distributed to IPC professionals and HCWs.
Results: Among 102 IPC professionals responding, 12 (11.8%) were male, 31 (30.4%) were infection control physicians, and 71 (69.6%) were nurses, with an average career span of 19.8 ± 9.5 years. University hospitals were the most represented (31.4%), with institutions averaging 6.1 ± 8.0 IPC nurses. Notably, 98% had Infection Control Committees, and 88% conducted quarterly meetings. Training in effective communication techniques was reported in 85.3% of institutions, and 55.9% of participants received annual training. While IPC professionals employed effective communication techniques, they expressed concerns about inconsistent implementation of IPC measures. Participants generally acknowledged progress in educational methodologies, monitoring, and feedback systems, with most agreeing these measures were adequate. However, despite a satisfactory perception of the corporate security climate, respondents emphasized the need for greater support for attending congresses and symposiums about IPC. A survey on healthcare workers'perceptions of the MM strategy is currently going on and will be presented at the congress, alongside a comparison with the perceptions of IPC professionals.
Conclusion: These findings underscore the need to bridge gaps in IPC measure implementation and foster opportunities for professional development to further strengthen IPC practices in Türkiye.

Disclosure of Interest
None declared.

P1097

Establishing an infection control system to promote the proper use of respiratory protective equipment

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Introduction: Proper use of respiratory protective equipment (RPE) is crucial for the prevention and control of respiratory infectious diseases.
Objectives: In response, we supplied appropriate RPE to healthcare personnel (HCP) and developed an infection control system aimed at improving correct usage.
Methods: To develop the system, we first assessed the types of RPE in use, the implementation of fit testing, and the training status of HCP. Initially, only one type of RPE, the KM95 (a Korean-manufactured equivalent of N95), was distributed across the institute. The proportion of HCP in high-risk departments who had previously undergone fit testing was notably low (1.5% in 2022 and 1.2% in 2023). Based on these results, the Subcommittee on Tuberculosis Exposure Response identified target departments with elevated risk of airborne transmission and high RPE utilization such as negative pressure isolation unit and the emergency room. Fit testing was conducted for HCP in these departments. Educational videos and leaflets on proper usage and fit testing procedures were developed to enhance adherence.
Results: Between September 2024 to April 2025, fit testing was conducted for HCP, with a completion rate of 59.8% among targeted staff. Fit test pass rates differed by respirator type: N95 cup-shaped (69.2%), N95 folding (90.9%), and KM95(64.6%). Among participants, 97.9% achieved an adequate fit with at least one respirator type. To improve fit optimization, two additional respirator models were introduced, allowing HCP to select the most suitable type. Training was offered in multiple formats, including on-demand and department-specific session, and promotional materials were provided to those who completed training. A management system was implemented, using fit test completion rates as a key performance indicator.
Conclusion: Ensuring proper RPE use among patient-facing HCP is essential for preventing respiratory infections. A structured management system that includes targeted fit testing, diversified respirator options, and comprehensive training is critical for sustaining effective respiratory protection practices.

Disclosure of Interest
None declared.

P1101

Knowledge, attitudes, and use of chemical disinfectants among university students

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Introduction: Improper use of disinfectants can pose health risks and contribute to the development of antimicrobial resistance. Recent

studies, particularly in the aftermath of the COVID-19 pandemic, have highlighted persistently low levels of knowledge and unsafe practices. Specific data on the Italian population is lacking, especially among university students.
Objectives: The aim of this study was to assess knowledge, attitudes, and practices (KAP) regarding the use of disinfectants among students enrolled in both health-related and non-health-related degree programs at Sapienza University of Rome.
Methods: A cross-sectional study was conducted in April 2025 using a KAP questionnaire administered to a convenience sample of Sapienza University students. The questionnaire included 26 binary-scored items. Descriptive statistics were employed to summarize the sample characteristics and participants' responses.
Results: A total of 281 university students participated in the study (median age: 20 years; 70.4% females). Most respondents were unmarried (87.9%), unemployed (84.0%), resided in Rome or surrounded areas (66.9%), and lived with their family of origin (64.8%). More than half of the students were enrolled in health-related degree programs (47.7% in Medical School and 8.2% in other health fields), while the remaining participants were enrolled in STEM degrees (33.8%) or in the humanities (7.1%). The mean knowledge score was 5.3 ± 1.8 (out of 10), the attitude score was 6.5 ± 2.3 (out of 10), and the practice score was 2.8 ± 1.3 (out of 6). Only 29.2% of respondents reported using reliable sources of information on the topic, while 27.1% reported using none. A large majority (92.5%) of respondents reported that the COVID-19 pandemic had influenced their use of disinfectants. Regarding self-assessed knowledge, 53.7% considered themselves poorly informed, 44.1% sufficiently informed, and only 2.1% believed they had optimal knowledge.
Conclusion: These preliminary findings reveal important gaps in knowledge and practice concerning disinfectant use among university students. The study underscores the need for targeted educational interventions, particularly in promoting evidence-based practices and access to reliable sources of information.

Disclosure of Interest
None declared.

P1103

Innovating infection prevention training: evaluating the impact of active learning in large groups

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Introduction: Lecture-based teaching remains common in initial healthcare training, especially for large groups, despite its limited impact on skill development. To address this, an interprofessional team redesigned a 1-day infection prevention course for nearly 300 s-year students in medicine, midwifery, and dentistry into a 1.5-day session incorporating active learning strategies, plenary activities, and small-group workshops.
Objectives: The objective of this study was to evaluate the impact of active learning strategies on students' self-efficacy, satisfaction, and knowledge as trainers'statisfaction.
Methods: A before-after study was conducted in 2023 (T0, $n = 350$) and 2024 (T1, $n = 302$). The participation rates were 83% and 88%, respectively. Student self-efficacy was assessed before and after the course using a 49-item Likert-scale questionnaire (0–10). Satisfaction was measured through a 14-item post-course survey, and knowledge through a 20-question interactive quiz. Trainers provided qualitative feedback. Quantitative data were analyzed using Student's t-test ($\alpha = 0.05$).
Results: Pre-course self-efficacy scores were comparable across cohorts (mean T0: 3.3 vs 3.4; $p = 0.64$). After the course, scores significantly improved (mean T1: 8.1 vs 8.4; $p = 0.03$). Gains were more pronounced for items addressed in workshops—for example, glove removal (T0: 4.4 vs 4.5; $p = 0.10 \rightarrow$ T1: 8.2 vs 9.5; $p < 0.01$). Student satisfaction increased in 9 of 14 items, particularly regarding course rhythm (6.6 vs 7.9; $p < 0.01$), duration (7.2 vs 8.1; $p < 0.01$), and alignment of methods with objectives (7.9 vs 8.5; $p < 0.01$). The average quiz score was 67.3%. Trainers highlighted the quality of interactions and the value of the interprofessional format.
Conclusion: Incorporating active learning in large-group infection prevention training significantly improved student self-efficacy and satisfaction ($p < 0.05$). This approach fosters greater engagement and skill development and should be promoted across healthcare education, in both initial and continuing training.
Key words Interprofessional education, Active learning; Health professions students; Team-based learning; Educational innovation

Disclosure of Interest
None declared.

P1104

The impact of the course on the prevention of healthcare-associated infections for Tuscan healthcare professionals: results of one-year of training

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Introduction: As part of the National Recovery and Resilience Plan, the Tuscany Region (RT), in collaboration with the Regional Laboratory for Health Training (FORMAS), launched a training program on the prevention of healthcare-associated infections (HAIs), targeting 20,000 healthcare workers (HCWs). RT included an impact assessment, focusing particularly on changes in HCWs' knowledge, attitudes, and behaviors.
Objectives: The impact assessment will focus on the variations in pre- and post-training scores to evaluate changes in attitudes and knowledge.
Methods: The training program had e-learning and interactive in-person session (14 h). Two different questionnaires were administered: before (T0) and at the end (T1) of the training. They include assessment areas that define a KAP (Knowledge, Attitude, and Practice) framework.
Results: In 2024, a total of 12,039 questionnaires were collected. The HCWs were 78.2% women, with an average age of 47 years. The study group was composed by nurses (54%), physicians (17%), healthcare assistants (14%), midwives (3%), and others (12%). The perception of responsibility for the prevention of HAIs (attitude) and the self-efficacy increased. Regarding knowledge of HAI prevention practices and procedures (capability), the awareness about antimicrobial resistance (from 70.2% to 89%) and the knowledge of multimodal HAI prevention strategies (from 49.5% to 86.9%) increased. In the area of behaviors (practices), the HCWs that use gloves to touch patients'intact skin decreased (−21%), while the HCWs that performe hand hygiene before donning non-sterile gloves increased (+8%). There was also an increase in the HCWs who dedicate time to educating/training patients (or caregivers) on HAI prevention practices (+6.4%). No significant changes were observed regarding barriers to hand hygiene.
Conclusion: The results on the impact of the training program on HAIs show an increase in HCWs' knowledge, attitudes, and behaviors. The progressive collection of questionnaires will allow for a more in-depth analysis of the impact.

Disclosure of Interest
None declared.

P1105

Evaluating the impact of certification in infection control (CIC) on professional development and infection prevention practices in the middle east

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Introduction: The Middle East (ME) faces persistent infection prevention and control (IPC) challenges, including suboptimal staff competency and fragmented IPC data. Strong IPC programs require well-trained, certified personnel, yet several ME countries fall short of global standards. To address this, the CIC Academy was launched in 2017 to prepare professionals for Certification in Infection Control (CIC), making the ME the region with the highest number of CIC-certified infection preventionists (IPs) outside North America. This study evaluates CIC's impact on professional growth, competency, and healthcare outcomes while identifying barriers and opportunities to strengthen IPC capacity.
Objectives: Assess professional development of certified IPs and identify benefits and challenges in the certification process.
Methods: A cross-sectional survey was conducted among CIC-certified IPs in the ME (n = 282), with responses from 168 (60%) trained via the CIC Academy (2017–2024). A structured questionnaire captured demographics, outcomes, impacts, and challenges.
Results: Respondents were mostly female (69%), aged 40–49 (45%), and based in Saudi Arabia (66%), with over 10 years of healthcare experience (64%). Post-certification; 73% assumed leadership roles, though only 31% said CIC was highly valued by employers, and formal career or financial incentives were limited (54%). Reported outcomes included enhanced confidence (73%), career advancement (56%), and IPC improvements (44%). Peer discussions (77%) and practice exams (62%) were key supports, while time constraints (84%) and cost (57%) were top barriers. CIC certification was seen to improve guideline adherence (90%), reduce infections (85%), and strengthen training (79%). Financial support, like employer sponsorship (62%) or government aid (57%), was viewed as critical to expand access.
Conclusion: CIC certification strengthens IPC competency, leadership, and healthcare outcomes in the ME. The CIC Academy has driven regional improvements and global recognition. Addressing barriers like time, support, and cost is essential to sustain progress and build a resilient, skilled IPC workforce.

Disclosure of Interest
None declared.

P1106

Improving comprehension of 25 infection prevention words at B1 language level: rewording and testing with low-literacy participants

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Introduction: In the Netherlands, one in three people has limited health literacy, and one in five struggles with reading and writing. This hinders the understanding and application of health-related information, such as infection prevention guidelines.This project aimed to improve comprehension by simplifying 25 commonly used infection prevention words to B1 language level, with example sentences and supporting illustrations.
Objectives: To evaluate the comprehensibility of 25 infection prevention words, their B1-level explanations, example sentences and illustrations.
Methods: Six hospitals analysed114 patient letters and 120 brochures to identify 25 frequently used infection preventions words. For each, a B1-level explanation and example sentence were developed, along with 42 illustrations to support the explanations. Some words had multiple illustrations (e.g., apron, hand hygiene, swab). Comprehensibility was tested through structured interviews with four individuals with low literacy skills. The test involved describing the illustrations, checking understanding through a teach-back method for the explanations and example sentences, and assessing whether the text and images matched. Feedback prompted revisions if at least two participants had difficulty with a word, sentence, or image. Some elements were retested.
Results: Of the 25 words, 14 explanations, 11 example sentences, and 25 of 42 illustrations were accepted in the first round. Some words were unreadable to at least one participant. Based on feedback, 11 explanations, 14 example sentences, and 17 illustrations were revised. Two illustrations were retested. For "resistant" and "multidrug-resistant microorganism," all illustrations remained unclear after three rounds and were removed. For 19 words, the original term was omitted in favor of just the explanation. Figure 1 shows a flowchart of the evaluation process.
Conclusion: A toolkit was developed with 25 infection prevention words, each with a B1-level explanation, example sentence, and for 23 words, one or more illustrations. Testing revealed that 19 of the 25 original terms were not understood by participants, highlighting the challenges faced by individuals with low literacy in interpreting medical information and communicating with healthcare providers.

Disclosure of Interest
None declared.

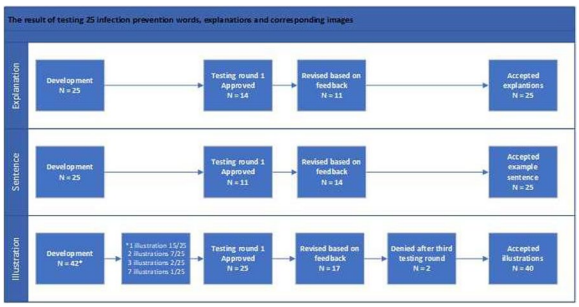

Fig. 1 (abstract P1106). See text for description

P1108

Understanding health literacy regarding antimicrobial use: a mixed-methods study

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1108

Introduction: Health literacy refers to the ability to access, understand and use information to improve health status.

Objectives: This study aims to assess the health literacy of primary care patients and explore their understanding of, and access to, information on the appropriate use of antimicrobials.
Methods: A mixed-methods study was carried out with primary care patients in the city of São Caetano do Sul, Brazil. Quantitative data was collected using the Health Literacy Test (HLT), which results were subjected to an exploratory descriptive analysis. The questionnaire included socio demographic information and 15 questions related to the understanding of medicine prescription. Responses were scored as correct or incorrect. Qualitative data, collected through focus groups (FG) held during an educational event related to AMR for the local population, were submitted to discourse analysis.
Results: Twenty-eight participants were included, mostly women with a high school education. Overall, the participants demonstrated a high level of health literacy.The average score in the HLT was 8 out of 15 (53.3%). In the FG, participants showed awareness of proper medicine disposal but admitted to not practicing it. Learning about environmental contamination from improper disposal prompted many to reconsider their habits. Those with frequent infections emphasized the importance of following prescriptions, while others reported stopping antibiotics once symptoms subsided, suggesting experience influences adherence.
Conclusion: Participants showed strong health literacy regarding prescriptions. Awareness of the risks of improper disposal and treatment interruption may promote better antimicrobial practices, pointing out the importance of educational strategies to increase health literacy related to AMR.

Disclosure of Interest
M. Rocha Grant/Research support from: Grant USP, L. Britto-Costa Grant/Research support from: Wellcome Trust Grat 226,693/Z22/Z, V. Oliveira Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, M. T. Razzolini Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, F. Nunes Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, E. Manuli Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, G. Xavier Employee of: Health Department, São Caetano do Sul, S. Sigolo Employee of: Health Department São Caetano do Sul, S. Costa Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, A. S. Levin Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z, M. C. Padoveze Grant/Research support from: Wellcome Trust Grant 226,693/Z22/Z.

P1109

Knowledge, attitudes, and practices regarding antibiotic use among adult consultants in frontline health structures in Tunisia: a cross-sectional study

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Introduction:
Antibiotic resistance is a major global health concern, often driven by inappropriate antibiotic use. Understanding the knowledge, attitudes, and practices (KAP) of health service users is essential to guide public health strategies.
Objectives: This study aimed to assess the KAP related to antibiotic use among adult consultants attending frontline health structures in Tunisia.
Methods: A cross-sectional survey was conducted among 150 adult consultants in various primary healthcare centers in Tunisia. Data were collected using the standardized WHO KAP Questionnaire on Antibiotic Use. Descriptive statistics were used to summarize demographic data and KAP responses. Associations between KAP scores and sociodemographic variables were analyzed using chi-square tests and logistic regression.
Results: Of the 150 participants (mean age: 38.6 ± 11.2 years; 54% female), 72% had heard of antibiotic resistance, yet only 45% correctly identified that antibiotics are ineffective against viral infections. Nearly 60% reported stopping antibiotic treatment when symptoms improved. While 68% trusted physicians for antibiotic prescriptions, 28% admitted to obtaining antibiotics without a prescription. Higher knowledge scores were significantly associated with higher education levels ($p < 0.01$).
Conclusion: Despite relatively high awareness of antibiotic resistance, misconceptions and inappropriate practices persist among Tunisian health service users. These findings underline the need for targeted educational interventions and stricter enforcement of prescription regulations to promote rational antibiotic use and combat antimicrobial resistance.

Disclosure of Interest
None declared.

P1110

Exploring public understanding and behavior toward antibiotic use in tunisia: insights from a who-based kap survey

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1110

Introduction: Inappropriate antibiotic use in outpatient settings accelerates antimicrobial resistance, especially in low- and middle-income countries.
Objectives:. This study explores public knowledge, attitudes, and practices toward antibiotics among users of primary healthcare services in Tunisia, to inform national antimicrobial stewardship policies
Methods: A structured, WHO-endorsed KAP questionnaire on antibiotic use was administered to 150 adult patients attending frontline healthcare facilities in Tunisia. The survey assessed participants' understanding of antibiotics, personal attitudes toward their use, and self-reported practices. Data were analyzed using descriptive and inferential statistics to identify behavioral trends and predictors of appropriate antibiotic use.
Results: The survey revealed considerable knowledge gaps and risky behaviors. While 72% had heard of the term "antibiotic resistance," only 39% understood its causes. Misconceptions were widespread: 52% believed antibiotics could treat colds or flu. Notably, 31% reported having used leftover antibiotics without medical advice in the past year. Educational attainment was a significant predictor of both knowledge and responsible practices ($p < 0.01$).
Conclusion::
The findings point to a critical need for health communication strategies targeting misconceptions about antibiotics. Public education campaigns, alongside policy measures to regulate antibiotic dispensing, could significantly reduce misuse. Community engagement through primary care platforms should be a central element of Tunisia's response to antimicrobial resistance

Disclosure of Interest
None declared.

P1111

Reducing percutaneous injuries: can improvement be sustained?

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1111

Introduction: In 2018, 90% out of 20 cases of blood and body fluid exposures (BBFE) among healthcare workers were due to percutaneous injuries, with nurses accounting for 50% of these cases—mainly due to increased deployment. A high risk of exposure was identified among newly hired nurses, related to inadequate education and training on the use of safety-engineered devices (SEDs).
Objectives: To evaluate the effectiveness of targeted interventions in achieving a 75% reduction in percutaneous exposures post-implementation at the end of 2024.
Methods: A comprehensive risk assessment and gap analysis of blood and body fluid exposures (BBFE) events were conducted to identify prevailing gaps in clinical and safety practices. A multimodal approach was developed and implemented as a quality improvement project aimed at driving service-level changes to standardize staff practices. This approach includes primary on ensuring the availability and utilization of SEDs along with integration of education and training of SEDs in the new-hire orientation program. Other strategies include dissemination of BBFE Alert and awareness campaigns were organized to prevent percutaneous exposures and to promote staff safety.
Results: Over a 7-year period (2018-2024); 92.3% (48 cases) out of 56 exposures to blood and body fluids were percutaneous injuries; 12.5% mucous membrane exposures and 1.78% human bite. In percutaneous injuries; 62.5% accounted for needlestick (30 cases) and 37.5% for sharp injuries (18 cases). After the implementation of BBFE preventive measures and training 417 new nurses, we achieved 83.3% reduction on percutaneous exposures in 2024 (3 cases) compared to 2018 baseline data (18 cases). (Fig. 1a) For two consecutive years (2023-2024), the exposure significantly decreased to 75% (5 cases) compared to 2018 indicating a sustained improvement (Fig. 1b).
Conclusion: Implementing a multidimensional approach—shifting from conventional to safety-engineered devices and integrating mandatory training into new-hire orientation—can significantly reduce percutaneous injuries. Continued access to SEDs, follow-up onsite training, open communication, staff commitment, and strong leadership support are key to sustaining improvements and fostering a safe, healthy work environment.

Disclosure of Interest
None declared.

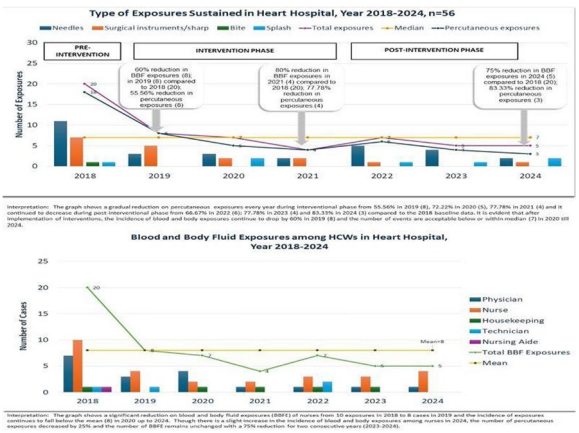

Fig. 1 (abstract P1111). See text for description

P1112

Occupational blood and body fluid exposures among healthcare workers in a tertiary hospital: a one-year review supporting right-siting of post-exposure care

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1112

Introduction: Occupational exposure to blood and body fluids (BBF) poses risks to healthcare workers (HCWs) for bloodborne infections (BBI) such as HIV, hepatitis B, and hepatitis C. Effective management of these incidents requires prompt risk assessment and post-exposure (PE) intervention. Historically, all such cases at our institution were referred to Infectious Diseases (ID) services. In February 2025, a transition was initiated to manage low-risk exposures (LRE) through the Occupational Health (OH) clinic.
Objectives: To assess the management of occupational BBF exposures among HCWs in a tertiary hospital over a one-year period prior to the transition. The analysis of the exposure types and risk profiles evaluates the impact of transitioning LRE from ID to OH services, thereby ensuring prioritisation of high-risk BBF exposure cases are ID-managed and maximising each ID clinic slot. LRE are defined as incidents where the source patient has tested negative for BBI.
Methods: A retrospective review was conducted on BBF exposure incidents reported between May 2024 and April 2025. Data gathered included the HCW's role, source patient serology profile, type of exposure (e.g., needlestick injuries [NSI], mucocutaneous exposure, and bites/scratches), PEP recommendations, and follow-up compliance. Descriptive statistics were applied to identify trends.
Results: The distribution of occupational BBF exposures among HCWs, including incidence rates, exposure types, and PEP recommendations, is summarised in Fig. 1. Doctors had the highest exposure rates, with NSIs being the most frequent incident type. The portion redirected to OH among LRE was 57.14%, resulting in a reduction of ID caseload by up to 62.50%. OH-managed cases demonstrated shorter follow-up periods and faster discharge than the monitoring required for ID-managed cases.
Conclusion: This review highlights the diversity of BBF exposure incidents among HCWs, and redirecting LRE to OH enhances the timeliness of care and healthcare resources. Right-siting efficiency is reflected in the reduction of the projected ID workload. This transition establishes a framework for guiding and reinforcing strategies in occupational exposure management within hospital systems.

Disclosure of Interest
None declared.

Category	Total Cases (n = 109)	Percentage (%)	Incident Rate (per 1,000 staff)
HCW Role			
Doctors	60	55.00	76.859
Nurses	44	40.00	17.206
Allied Health Professionals	4	4.00	3.974
Ancillary Staff	1	1.00	0.625
Exposure Type			
Needlestick Injuries	81	74.00	-
Mucocutaneous Exposure	22	20.00	-
Bites/Scratches	6	6.00	-
PEP Assessment			
Recommended but optional	5	-	-
Optional but not recommended	13	-	-
Not indicated	91	-	-
Follow-Up & Discharge			
Follow-up adherence	52.00%	-	-
ID Follow-Up Duration	3–6 months	-	-
OH Follow-Up Duration	1–2 months	-	-
ID Discharge	3–4 visits	-	-
OH Discharge	1–2 visits	-	-
Right-Siting Impact			
LRE redirected to OH	57.14%	-	-
LRE remained under ID	42.86%	-	-
ID Caseload Pre-Transition	9–16/month	-	-
ID Caseload Post-Transition	4–6/month	-	-
Reduction in ID Workload	55.56% – 62.50%	-	-

Fig. 1 (abstract P1112). Summary of Occupational BFF Exposures Among Healthcare Workers

P1116

Between acceptance and refusal: influenza vaccination uptake among healthcare workers at Khorfakkan hospital

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Introduction: Seasonal influenza vaccination among healthcare providers (HCPs) is essential for infection prevention and patient safety. Despite institutional campaigns, vaccine uptake remains suboptimal in certain settings.
Objectives: This study explores the reasons for both acceptance and refusal of the influenza vaccine among HCPs at Khorfakkan Hospital, UAE.
Methods: A cross-sectional survey was conducted in April 2025 among 244 HCPs at Khorfakkan Hospital. Participants were asked whether they received the influenza vaccine, and reasons for acceptance or refusal were documented. Additionally, vaccinated HCPs were assessed for post-vaccination experience and future vaccination intent.
Results: Among 244 respondents; 56% (n = 136) reported receiving the influenza vaccine, while 44% (n = 108) refused. The top motivator among vaccinated individuals was belief in vaccine effectiveness (84%). Among refusers, the most common reason was concern about side effects (52%), followed by preference for natural immunity (18%) and doubt about vaccine efficacy (10%). Notably; 84% of vaccinated HCPs reported no side effects, and 75% indicated willingness to receive it again next year. Higher trust in vaccine safety strongly correlated with vaccine acceptance, while refusers cited lower trust and greater skepticism.
Conclusion: Understanding the underlying beliefs and conceptual frameworks guiding HCP's decisions regarding influenza vaccination is essential for designing targeted interventions. Addressing misinformation, enhancing policies, and fostering a culture of vaccine advocacy may significantly improve uptake rates among healthcare providers.

Disclosure of Interest
None declared.

P1117

Evaluation of the level of immunoglobulin B antibodies of selected infectious diseases in healthcare workers of high-risk departments at 400-bed acute care hospital

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Introduction: Medical staff come into close contact with the most vulnerable patient population on a daily basis, such as newborns, whose immune systems are immature, and in whom exposure to certain pathogens can develop an infectious disease with a serious course, which can end in death. A similar situation applies to pregnant women.
Objectives: Aim of the study was to quantify the percentage of employees with a non-protective levels of immunoglobulin G antibodies against selected infectious diseases such as:morbilli, parotitis, rubella, pertussis, varicella zoster virus (VZV), hepatitis A and B virus, working in departments providing health care to newborns and pregnant women. These healthcare professionals come into close contact with the vulnerable patient population on a daily basis, whose immune systems are immature, and in whom exposure to certain pathogens may develop an infectious disease with a severe outcome.
Methods: In the period of one month, serological examination of the levels of IgG antibodies was carried out in a total of 143 (100%) employees representing either medical or nursing department, who come into regular contact with patients admitted to labor and delivery unit and neonatal intensive care unit. Results marked as negative IgG levels were interpreted as non-protective levels of IgG antibodies. IgG resutls marked as positive were interpreted as protective levels of IgG.
Results: Of the total number of examinees 143 (100%),non-protective levels of IgG antibodies against hepatitis A virus showed 80 (56%) of employees,hepatitis B 33 (23%),VZV 3 (2%), parotitis 15 (10%),measles virus 43 (30%),rubella virus 21 (15%) and bordatella pertussis toxin 136 (95%).
Conclusion: This study points to the necessity of a more detailed initial health screening of hiring employees,which, however, is currently not anchored in Slovak legislation. Assuming similar results would be found in other Slovak health care facilities, the results also point to the presence of a real threat of an infection outbreak in health care facilities caused by highly contagious pathogens, which are returning to communities due to the decreasing trend of paediatric population vaccination, such as the measles virus with a serious impact on the health of newborns and pregnant women.

Disclosure of Interest
None declared.

P1118

Correlation and persistence of anti-spike RBD IGG and neutralizing antibodies after vaccination among moderate or high-risk contacts with confirmed covid-19 patients

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Introduction: During the early COVID-19 pandemic in Thailand, local policy suggested 14-day quarantine of exposed healthcare workers(HCW) which resulting in staff shortage. The correlate of protection(CoP) level has not been established to guide the need of quarantine by antibody level.
Objectives: The study airmed to assess the correlation and persistence of anti-spike receptor-binding domain (RBD) IgG and neutralizing antibodies following 2 doses of CoronaVac vaccine followed by either ChAdOX-1 NCoV-19 or BNT162b2 in HCW who exposed to COVID-19 cases. The study also aimed to identify CoP level using anti-spike RBD IgG surrogate virus neutralization test (sVNT).
Methods: HCW who (1)received two doses of the CoronaVac vaccine followed by a booster dose of either ChAdOX-1 NCoV-19 or BNT162b2, and (2)exposed to COVID-19 and required 14-day quarantine and nasopharyngeal swab at 7-14 days after exposure were included. Blood were collected at baseline and 24 weeks after booster dose to measure anti-spike RBD IgG and sVNT. The relationship between these antibodies was assessed using Pearson's correlation.
Results: Among the 40 HCW; 31 were female, mean age was 33.7 years, and 25 received BNT162b2 vaccine as booster. A moderate positive correlation was found between anti-spike RBD IgG and sVNT levels both at baseline and at a 6-month follow-up ($r = 0.45$, $p = 0.0039$). Over 6 months, anti-spike RBD IgG and sVNT levels declined by 60% and 7.9%, respectively. Booster dose with BNT162b2 showed higher anti-spike RBD IgG (mean(SD) 10,156.53(1,117.92) vs 8,125.31(1,856.09) AU/mL), sVNT (mean(SD) 97.65 (0.18) vs 96.02 (0.98)%), not statistically significant. Two confirmed COVID-19 cases had anti-spike RBD IgG 8547.2 and 6862.6 AU/mL.
Conclusion: The study demonstrates a moderate correlation between anti-spike RBD IgG and sVNT. Booster with BNT162b2 vaccine exhibited higher levels of anti-spike IgG and sVNT compared to ChAdOx1

nCoV-19 vaccine. The study was unable to specify the threshold of protection conferred by either anti-spike RBD IgG or sVNT. This limitation was due to small sample size and low incidence of confirmed COVID-19 cases post-exposure.

Disclosure of Interest
None declared.

P1120

Implementation of an infection prevention and control (IPC) improvement multimodal strategy in 10 greek hospitals

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Introduction: The Agency for Quality Assurance in Health (AQAH SA), and the Center for Clinical Epidemiology and Outcomes Research (CLEO) collaborated to ensure the implementation of the"Panhellenic Program for the Prevention and Control of Hospital-Acquired Infections and Antimicrobial Resistance,"known as GRIPP-SNF and fully funded by the Stavros Niarchos Foundation (SNF).
Objectives: To systematically monitor key indicators, encompassing both outcome and process measures, while implementing processes and interventions that enhance patient outcomes and promote quality and safety of care in daily practice.
Methods: The program's core components include the development of a digital platform for data entry, the dedicated employment of an Infection Surveillance Nurse, a certified IPC program, comprehensive training initiatives, targeted interventions, and the enhancement of cooperation among the ten participating hospitals to achieve mutual objectives. To improve the quality of daily care and achieve sustainability, emphasis was given to the implementation of multimodal interventions such as leadership engagement and commitment, development of effective teams and teamwork, systematic training to the newly established Standard Operating Procedures (SOPs), reminders, regular feedback to the frontline personnel, systematic rounding, recognition of role models, and rewarding pioneers.
Results: Following 37 months of program implementation, a significant reduction in the CLABSI rate has been reported, with 73.1% of participating departments experiencing a decrease ranging from 10 to 25%. Additionally, there has been an increase in hand hygiene compliance, ranging from 10 to 20%. The multimodal interventions with the highest level of adherence were education and training, monitoring and feedback, and rewards, while the lowest level of adherence was reported for rounds and system change.
Conclusion: Although challenges remain in certain areas necessitating further interventions to ensure adherence to multimodal strategies and achieve system change, this approach has demonstrated its validity in producing positive outcomes for IPC.

Disclosure of Interest
None declared.

P1121

Implementation and adherence monitoring of 'respiratory precautions' in a swiss tertiary care center

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1121

Introduction: Following updated 2023 guidance from ECDC and Swissnoso, HUG replaced droplet precautions with respiratory precautions (RP) on 1 November 2023.
Objectives: To describe the implementation and adherence of RP at HUG between November 2023 and March 2025.
Methods: RP mandate single-room isolation or cohorting of patients with suspected or confirmed respiratory infections. In addition to standard precautions, healthcare workers (HCW) must wear a surgical mask upon room entry, and personal protective equipment (PPE) based on exposure risk: FFP2 respirators and eye protection for close/prolonged airways contact or aerosol-generating procedures, and gowns for contact with the patient/close environment. From October 2023 to March 2024, a multifaceted strategy to introduce the change in precautions was implemented for all HCW (n = 9410). This included standardized training, educational materials, a communication campaign, updated signage and prescription order. Two audits were conducted (January–March 2024 and October 2024–March 2025) by infection control nurses to assess RP adherence, evaluating structural components and PPE compliance.
Results: A total of 150 training sessions were conducted for 1967 (21%) HCW and 2913 pocket cards summarizing updated transmission-based precautions were distributed. Among 793 audits conducted, there was high adherence to patient placement and signage (Fig. 1). Availability and suitability of disposal for FFP2 respirators and eye protection were initially low but improved during the second audit (59% and 36%, respectively). Compliance with FFP2 use was 76% while eye protection remained low (38%), potentially due to limited availability and suitable disposal.
Conclusion: A structured, multifaceted strategy—combining training, audits, and feedback—supported the implementation of a change in precautions, achieving high adherence overall. Continued interventions are needed to improve use of FFP2 and eye protection.

Disclosure of Interest
None declared.

	January - March 2024 N (%)	October 2024 - March 2025 N (%)
Respiratory precautions adherence		
Number of audits conducted	342	451
Adequate patient placement	337 (99)	427 (95)
- Single room	180	285
- Shared room (± cohorting)	157	142
Adequate signage on patient room doors	314 (92)	403 (89)
PPE availability and suitable disposal		
- Medical masks	259 (76)	373 (83)
- FFP2 respirators	164 (48)	266 (59)
- Eye protection	78 (23)	163 (36)
- Gowns	319 (93)	399 (88)
PPE compliance		
Number of situations audited*	-	136
Adequate use of PPE **		
Medical masks		100/104 (96)
FFP2 respirators		25/33 (76)
Eye protection		13/34 (38)
Gowns		84/100 (84)

PPE: personal protective equipment
** Situations involving direct observation of HCW entering or caring for patients under respiratory precautions.*
*** Adequate use was defined as the correct application of PPE—whether worn or not—in accordance with respiratory precautions.*

Fig. 1 (abstract P1121). Adherence to respiratory precautions of Hug. January 2024 to March 2025

P1122

Gloves and hand hygiene: lessons from a real-world hospital intervention

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Introduction: Inappropriate glove use undermines infection control and increases costs. The COVID-19 pandemic exacerbated overuse, hindering hand hygiene (HH) compliance. Poor adherence to HH protocols before and after glove use remains a challenge, contributing to healthcare-associated infections. To address this, point-of-care (POCT) glove dispensers were installed at bedsides to provide immediate access during care.
Objectives: To evaluate the impact of point-of-care glove dispensers on glove consumption (GC) patterns and HH.
Methods: A pre-post observational study was conducted at Hospital del Mar, Barcelona. GC was used as a proxy for glove use behavior. HH adherence was assessed through WHO-based direct observations (> 1,000 observations across different departments and shifts). Descriptive statistics and Spearman's rank correlations were used to assess trends in GC and its association with HH adherence over time. Analyses were stratified by department and hospital unit to account for practice variability.
Results: Data collected demonstrated a significant improvement in HH compliance and a decrease in overall GC. The implementation of POCT glove dispensers decreased glove use up to 12% in consumption in some units. Concurrently, HH compliance increased by 12,85% in some units, while other experienced a decrease, indicating varying impacts on infection control practices. A Pearson correlation analysis between GC and HH compliance revealed a weak inverse relationship ($r = -0.226$, $p = 0.123$), suggesting that as glove use increases, HH adherence slightly decreases. Although not statistically significant, this tendency could reflect a false sense of security associated with glove use, potentially leading to lower HH performance.
Conclusion: This intervention allowed for the measurement of glove waste, attributed to poor use post-pandemic. Placing the dispensers at the POCT reinforced proper use and HH practices, as healthcare personnel found it easier to correctly follow the protocols thanks to greater awareness and convenience. Other factors, such as training and unit safety culture, likely play an important role in influencing HH compliance.

Disclosure of Interest
None declared.

P1123

Influence of staff behaviour and infection control practices on catheter-associated urinary tract infection (CAUTI) rates: a multi-hospital audit and intervention study

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Introduction: Catheter-associated urinary tract infections (CAUTIs) remain a significant healthcare challenge, often exacerbated by gaps in staff knowledge and adherence to infection control protocols. This study aimed to identify behavioural and knowledge-related challenges among staff affecting CAUTI prevention in four regional hospitals.
Objectives: To identify compliance rates and gaps in staff knowledge and behaviour regarding infection control practices for CAUTI prevention.
Methods: A mixed-methods approach was employed across four hospitals in the SEHA Al Ain Region. A point prevalence audit of 39 patient records assessed compliance with key catheter care practices, while a staff survey (n = 227) evaluated knowledge, behaviours, and perceived barriers related to CAUTI prevention. Data were analysed to identify compliance rates and knowledge gaps. Following baseline assessment, targeted interventions were implemented and CAUTI rates were monitored before and after the intervention period.
Results: The audit revealed high compliance with some practices (e.g., documentation of catheter indication 96.7%, hand hygiene before/aftercare 90.6%), but substantial gaps in others, notably catheter care plan documentation (63.3%), patient education (58.3%), and use of chlorhexidine (CHG) for periurethral care (59.0%). The staff survey confirmed that, despite high self-reported adherence to guidelines, many staff lacked in-depth understanding of infection prevention objectives and bundle elements. Key barriers included time constraints (27%), poor compliance among peers (25%), and insufficient training (8%). After implementing focused education and continuous monitoring, the regional CAUTI rate decreased from 4% to 0.6%.
Conclusion: This study identified significant gaps in staff knowledge and behaviour regarding CAUTI prevention, despite high reported compliance with infection control guidelines. Targeted education, reinforcement of care bundle objectives, and active staff engagement were effective in addressing these gaps, resulting in a marked reduction in CAUTI rates. Sustained improvement requires ongoing training, regular audits, and a culture of accountability to maintain high standards in infection control practices.

Disclosure of Interest
None declared.

P1124

A reality-check study among 24 European hospitals with high prevalence of multidrug-resistant microorganisms: what progress in preventive measures can be achieved?

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Introduction: The Reverse project is a prospective multi-centre, cluster-randomised, stepped-wedge, hybrid type 2 effectiveness-implementation trial in 24 acute hospitals in four European countries, evaluating the effectiveness of diagnostic stewardship, infection prevention and control (IPC) and antibiotic stewardship programs on antimicrobial resistance. As part of the IPC bundle, participating sites selected, according to their setting, context-appropriate Standard Operating Procedures (SOPs) from the following options: hand hygiene (HH), active surveillance (AS), contact precautions (CPs), environmental hygiene (EH), outbreak investigation (OI) and isolation & cohorting (IC).
Objectives: To describe which and to what extent IPC SOPs can be implemented in 24 European hospitals, using a tailored approach for real-life settings.
Methods: Implementation was monitored via an annual survey and quarterly reviews of process indicators on REDCap. A semi-quantitative score evaluated each SOP by the scope, compliance effort, and

performance outcomes. Statistical analysis were performed using paired t-tests.
Results: In the first year, sites implemented between 1 and 4 SOPs (median, 3). The most frequently implemented were HH (96%), AS (68%) and CP (48%; Table 1). Scope levels for these 3 SOPs was low to medium, while effort and performance ranged from medium to high. Overall, 77% of the sites improved their HHSAF score, with a mean increase of 61 points ($p < 0.05$) over 1 year. Active surveillance also improved over 1 year: mean increase in screenings per 1000 admissions was 115 for CRE ($p = 0.01$), 65.7 for CRAB ($p = 0.05$), and 63.8 for CRPA ($p = 0.08$).
Conclusion: Most hospitals were able to upgrade basic IPC activities within one year. However, the scope and intensity of implementation progressed slowly, underscoring both the potential and the challenges of tailored IPC interventions in high-prevalence settings.

Disclosure of Interest
None declared.

Table 1 (abstract P1124). (abstract P1124) Implementation and scoring of basic IPC components in the first year of intervention in participating hospitals (N = 25)*

IPC Components	Hospitals N (%)	Activity level Median score	Effort Median score	Performance Median score
Hand hygiene	24 (96%)	Medium	Medium–High	Medium
Contact precautions	12 (48%)	Low	High	Medium–High
Active surveillance	17 (68%)	Medium	High	**ND**
Isolation & Cohorting	2 (8%)	Low	High	Medium
Environmental hygiene	5 (20%)	Low	Medium	**ND**
Outbreak investigation	5 (20%)	Medium	**ND**	**ND**

* One site was divided into 2 distinct hospitals

ND, indicator not defined

P1125

Empowering nurses to reduce catheter-related bloodstream infections through peer audits and feedback dashboards

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Introduction:
Catheter-related bloodstream infections (BSI) are among the most severe healthcare-associated infections, with substantial impact on patient safety. Traditional quarterly reporting failed to drive meaningful improvements in nursing practices. This study investigates a novel, data-driven strategy to reduce BSI and enhance nurse engagement.
Objectives: To evaluate the impact of a multimodal strategy, focused on behaviour change and combining weekly catheter care audits, peer assessments, and real-time feedback via interactive dashboards—on reducing catheter-related bloodstream infections and promoting nurse engagement in infection prevention practices.
Methods: In January 2022, weekly audits of catheter care were implemented in units with high infection rates, including direct feedback to nursing staff. From June 2023, a peer assessment system was added, allowing cross-unit evaluation of care practices. Data from audits and peer assessments were integrated into interactive Power BI dashboards, which visualized performance metrics alongside infection data extracted from the electronic health record.
Results: The combined approach led to a 50% reduction in peripheral line-associated BSI (PLABSI) in 2024 compared to 2023. Weekly catheter audits helped teams promptly address noncompliance, while peer review encouraged accountability and learning. Dashboards offered real-time insight into both process (e.g., dressing condition, documentation) and outcome indicators (e.g., days since last BSI). Notably, a "90 Days Without Peripheral IV-Related BSI" challenge was exceeded twice, with some units reaching over 170 PLABSI-free days.
Conclusion: Real-time feedback, peer assessments, and visual performance dashboards are powerful tools to reduce BSI and empower nursing staff. The approach fosters a proactive safety culture, improves adherence to protocols, and delivers measurable improvements in patient outcomes. This model is scalable and adaptable to other device-related infection prevention efforts across healthcare settings.

Disclosure of Interest
None declared.

P1126

Auditing process indicators and practices related to bodily waste management in acute care institutions of the Canton Vaud, Switzerland

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Introduction: Management of bodily waste (BW) from patients in acute care settings is an often-neglected aspect of infection prevention and control, with implications for cross-contamination and the spread of antimicrobial resistance.
Objectives: We aimed to create and test grids to audit bodily waste management for acute care institutions (ACIs) of canton Vaud in Switzerland.
Methods: Two separate grids were created by the infection prevention and control unit of canton Vaud (HPCi Vaud) to audit process indicators in ACIs and practices of their healthcare workers (HCWs). Between June and September 2024, medical wards across 7 institutions (23% of canton's ACIs) were included in this pilot study (3 hospitals, 2 private clinics and 2 rehabilitations centers).
Results: Almost half of hospitalized patients (45%) were dependent on BW containers during the audit. Protocols on safe BW management were available in 57% of wards. Of all wards, only 14% had lids for all available BW containers. All wards had a dirty utility room, yet only 57% of these complied with a dirty-to-clean workflow. All wards had a bedpan washer-disinfector (WD) with a median of 1 per ward (range 1–8), and all machines were validated annually. The HCW practices grid was completed by 131 HCWs (53% response rate), revealing that 28% of them have received training on safe BW management, 37% were aware of institutional BW protocols, 94% used gloves, and 27% systematically used lids for transporting used BW containers. Disposal of used BW containers and reprocessing was performed exclusively in WDs by 23% and 63% of staff, respectively. BW containers were reprocessed after each use in 49% of cases. Figure 1 demonstrates the findings by type of institution.
Conclusion: Many ACI patients are dependent on BW containers, highlighting the importance of their safe handling to prevent cross-contamination. Our findings illustrate the need for HCW training and the standardization of practices through protocols on safe BW management.

Disclosure of Interest
None declared.

Audited domains	Hospital wards n=3	Private clinic wards n=2	Rehabilitation wards n=2
Process indicators			
Protocols on BW management	0 %	50%	100%
Patients on BW containers	63%	27%	21%
Lids for all available BW containers	33%	0%	0%
Dirty-to-clean workflow in dirty utility rooms	66%	50%	50%
HCW practices			
BW management training	24%	26%	36%
Awareness of BW management protocols	41%	4%	50%
Use of gloves for BW container transport	88%	83%	98%
Use of lids for BW container transport	26%	13%	36%
Disposal of BW from used containers in WD only	29%	4%	24%
Reprocessing of BW containers in WD only	70%	35%	67%
Reprocessing of BW containers after each use	62%	22%	43%

BW: bodily waste, HCW: healthcare worker, WD: Washer-disinfector for BW containers

Fig. 1 (abstract P1126). (abstract P1126) See text for description

P1129

Evaluation of alcohol-based hand rub consumption following two MDRO containment strategies in a healthcare setting

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Introduction: As France prepares to update national guidelines on the control of multidrug-resistant organisms (MDROs)—including the management of carriers (C.p), monitoring of contact patients (C.c), and specific care protocols—it is essential to evaluate the effectiveness of local containment strategies.
Objectives: To assess the impact of two different containment strategies on alcohol-based hand rub (ABHR) consumption, as an indirect measure of compliance with hygiene practices in a unit with a known MDRO carrier.
Methods: A prospective study was conducted from October 3 to November 7, 2024, comparing ABHR consumption across two time periods (L1 and L2) in Unit"Up", which admitted an MDRO carrier (C.p) on August 29, 2024. Unit"Down", free of MDRO carriers, served as a reference throughout the study.
New ABHR bottles were strategically placed on four care carts (hygiene care, laundry, dressing, and medication) in both units.
Period P1 (Oct 3–19): Strategy 1 involved placing the C.p under contact precautions and screening all C.c every 15 days.
Period P2 (Oct 20–Nov 7): Strategy 2 maintained contact precautions for the C.p but limited weekly screening to the known non-shedding carrier only, with no screening for other patients in the unit.
ABHR bottle weights were measured at the end of each period to assess consumption.
Results: Total ABHR consumption in Unit Up was 1812 mL (912 mL in P1 and 900 mL in P2). Cart-specific consumption: hygiene care = 18 mL, laundry = 456 mL, dressing = 637 mL, medication = 701 mL.
In Unit Down, ABHR consumption totaled 1625 mL (123 mL per cart).
While Unit Up showed slightly higher ABHR use compared to Unit Down, the difference was not statistically significant. ABHR consumption remained stable across both strategies.
Conclusion: The two containment strategies did not significantly influence hand hygiene behavior among healthcare professionals. Notably, the presence of an MDRO carrier did not result in decreased ABHR use, suggesting sustained adherence to hygiene protocols despite reduced screening measures. However, differences in cart use, especially in rooms with C.p patients, may have impacted ABHR availability and hand hygiene opportunities.

Disclosure of Interest
None declared.

P1130

Barriers, enablers and sustainability of Covid-19 infection prevention and control (IPC) in Brazilian hospitals: a post-implementation study

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Introduction: The project"Improving IPC in response to COVID-19 in Brazil"(PREVCOVID-BR) was implemented in ten hospitals in Brazil from July 2020 to July 2023. It included periodic assessments of IPC capacity to respond to COVID-19, continuous quality improvement, and monitoring of inpatient and health worker COVID-19 symptoms.
Objectives: To assess barriers and enablers of implementation and to identify strategies that resulted in sustainability after project completion.
Methods: Mixed methods design. Quantitative survey and semi-structured interviews were administered to participants involved in PREVCOVID-BR implementation.
Results: Thirty-six (32.1%) of 112 PREVCOVID-BR participants responded to the survey and 9 were interviewed. All respondents perceived that PREVCOVID-BR was useful for improving IPC and that interventions to monitor COVID-19 symptoms helped prevent SARS-CoV-2 transmission. Nineteen participants (52.8%) considered themselves very engaged in the process of implementing PREVCOVID-BR and 19 (52.8%) reported continuing to monitor inpatients after the project ended. Identified enablers included external pressure (e.g., impact of the media), individual staff motivation, continuous training, and flexibility to adapt the project to hospital needs and changes in COVID-19 guidelines. Barriers were initial resistance from hospitals to implement some IPC measures, high turnover of hospital managers, and limited human resources and infrastructure. The major challenge to sustainability was lack of human resources to continue implementation once external support ended. Strategies that supported sustainability and continued implementation of IPC measures were support from hospital leadership and project flexibility.
Conclusion: Despite the challenges and barriers encountered, enablers and strategies to support implementation and sustainability were identified and can be considered in future IPC improvement projects.

Disclosure of Interest
None declared.

P1131

Improvement in blood culture contamination (BCC) quality indicator: experiences in a tertiary care cancer centre

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Introduction: Blood culture is the gold standard method for detecting bloodstream infections (bacteremia and septicemia). It plays a significant role in identifying the pathogen/s causing sepsis and guiding specific antibiotic therapy. Factors associated with blood culture contamination include compromised technique and procedure or improper skin antisepsis during blood sample collection. The blood culture contamination rate (BCC) is an important quality indicator that measures how often blood cultures are contaminated and serves as

a key metric for monitoring quality and improving patient care. High BCC rates can lead to unnecessary antibiotic use, increasing the risk of bacterial resistance. Clinical Laboratory Standards Institute (CLSI) recommends a BCC rate of less than 3%. Coagulase-negative staphylococci (CONS) is an important indicator organism of BCC.
Objectives: In this study we sought to reduce BCC rates in our set up, by implementing quality improvement measures.
Methods: An audit of BCC rates in the 3-month period from August to October 2024 was conducted. The BCC rates with CONS were found to be 1.67%. To minimise BCC as much as possible, we reinforced quality improvement measures in the phlebotomy areas. The first step involved identifying the areas with the highest incidence of BCC. These areas were then informed about the findings, and retraining sessions were conducted to ensure adherence to proper blood collection techniques, skin antisepsis procedures, hand hygiene, and disinfection of blood culture vial hubs. Following these interventions, the BCC rates were reassessed over the 3-month period from December 2024 to February 2025.
Results: The BCC rates decreased from 1.67% in the period of August -October 2024 to 0.65% from December 2024- February 2025 (See Table-1). This represents a 60% reduction in BCC rates following the quality intervention. Table-1: Table showing number of Blood cultures performed and percentage of CONS isolates during the two time periods.
Conclusion: Improvement in BCC can be achieved by implementing quality improvement measures, which require continuous monitoring, problem identification, and ongoing staff training and reinforcement.

Disclosure of Interest
None declared.

Table 1 (abstract P1131). See text for description

		Total Blood Culture	CONS	Percentage (%)
August-October 2024	August	1086	18	1.66
	September	1476	24	1.63
	October	966	17	1.76
	Total	**3528**	**59**	**1.67**
December 2024-February 2025	December	1158	6	0.52
	January	1110	11	0.99
	February	1102	5	0.45
	Total	**3370**	**22**	**0.65**

P1133

Compliance with standard precautions scale (CSPS): the need for local adaption and validation

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Introduction: Standard Precautions (SP) are essential for preventing nosocomial transmission. However, compliance with SP is often suboptimal, and validated SP measurement instruments are lacking. Their use is further complicated by the need for translation to enable local implementation. The Compliance with Standard Precautions Scale (CSPS) was developed to measure the compliance with SP among frontline nurses. It is a self-assessment questionnaire in English, consisting of 20 close-ended items rated on a Likert scale (never, seldom, sometimes, always). The CSPS has been validated internationally for reliability and cross-cultural applicability.
Objectives: We thus aimed to translate, adapt, and validate the CSPS for assessing German-speaking nurses'compliance with SP.
Methods: The CSPS was translated into German using an online translation tool and adapted to align with current gold standards, primarily the WHO Guidelines on Hand Hygiene, as well as local guidelines, among others for handling medical waste. For content validity, two experts in infection prevention and control evaluated the items' relevance using open-ended feedback and closed Likert scale ratings to calculate the Content Validity Index (CVI). For face validity, 13 nurses anonymously evaluated the clarity, appropriateness and relevance of the scale. Based on face and content validity feedback, the instrument was adapted and named "modified CSPS-DE". Its reliability was assessed by an online survey performed by nine nurses, calculating Cronbach's alpha.
Results: After CSPS' translation into German, 12 of 20 items were adapted based on guidelines and wording issues; based on content validity feedback, 11 items were adapted, two replaced and three added. Twelve items were revised based on face validity feedback. The final modified CSPS-DE comprises 23 items and has a CVI of one, a mean Face Validity Percent of Agreement of 90% and a Cronbach's alpha of 0.73.
Conclusion: The modified CSPS-DE has a high validity and reliability in our sample and could serve to monitor SP compliance among German-speaking nurses. Local adaption of the CSPS, using online translation tools is feasible, yet requires substantial adaption and validation prior to local implementation.

Disclosure of Interest
None declared.

P1134

Challenges faced by nurses in implementing infection prevention and control guidelines during the Covid-19 pandemic: insights from Nepal

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Introduction: In Nepal, infection prevention and control (IPC) efforts have evolved from basic sanitation guidelines in the 1980 s to policies for diseases like tuberculosis and HIV/AIDS. However, COVID-19 pandemic revealed gaps in IPC, highlighting the need for standardised IPC guidelines across healthcare settings.
Objectives: Explore the experiences of Nepalese nurses in implementing IPC guidelines during COVID-19 using behavioural change frameworks.
Methods: This study employed a qualitative design, guided by Theoretical Domains Framework (TDF) and Capability, Opportunity, Motivation-Behaviour (COM-B) model. Online interviews were conducted with 12 registered nurses from Nepal. Nepali transcripts were translated into English using a forward-backward translation method. Data were analysed using Reflexive Thematic Analysis, supported by NVivo software.
Results: Five key themes emerged from the data analysis. Theme 1, 'Adapting to Evolving Guidelines', highlighted the challenges nurses faced due to the lack of national IPC guidelines and the reliance on international guidelines during COVID-19, which were impractical in low-resource settings like Nepal. Theme 2, 'Journey Through the Pandemic Psyche', explored the emotional and psychological impact of the COVID-19 pandemic on nurses' ability to implement IPC guidelines. Theme 3, 'Confidence in IPC Practices', emphasised the importance of nurses' knowledge, skills, and training in the implementation of IPC guidelines. Theme 4, 'Organisational Influence', stressed how leadership and infrastructure changes during the pandemic influenced adherence to IPC guidelines. Finally, Theme 5, 'Beyond COVID-19', focused on how IPC practices evolved post-pandemic.These themes aligned with 11 of the 14 TDF domains. All components of

the COM-B model, Capability (psychological), Opportunity (physical and social), and Motivation (reflective and automatic), influenced the implementation of IPC guidelines among nurses.
Conclusion: This study provides a theoretical understanding of how behavioural, organisational, and environmental factors influenced the capability, opportunity, and motivation of nurses in Nepal to implement IPC guidelines. The findings offer a foundation for developing tailored IPC interventions in resource-limited settings, aiming to improve preparedness for future outbreaks or pandemics.

Disclosure of Interest
None declared.

P1135

Knowledge, attitude, and practice on prevention of surgical site infections among operating room nurses at the public teaching hospital in Klang Valley, Malaysia

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Introduction: Surgical site infections (SSIs) pose a significant challenge to patient safety and healthcare outcomes. As an operating room (OR) nurse it is important to identify the strategies, knowledge, attitude and correct practices in preventing SSI.
Objectives: To explore and correlate the level of knowledge, attitude and practice and their relationship between them with demographic data in preventing surgical site infection (SSI) among operation theater nurses in public teaching hospital, Klang Valley, Malaysia
Methods: The sample size of this descriptive cross sectional study is 287 operation theater nurses, in the 4 public teaching hospitals in Klang Valley. A random sampling method was used to recruit the respondents. Self-administered questionnaires will be used to collect the data and will be analyzed in descriptive statistics.
Results: The study found that **age** and **gender** of operating room (OR) nurses were significantly associated with their **level of knowledge** about preventing surgical site infections (SSI).In terms of **attitude**, none of the demographic factors showed a significant association. For **practice**, only **age** was significantly related. The study also revealed that **62% of OR nurses had a high level of knowledge**, **positive attitude(82.6%) and moderate level of practice (66.9%)** in SSI prevention. Additionally, the study found **positive correlations** between:

- Knowledge and practice ($r = 0.243$, $p < .001$)
- Knowledge and attitude ($r = 0.638$, $p < .01$)
- Attitude and practice ($r = 0.402$, $p < .01$)

Conclusion: The findings of this study show moderate level of knowledge and a positive correlation between OR nurses' level of knowledge and their practice in preventing surgical site infections (SSI). The moderate level of knowledge observed suggests the need for continuous education, focused awareness programs, and structured monitoring.

Disclosure of Interest
None declared.

P1136

Impact of Covid 19 pandemic on safety culture among healthcare workers in the intensive care units in the university hospital IBN Eljazzar Kairouan-Tunisia

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Introduction: The safety culture among healthcare workers (HCWs) can be influenced by workload and elevated occupational stress especially during COVID-19 pandemic
Objectives: to assess the impact of the COVID 19 pandemic on the level of safety culture among HCWs in the intensive care units (ICUs) at the CHU IBN ELJAZZAR of Kairouan-Tunisia.
Methods: a cross sectional study carried out in pre and post COVID19 pandemic. The baseline assessment was in April 2019 and the second one was in April 2023. The tested and validated French version of the Hospital Survey on Patient Safety Culture"(HSOPSC) questionnaire was used to collect data. A score was calculated for each dimension of safety culture. This score was the average of the proportions of positive responses per item. The chi square test was used to compare scores. A p-value < 0.05 was considered statistically significant.
Results: The impact of the COVID-19 pandemic on the level of safety culture was significant only for the dimension 'non-punitive response to error', the score of which increased from 29.6% to 34.5% from 2019 to 2023 ($p < 10^{-3}$). The dimension 'teamwork in the department' had the highest scores (58%). All dimensions of safety culture had scores less than 75%.
Conclusion: The COVID-19 crisis provided a unique opportunity to reassess and strengthen the safety culture, drawing lessons to build a safer healthcare system that is more adaptable to future crises.

Disclosure of Interest
None declared.

P1137

Healthcare uniforms and infection control in Portugal: a descriptive study

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Introduction: Healthcare-associated infections (HAIs) represent a significant public health challenge, with contaminated uniforms as potential vectors. In Portugal, national guidelines recommend safe uniform handling and laundering, yet compliance is inconsistent. This study assesses adherence to these guidelines.
Objectives: Evaluate adherence to national guidelines and explore evidence-based practices for uniform management to mitigate HAI risks.
Methods: A mixed-methods observational study was conducted, combining quantitative data from audits performed by the National Institute of Medical Emergency in Portugal (2023–2024) with an integrative literature review. Quantitative data evaluated compliance with

guidelines through structure, process, and outcome indicators. The literature review, conducted across PubMed, Web of Science, CINAHL, Scopus, and LILACS, analyzed studies on uniform contamination and laundering practices. Data integration revealed key challenges and improvement opportunities.
Results: Audits reveal mixed IPC trends: clean storage declined sharply (75.9% to 58.3%) despite improvements in used clothes handling (containers: 41.4% vs 54.5%; storage: 29.6% vs 57.1%). Institutional clothes hygiene remains unaddressed, with professionals forced to wash uniforms domestically. While resource adequacy improved, stagnant training compliance (54.3% to 54.2%) and marginal quality index growth (57.0% to 58.8%), tracking systemic vulnerabilities and urgent operational and policy interventions. These findings align with existing literature which highlights that domestic laundering at 40 °C fails to eliminate pathogens effectively. Recommendations included laundering at 60 °C, separating uniforms from personal clothing, and increasing industrial laundering for high-risk scenarios. These findings emphasize the urgent need for targeted interventions in laundering practices and uniform management.
Conclusion: Non-compliance with guidelines and poor laundering practices raise HAI risks. Recommendations include ensuring uniform availability, improving changing infrastructure, and adopting industrial laundering. Education and policy enforcement are key. Future research should quantify domestic laundering risks and explore solutions like antimicrobial fabrics.

Disclosure of Interest
None declared.

P1138

Perspectives of the performance of intensive care unit nurses in the antimicrobial management program: mixed study

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Introduction:
Objectives: To explore the perspectives of critical care nurses regarding their role as active members of the Antimicrobial Stewardship Program (ASP) and to develop an institutional educational program to support their participation in ASP activities.
Methods: A cross-sectional, sequential mixed-method study was conducted in adult ICUs of three Brazilian hospitals (two private, one public) from June to September 2024. Phase I quantitatively assessed ASP compliance using using a questionnaire from the Brazilian Health Regulatory Agency (Anvisa). Phase II qualitatively explored ICU nurses' and infection preventionists' perceptions through focus groups. Phase III involved developing an educational program to train nurses in ASP-related competencies. Data were analyzed to identify compliance levels, barriers, and facilitators to nurse participation in ASPs.
Results: A total of 46 healthcare professionals participated across three hospitals (12 in phase I, 31 in phase II, and 3 in phase III). The ASP evaluation showed an average compliance of 72%, with 83% in private and 61% in public hospitals. The lowest compliance rates were in education (46%) and results dissemination (49%). Nurses reported limited involvement due to workload, lack of training, and ineffective communication with the medical team. Based on these insights, an institutional educational plan was developed to strengthen nurses'roles in the program.
Conclusion: The evaluation of the ASP in the three hospitals revealed variations in implementation, highlighting the need for greater nurse involvement. Barriers such as a lack of protocols, communication failures, and workload limited their participation. Defining competencies and providing continuing education are necessary as viable strategies to strengthen nurses'roles in the ASP, directly impacting the improvement of clinical practice quality in ICUs.

Disclosure of Interest
None declared.

P1139

Effects of clinical nursing practice guidelines of surgical site infection for registered nurses, general surgery department in Rajavithi hospital

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1139

Introduction: Rajavithi Hospital It is a hospital under the Department of Medical Services. Ministry of Public Health that accepts patients into care to receive treatment in hospital with a large number of surgeries each year (2019-2022 = 17,804, 15,836, 12,909 and 15,151 times). Therefore, the practice of registered nurses [RN] in units that require care of patients who require correct surgery must Therefore it is important to help in prevention or help reduce the risk of infection at the surgical site that may occur.
Objectives: To study the results of using Clinical Nursing Practice Guidelines [CNPG] to prevent surgical site infections for RN. General Surgery Department regarding ability to practice and satisfaction with the use of CNPG.
Methods: This research is a quasi experimental study, one group pretest-posttest design. The study sample is 34 RN working in the female surgical ward. and the male surgical ward Rajavithi Hospital between June 2023 and December 2023. The research instrument consisted of a questionnaire on the opinions of RN on nursing practices in preventing surgical site infections and observation of nursing practice guidelines for preventing infection at the surgical site. The content validity of questionnaire was examined by three experts. The content validity index was 1.00. The reliability were.95 and.98 respectively. Data were analyzed using descriptive statistics and inferential statistics.
Results: After promoting the use of CNPG to prevent infection at the surgical site RN had a higher proportion of correct practice than before the promotion, from 64.48% to 95.17. Their satisfaction (97.12%) was at the high level.
Conclusion: A combination of methods is used to encourage and promote ongoing surgical site infection prevention practices. It will make RN correctly and sustainably.

Disclosure of Interest
None declared.

P1140

IPC Hotline usage and qualitative content analysis

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Introduction: Effective communication is crucial in infection prevention and control (IPC) to ensure timely interventions and coordinated actions.
Objectives: This study examined the usage of a dedicated IPC service phone hotline over a 10-month period, from December 2023 to October 2024. The primary objective was to assess call volume, duration, and temporal distribution, as well as to identify trends and topics that may impact the efficiency of IPC operations.
Methods: A retrospective analysis was conducted on call data and a qualitative analysis of call topics from the IPC hotline phone. The study assessed the total number of calls, the average duration of incoming and outgoing calls, and the distribution of calls by time of day and day of the week. The analysis also differentiated between incoming and outgoing calls and identified the most frequent callers within the hospital network. Qualitative content analysis was performed by coding

call summaries to extract recurring themes and categorize communication needs.
Results: Incoming and outgoing hotline calls averaged 2:52 and 2:14 (max 17 min), totalling over 60 h in 10 months, with peaks in winter between 10–11 AM, 2–3 PM, and on Thursdays. The figure illustrates weekly counts of incoming and outgoing calls to the IPC service phone over the entire 10-month study period, highlighting distinct seasonal activity. Call topics centred on outbreak alerts, patient isolation, lifting of measures, swab requirements, environmental hygiene, personal protective equipment (PPE) guidance, case-specific recommendations, pathogen-specific protocols and emerging pathogen updates.
Conclusion: The analysis provides valuable insights into the communication patterns between IPC and other services. Nurses' use of personal phones and units bypassing the service line may have introduced biases. The results highlight areas for improved efficiency, particularly in optimizing call management and reinforcing the use of the dedicated IPC service phone.

Disclosure of Interest
None declared.

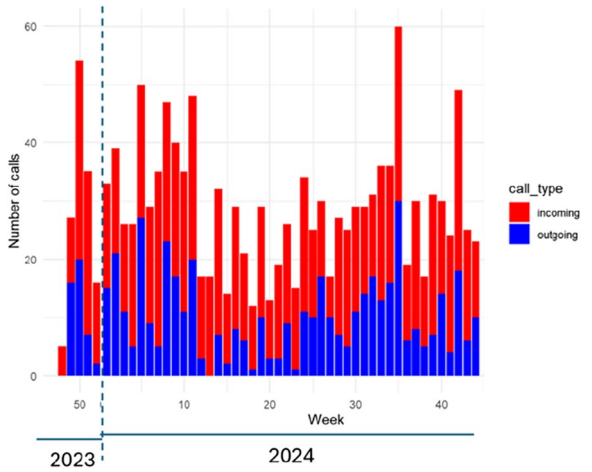

Fig. 1 (abstract P1140). See text for description

P1143

Belgian chips: check hospital infection prevention status in Belgian acute care hospitals

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Introduction: The WHO recommends national monitoring of Infection Prevention and Control (IPC) practices in hospitals. In Belgium, existing indicators no longer matched evolving hospital or national priorities.
Objectives: The CHIPS project was launched to create a renewed, standardized, and dynamic monitoring system to support hospitals and inform IPC policy development.
Methods: The CHIPS indicators were developed through a rapid review of the literature and analysis of existing national IPC quality indicators. Findings were discussed by IPC professionals in the Federal Platform IPC with the Belgian Antibiotic Policy Coordination Committee (BAPCOC) and Sciensano. Indicators were designed to support structured self-assessment, benchmarking, integration of multimodal strategies and the Plan-Do-Check-Act (PDCA) quality improvement cycle.
Results: The proposed CHIPS framework consists of 35 indicators grouped into 10 core IPC topics: staffing and enabling environment, hand hygiene, environmental and equipment cleaning, transmission-based precautions, prevention of central line-associated bloodstream infection (CLABSI), catheter-associated urinary tract infection (CAUTI), healthcare- and ventilator-associated pneumonia (HAP/VAP), and surgical site infection (SSI), and stakeholder involvement. Each topic includes 2 to 4 indicators, with grading criteria. Across all topics, the assessment considers whether up-to-date procedures are in place, training and education are provided, and monitoring, audit and feedback, or surveillance activities are implemented. CHIPS is designed as a self-assessment tool, complemented by peer validation. Results will be visualized through an interactive dashboard, enabling benchmarking at hospital and national levels. To test validity, CHIPS scores will be compared with existing tools such as IPCAF and with outcomes from ECDC point prevalence surveys. Reliability will be evaluated through interobserver testing and "thinking aloud" sessions with IPC teams to ensure consistent interpretation and scoring.
Conclusion: CHIPS introduces a renewed and structured approach to national IPC monitoring in Belgian acute care hospitals. It combines self-assessment with peer validation and benchmarking. CHIPS is expected to strengthen IPC implementation and support continuous quality improvement in alignment with national priorities.

Disclosure of Interest
None declared.

P1144

Impact of a healthcare-associated infection prevention program

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Introduction: Managing the risk of healthcare-associated infections (HAIs) remains a critical challenge for modern healthcare systems. Effective control of these infections requires the establishment of a comprehensive prevention program, including rigorous hygiene practices, continuous staff training, strict adherence to infection control protocols, and the implementation of surveillance systems.
Objectives: The objective of our study was to assess the infectious risk by estimating the overall prevalence of HAIs by anatomical site and medical specialty, to identify the main associated factors, to establish a prevention program for HAIs, and to evaluate its impact on the prevalence of nosocomial infections.
Methods: A prevalence survey was conducted across three hospital facilities, excluding day hospital patients. Data were collected by 30 trained investigators using a standardized questionnaire. Statistical analyses were performed with SPSS (v16). Based on the findings, a four-year HAI prevention program was implemented and later evaluated through a second prevalence survey using the same methodology.
Results: The initial survey showed a 10.3% HAI prevalence (95% CI: [8.3%; 12.2%]). with urinary tract and bloodstream infections being most common. Multidrug-resistant bacteria represented 38.8%.

Risk factors included surgery, invasive devices, high ASA score, and prolonged hospital stay. A prevention program (2014–2018) was implemented, focusing on hygiene protocols, staff training, and risk management. A follow-up survey revealed a reduced HAI prevalence of 5.4% (95% CI: [3.96%; 6.84%]). with pneumonia, bloodstream, and surgical site infections being the most frequent.
Conclusion: The results of the second prevalence survey showed a clear decrease in healthcare-associated infections in our facility, suggesting a very positive impact of the implemented action program.

Disclosure of Interest
M. Ouhadous: None declared, M. ARAI: None declared, S. HASSOUNE: None declared, A. EL KETTANI Conflict with: NO CONFLICTS OF INTEREST, K. KHALEQ Conflict with: NO CONFLICTS OF INTEREST.

P1145

Context specific challenges of the infection prevention and control core components at the faciltiy level in the Faranah region: a mixed methods approach

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Introduction: Infection prevention and control (IPC) programs have been reported to reduce healthcare associated infections (HAIs) by up to 70%. HAIs rates vary globally, with scarce data suggesting that the highest prevalence occurs in the African region, exceeding 50% in Guinea.
Objectives: This study assesses IPC capacities at healthcare worker (HCW) and facility level in the the rural Faranah region of Guinea, whereby exploring the context-specific challenges in IPC program implementation.
Methods: From May 2023 to March 2024 a mixed methods study was conducted compromising a training of trainer's approach in conjunction with the WHO hand hygiene (HH) knowledge and perception questionnaire for HCWs and the WHO *Infection Prevention and Control Assessment Framework* (IPCAF). This was further triangulated with a deductive analysis supported by participant observations and semi structured interviews. Descriptive, bivariate and overall comparison were performed applying Kruskal Wallis test with Conover-Iman and Bonferroni correction, Stuart Maxwell Marginal homogeneity test, and paired Wilcoxon signed-rank test where applicable at a significance level of 0.05.
Results: The overall median IPCAF score in the region was basic (242.5, IQR 172.5—342.5). Lowest scores were reported for IPC education, whereas IPC guidelines and HAI surveillance received high scores. Rural healthcare centers had the lowest IPCAF score (210.0, IQR 157.5—265.0), confirmed by qualitative assessment indicating a lack of allocated IPC budget in rural facilities and observed patient overload. Participant observations found that even though HAI surveillance scored highly and IPC guidelines were displayed on posters, their practical application was rare. This was triangulated with IPC trainers self-reporting HH compliance of up to 90% while demonstrating considerable gaps in knowledge of WHO HH standards.
Conclusion: Our study found low levels of IPC in both HCWs and structures highlighting the importance of continuous IPC training in conjunction with behavior changes and improvement of HAI surveillance with special attention to marginalized rural settings.

Disclosure of Interest
None declared.

P1146

Infection prevention and control (IPC) in Flemish acute care hospitals: current practices of monitoring and feedback by IPC teams

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Introduction: Monitoring and feedback is a core component of infection prevention and control (IPC). While Belgian hospitals are required to evaluate IPC programmes using federal quality indicators, these focus on whether monitoring occurs, with little insight into its methods, feedback processes, or how results inform improvement.
Objectives: This study aims to provide insight into the monitoring and feedback methods used in Flemish acute care hospitals. It focuses on the selection of topics, data processing, feedback mechanisms, and the integration of results into improvement strategies. Barriers and facilitators are identified.
Methods: A purposive sampling strategy was used to include a diverse range of Flemish acute care hospitals based on geographic distribution, hospital type and size, and accreditation status. Semi-structured interviews were conducted, and data sufficiency was achieved with a final sample of fifteen hospitals. The data were analysed deductively and iteratively using thematic analysis.
Results: All hospitals conduct monitoring and feedback, mainly focusing on hand hygiene, transmission based precautions, and the prevention of catheter-related bloodstream and urinary tract infections. However, a formal monitoring plan with clearly defined methods is often lacking. There is considerable variation in data processing methods and tools. Despite the increasing use of automated tools, many hospitals still rely on manual data processing. Feedback is more frequently directed at nursing staff than at medical staff and is not standardized. While action plans are developed when targets are not met, teams struggle to implement and follow through with improvement strategies. Barriers include time constraints, understaffing, urgent workloads, manual data entry, incomplete electronic records, limited data expertise, and insufficient ICT infrastructure. Enablers include management support, multidisciplinary collaboration, and the ability to demonstrate the impact of improvement initiatives.
Conclusion: While monitoring is common, a systematic and standardised approach is lacking. Hospitals and policymakers should prioritise structured monitoring plans, supported by improved ICT and clear strategies for feedback and follow-up to strengthen IPC effectiveness.

Disclosure of Interest
None declared.

P1147

Challenges in coordinating primary health care and maternity hospitals to prevent surgical site infection in caesarean sections

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Introduction: The project PREVISC-BR: Improving infection prevention and control to reduce surgical site infections in caesarean sections (SSI-CS) focus on implementing a bundle to reduce SSI-CS. The coordination between primary health care (PHC) and the maternity hospitals should increase the likelihood of better guidance to pregnant women about prevention measures and early SSI-CS detection.
Objectives: To identify the perception of PREVISC-BR participants about challenges for the coordination with PHC and the guidance received by patients undergoing CS.

Methods: Eight maternity hospitals participating in the PREVISC-BR in Manaus, Amazonas State, Brazil. The PHC units linked to participants were mapped using the municipal health department website. A Likert scale survey was sent to infection control teams in participating maternity hospitals to get their perception about the coordination between them and the PHC, as well as the current guidance that patients receive before admission to a maternity hospital. Descriptive statistics were performed.
Results: We identified 200 PHC units linked to PREVISC-BR participanthospitals, which were distributed in 4 geographic zones in the city. Effective communication with PHC was considered to occur as "sometimes" by 5 (62.5%) and "always" by 3 (37.5%) of maternity hospitals. The major challenge was the lack of a focal point in PHC to coordinate infection prevention and monitoring of SSI-CS. Pregnant women seem to be "always" oriented about pre-operatory bath in 3 (37.5%) maternity hospitals. However, they seem to be "never" oriented about not removing pubic hair (n = 3, 37.5%), about the wound dress (n = 2, 25%), and about signs and symptoms of SSI-CD (n = 4, 50%). There is no communication between PHC and maternity hospitals in the post-discharge period. Pubic hair removal is mentioned as a cultural behavior among pregnant women before delivery.
Conclusion: There is a perception that PHC fails in the guidance for pregnant women about the SSI prevention and monitoring. Improving coordination between PHC and maternity hospitals is strategic to minimize this gap.

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P1148

Status of implementation of infection prevention and control core components at three tertiary hospitals providing HIV, TB, and Malaria services in Freetown

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Introduction: Infection Prevention and Control (IPC) measures are critical in the prevention and treatment of communicable diseases, especially HIV, TB, and malaria. However, most hospitals in low-income settings have suboptimal programmes, and achieving the IPC minimum requirement should be the first step.
Objectives: To assess the status of implementation of the IPC core components at three hospitals in Sierra Leone
Methods: This was a hospital-based cross-sectional study using the WHO assessment tool on IPC minimum requirements. The tool was completed by the hospital IPC focal points and cross-validated by the principal investigator. Responses were reviewed, validated, scored, and interpreted according to the WHO IPC minimum requirement guide. Data analysis was conducted using Microsoft Excel to determine the overall IPC score and the status of implementation of the different IPC core components.
Results: All three hospitals have not achieved the IPC minimum requireme. Full achievement was seen in the multimodal strategy across all three hospitals. All the other components were not achieved except one hospital that showed full achievement on IPC education and training (Fig. 1). All three hospitals have an IPC programme, dedicated focal points, and access to microbiology services. Major gaps include not undertaking surveillance of healthcare-associated infection, no systems to monitor staffing level and standard bed capacity, no access to continuous, safe, and sufficient water, and unavailability of functioning hand hygiene stations at all points of care.
Conclusion: The IPC status at three tertiary hospitals in Freetown is sub-optimal, as none of them has achieved the minimum requirement.Technical and financial support is needed to achieve these minimum requirements. Implementation of critical IPC interventions and the conduct of operational research might ensure the provision of quality Hummanimmunodeficieny virus, tuberculosis, and malaria prevention and treatment services at these hospitals.

Disclosure of Interest
None declared.

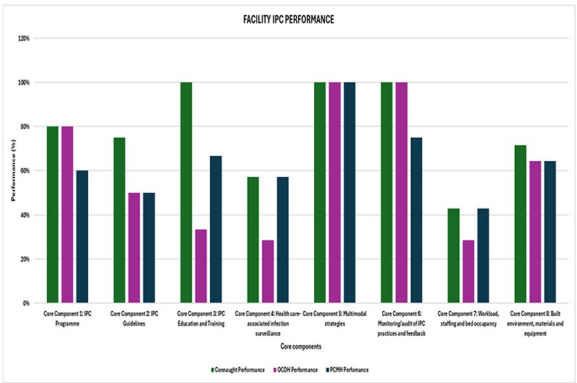

Fig. 1 (abstract P1148). See text for description

P1149

Beta mama Pikin: assessment of hygiene and infection prevention and control practices among healthcare workers and co-creation of wash education tools in five primary healthcare centers in Oyo state, Nigeria

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Introduction: Inadequate Water, Sanitation, and Hygiene (WASH) practices remain a critical threat to maternal and child health in Nigeria, contributing to over 800,000 under-five deaths annually. Healthcare-associated infections, often linked to substandard Infection Prevention and Control (IPC) practices, pose further risks in low-resource settings. Despite existing IPC guidelines, compliance among healthcare workers (HCWs) remains low. To address these gaps, the Beta Mama Pikin project implemented a baseline assessment and co-creation initiative across five Primary Healthcare Centers (PHCs) in Oyo State, Nigeria
Objectives: 1. To assess HCWs' knowledge, attitudes, and practices (KAP) on hand hygiene and IPC in five PHCs in Oyo State
2. To co-create culturally relevant educational songs and activities with HCWs to promote WASH behaviors among pregnant women and nursing mothers
Methods: A descriptive cross-sectional study was conducted among HCWs across five PHCs. A structured KAP questionnaire was used, with participants selected through consecutive sampling. Participatory action research guided the co-creation of WASH education tools. Ethical approval was obtained from Oyo State Ministry of Health Ethical Review Committee. Data were collected using Kobo Collect and analyzed with SPSS v26. Descriptive statistics summarized demographic and KAP data; chi-square tests assessed associations
Results: Among participants, 87% were aged 21–40; 78.3% had 0–10 years of service. While 56.5% had fair knowledge of hand

hygiene, only 39.1% demonstrated good knowledge. Positive attitudes were found in 73.9%, and 82.6% reported good hygiene practices. Significant associations were identified between knowledge and years of service($p = 0.05$) and profession($p = 0.017$), and similar patterns were found for attitude($p = 0.034$) and practice($p = 0.048$). HCWs co-developed three local-language hygiene songs and five WASH activities for antenatal sessions
Conclusion: Findings highlight the need for improved hygiene training among HCWs. Music and participatory education strategies are potential options in promoting WASH practices among pregnant women and nursing mothers as well as HCWs

Disclosure of Interest
None declared.

P1150

Impact of the Covid-19 pandemic on managerial skills in ipc units of Israeli public hospitals

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Introduction: The COVID-19 crisis posed unprecedented challenges to Infection Prevention and Control (IPC) units, hypothesized to accelerate growth in managerial self-efficacy (MSE), autonomy (MA), and leadership, thereby improving IPC program implementation and positively shifting organizational perceptions.
Objectives: To evaluate how the COVID-19 pandemic impacted MSE, MA, and leadership abilities of IPC Physician Managers (PMs-IPC) and IPC Nurse Managers (NMs-IPC), and to examine the relationship between these impacts and IPC program implementation measures.
Methods: A mixed-methods design was employed.Fifty IPC-unit managers (19 PMs-IPC; 31 NMs-IPC) completed five validated instruments: 5-MngAutoQ (autonomy), 6-ManSelfEffQ (self-efficacy), 7-LeadEvalQ (leadership), 3-OrgChangeImplQ (change implementation), and 2-AAQ (activity allocation). Pandemic impact was measured via 4-COVID-19-MIQ. In-depth, semi-structured interviews were conducted with **five PMs-IPC (physician managers)** and **five NMs-IPC (nurse managers)** to explore themes of decision-making, delegation, leadership, well-being, and program continuity. Quantitative group comparisons used ANOVA; Pearson correlations assessed associations between COVID-19 impact and all dependent measures.
Results: Autonomy: PMs-IPC 5.68 ± 0.90 vs. NMs-IPC 5.91 ± 1.11 ($p = 0.94$)
Leadership & Crisis Management: both 6.03 ± 0.72 ($p = 0.69$)
Overall Impact: PMs-IPC 5.84 ± 0.75 vs. NMs-IPC 5.92 ± 1.07 ($p = 0.76$)
Significant correlations with overall COVID-19 impact:

Autonomy: $r = 0.473^{**}$ ($p < .01$)
Self-efficacy: $r = 0.388^{**}$ ($p < .01$)
Strategy & Vision: $r = 0.458^{**}$ ($p < .01$)
Transformative Leadership: $r = 0.320^{*}$ ($p < .05$)

Qualitative Themes:
Rapid decision-making ("had to create standards on the fly"), enhanced delegation/assertiveness, program-continuity challenges, and high stress with mixed effects on job satisfaction.
Conclusion: COVID-19 catalyzed rapid enhancement of MSE, autonomy, and leadership among both physician and nurse IPC managers. Strong associations between these traits and pandemic impact underscore their critical role in crisis response and IPC implementation. Continued investment in leadership development, autonomy support, and well-being resources is essential to sustain these gains and prepare IPC units for future healthcare emergencies.

Disclosure of Interest
None declared.

P1151

A multicenter assessment of the infectious risk management in office-based surgery

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Introduction: Office-Based Surgery (OBS), defined as surgical procedures performed outside the operating room (OR) and interventional sectors, is expanding due to organizational constraints and identified benefits. However, data on infection risk prevention in OBS remain limited.
Objectives: This study aimed to assess OBS practices and associated infection prevention measures.
Methods: A regional audit was conducted from July 2023 to January 2024. Healthcare facilities were eligible if they had at least one room dedicated to OBS. Endoscopy, procedures requiring hospitalization, or an anesthesiologist were excluded. Four dimensions were evaluated: architecture and organization, cleaning procedures, patient pathway, and professional practices.Data were collected during on-site visits by infection prevention staff, who completed checklists based on direct observation and exchanges with the local teams. Analyses were performed for individual and composite criteria using Stata 10.0.
Results: A total of 40 OBS rooms from 15 centers (2 university hospitals, 8 hospital centers and 5 private clinics) participated. A total of 173 different procedures from 17 specialties were performed in OBS. The most represented specialities were ophthalmology (33%, 13/40), followed by ENT (27%, 10/40), dermatology (20%, 8/40), and urology (15%, 6/40). The most frequent procedures were excisions (43/173, 25%) and biopsies (19/173, 11%) and most were performed in dedicated rooms (86%).Ventilation was via mechanical systems (80%) or OR-like (20%). The operator performed surgical hand antisepsis before each procedure in 33% (13/39) of teams. Infection prevention training had been received by 67% of teams (26/39); 56% (20/36) were trained in skin preparation and 40% (13/32) in circulator roles. Skin preparation was explained to patients in 72% (34/47) of pathways, while its documentation was available in 44% (19/43). When comparing the criteria fulfilled between public and private facilities, significant differences were observed regarding the ventilation (3.5/7 vs 1.5/7, $p < 0.01$), the room equipment (10/11 vs 8/11, $p < 0.01$), and the patient pathway (13/17 vs 8/17 $p < 0.01$).
Conclusion: OBS covers a wide range of procedures across varied settings. Outside the OR, teams were less familiar with the environment and associated risks. Enhancements in staff training, attire, patient management, and documentation could improve care quality and safety.

Disclosure of Interest
None declared.

P1152

Mapping infection prevention and control (IPC) capacity in Belgian acute care hospitals: results from a national survey

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Introduction: As part of the evaluation of the Belgian IPC programme under the National Action Plan on AMR, the IPC associations

conducted a nationwide survey to gain insight into IPC staffing, activities, and perceived barriers and enablers. The findings will inform policy recommendations.
Objectives: To assess the current state of IPC programmes in Belgian acute care hospitals, focusing on IPC staffing, activity scope, educational needs, and implementation challenges.
Methods: A cross-sectional online survey was conducted from February to March 2024 across the 100 eligible acute care hospitals. Developed collaboratively by the Belgian IPC associations ABIHH, BICS, and WIN, the survey was completed at the IPC team level. Quantitative data were analysed descriptively using Excel and R; open-ended responses underwent thematic analysis to identify key insights.
Results: Eighty-seven hospitals (87%) participated in the survey. IPC staffing varied considerably, with 199 IPC nurses (141.15 full-time equivalents, FTE) and 130 IPC doctors (51.75 FTE) reported—averaging one IPC nurse per 331 beds and one IPC doctor per 932 beds. Only 13 hospitals had a dedicated IPC budget. Many IPC nurses held dual roles; only 24% worked exclusively in IPC, and half had less than five years of experience. Education and certification were perceived as too theoretical by both IPC nurses and doctors, highlighting the need for more practical training and tailored continuous education. While IPC doctors were more frequently involved in antimicrobial stewardship (AMS), IPC nurses were less engaged in AMS but more actively involved in implementing multimodal IPC strategies. Key barriers included staff shortages, limited digital infrastructure, and poor integration of IPC into daily bedside care. Enablers included strong leadership and team management, visible and competent IPC teams, board-level commitment, effective communication, and the availability of appropriate, flexible, and evidence-based national guidelines.
Conclusion: This survey reveals IPC staffing gaps and training needs across Belgian hospitals. Tailored investment in IPC capacity, including workforce, education, and digital infrastructure, is essential for strengthening IPC strategies nationally.

Disclosure of Interest
None declared.

P1153

Relationship between infection prevention and control staffing and activities

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Introduction: Additional analysis of national infection prevention and control (IPC) quality indicators (QI) data from Belgian acute care hospitals was conducted to support evidence-based recommendations for optimizing IPC staffing. This aligns with the Belgian Antibiotic Policy Coordination Committee (BAPCOC)'s initiative to evaluate and improve the IPC program in hospitals.
Objectives: The objective of this analysis was to assess the association between IPC staffing levels and the implementation of key IPC activities, specifically those related to three WHO core components: guidelines, surveillance, and monitoring/audit and feedback.
Methods: Data were collected from Belgian acute care hospitals between January and May 2024 using the 2019 quality indicators protocol. Correlation analyses were performed in R. Given the non-normal distribution of variables, Spearman correlation coefficients were used to explore associations between IPC staffing levels and selected activity indicators.
Results: Effective full-time equivalent (FTE) data were available for 91 hospitals. A weak positive correlation was found between IPC staffing and audit performance ($r = 0.41$, $p < 0.001$, $n = 91$). In contrast, correlations between staffing and both guideline development ($r = 0.27$, $p = 0.009$, $n = 91$) and surveillance execution ($r = 0.21$, $p = 0.051$, $n = 91$) were negligible.
Conclusion: A weak association between IPC staffing and audit activity suggests that audits are labour-intensive and may be deprioritized when staffing is limited. The absence of meaningful associations with guideline development and surveillance may reflect limited variation in guideline scores due to high baseline implementation levels, and the fact that surveillance quality depends not only on staffing but also on adequate ICT infrastructure. These findings highlight the need for a broader understanding of how staffing, digital capacity, and organizational context influence IPC performance.

Disclosure of Interest
None declared.

P1154

Evaluation of the application of infection prevention and control measures in 46 health facilities in Burundi

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1154

Introduction: A study was carried out in 46 health facilities in the area commonly known as the cholera belt (an area with a cholera epidemic that recurs all too often) on the shores of Lake Tanganyika, in 8 health districts in western Burundi, to assess the state of implementation of PCI measures in these facilities. The hypothesis of the study was:"the target health facilities correctly apply infection prevention and control measures".
Objectives: To assess the state of implementation of IPC measures in the target zone's health facilities.
Methods: The evaluation targeted 46 public health facilities (National Reference Hospitals, District Hospitals, Communal Hospitals and Health Centers) identified by reasoned choice out of 107 facilities in the target zone. Two teams of 3 interviewers each from RBPCI and MOH visited the facilities separately. The evaluation focused on the 8 components of infection prevention and control. After the fieldwork, the analysis was carried out using SPSS and advanced Excel. After analysis, the health facilities were ranked according to the scores obtained for the level of implementation of IPC measures.
Results: Concerning the existence of the IPC program, 93% of facilities do not have a IPC focal point, while 87% confirm that they do not have a IPC team. With regard to policies and guidelines, the results showed that in 41 out of 46 facilities (89%) these were not available. The majority of facilities (85%) say that they have not yet provided IPC training for their staff. The results also show that 89% of the facilities visited have not yet set up a system for monitoring healthcare-associated infections. With regard to follow-up and reporting on audits of IPC practices, the majority of facilities (87%) do not regularly monitor IPC practices.
Conclusion: 69.57% (32 out of 46) of facilities had a weak IPC program, with major gaps in guidelines, training and education, resources and general adherence to best practice. The results of the assessment show that compliance with the application of IPC measures is still lacking, and that efforts must be made by all players to apply them scrupulously.

Disclosure of Interest
None declared.

P1155

Risk-adjustment to include in a fully automated surveillance system for hospital-onset bacteraemia: identification of predictors and methods for risk-adjustment

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Introduction: Hospital-onset bacteraemia and fungemia (HOB) is a promising target to include in fully automated surveillance, due to the objective definition and availability of source data in the electronic health records (EHR) and laboratory information systems (LIMS). To use HOB rates effectively for quality improvement and comparison across institutions, appropriate benchmarking methods are needed to reflect differences in quality of care rather than differences in patient population.
Objectives: We aimed to identify predictors related to case-mix and blood culture practices, and develop a practical risk-adjustment model suitable for automated HOB surveillance.
Methods: Patient, blood culture, and admission-related data were extracted from the EHR and LIMS in four Dutch hospitals in 2017-2021. We included all admitted adult patients. HOB identification was based on the PRAISE definition (Aghdassi et al., 2024). To estimate the HOB rate per ward type, we used multivariable mixed effects negative binomial models, with a random intercept for ward, and number of patient days per ward as offset, correcting for patient- and admission related variabeles and blood culture variables. HOBs caused by common commensals (CC) and pathogens were modelled separately.
Results: For both CC and pathogen-HOB, hospital type, community-onset bacteraemia rate, ward type, age, gender, admission specialty and prior length of stay were significantly associated with the HOB rate. Blood culture positivity rate with pathogens, prior number of ICU admission days and prior HOB within admission are associated with the pathogen HOB rate, whereas proportion of stand-alone blood cultures (i.e. no other blood cultures two days before or after) was associated with the CC HOB rate.
Conclusion: We identified predictors that should be included in risk adjustment models for HOB surveillance and data interpretation. Research on the method to perform benchmarking is ongoing.

Disclosure of Interest
None declared.

P1156

Evaluating deepseek's ability to diagnose central line-associated bloodstream infections (CLABSIS): a retrospective analysis of 12 clinical cases

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Introduction: Accurate and timely diagnosis of CLABSIs is critical for effective infection prevention and control. Recent advancements in artificial intelligence (AI) have shown promise in assisting healthcare professionals with surveillance tasks.
Objectives: This study evaluates the diagnostic performance of DeepSeek, an AI-based tool, in identifying CLABSIs using the 2025 National Healthcare Safety Network (NHSN) criteria, based on a retrospective analysis of 12 clinical cases.
Methods: A retrospective cohort of 12 patients with suspected bloodstream infections (BSIs) from January to February 2024 was analyzed. Data included patient demographics, central line types (CVC, PICC, ports), microbiology results, clinical symptoms, and adherence to NHSN CLABSI diagnostic criteria. DeepSeek was developed and validated based on NHSN surveillance definitions and tested on these cases to evaluate its diagnostic accuracy in identifying CLABSIs. All cases were independently reviewed by two clinicians to confirm alignment with NHSN diagnostic standards.
Results: Of the 12 cases, DeepSeek correctly diagnosed 5 CLABSIs (41.7%) and excluded 7 non-CLABSI cases (58.3%). DeepSeek demonstrated 100% diagnostic accuracy in confirming CLABSIs when provided with clear, structured data. The minimum required patient information for diagnosis consists of 19 items.However, diagnostic challenges arose with ambiguous or incomplete case information, such as missing dates or unclear clinical symptoms.
Conclusion: DeepSeek demonstrates significant potential as a tool for assisting infection preventionists in CLABSI diagnosis and surveillance. Its ability to accurately diagnose CLABSIs based on NHSN criteria underscores its value in reducing the burden of manual case adjudication. However, the tool's diagnostic reliability is highly dependent on the quality and completeness of input data. Future improvements should focus on enhancing DeepSeek's diagnostic capability to interpret ambiguous or incomplete clinical information, as well as integrating real-time electronic health record (EHR) data for automated diagnostic surveillance. These advancements could further optimize CLABSI diagnosis and improve patient outcomes.

Disclosure of Interest
None declared.

P1157

Comparison of two automated surveillance algorithms for Clabsi detection in six Swiss hospital networks

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Introduction: Automated surveillance for central line-associated bloodstream infections (CLABSI) requires adapting definitions traditionally used in manual surveillance. In particular, the timing and interpretation of positive catheter-tip cultures in automated detection may influence case classification.
Objectives: We wanted to compare the incidence rates of catheter-related bloodstream infections (CRBSI), CLABSI, and Intensive Care Unit (ICU)-acquired bloodstream infections (ICU-BSI), using two automated surveillance algorithms across six Swiss intensive care units (ICUs).
Methods: This multicenter study was conducted in six Swiss ICUs participating in the national automated CLABSI surveillance program. Surveillance data were collected retrospectively over a two-year period (2022–2023). Two automated algorithms for CLABSI detection were developed using microbiological and clinical data. In algorithm V1, positive catheter-tip cultures were considered at the final step of classification. In algorithm V2, these were integrated earlier in the decision-making process (Figure). We calculated incidence rates for CRBSI, CLABSI, and ICU-BSI, and compared them using risk ratios (RRs) with 95% confidence intervals.

Results: Across the six ICUs, a total of 116,742 patient-days and 98,450 catheter-days were recorded. The incidence of CRBSI was 0.12 and 0.18 per 1,000 catheter-days using algorithms V1 and V2, respectively (RR for V2 vs V1 1.50, 95% CI [1.47–1.54]). CLABSI incidence was identical for both algorithms at 3.45 per 1,000 catheter-days (RR 1.00, 95% CI [0.995–1.005]). ICU-BSI incidence was 3.23 and 3.17 per 1,000 patient-days for V1 and V2, respectively (RR for V2 vs V1 = 0.98, 95% CI [0.977–0.986]).
Conclusion: Earlier integration of catheter-tip cultures in the classification process increases CRBSI detection, while CLABSI and ICU-BSI rates remain stable. These findings highlight how algorithm structure, particularly the timing of catheter-tip culture integration, can influence automated surveillance outcomes.

Disclosure of Interest
None declared.

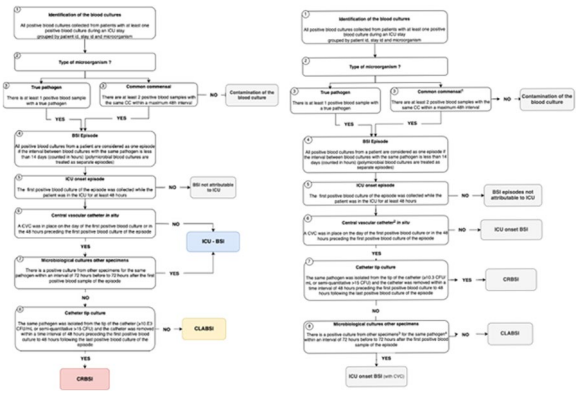

Fig. 1 (abstract P1157). Visual comparison of the automated surveillance algorithms for CLABS detection: algorithm VI (left) and algorithm V2 (right)

P1158

Evaluation of national automated surveillance of hospital-onset bacteremia and fungemia in the Netherlands based on the infectious diseases surveillance information system – antimicrobial resistance (ISIS-AR) – preliminary results

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Introduction: Hospital-onset bacteremia and fungemia (HOB) is a new, objective target in automated surveillance of healthcare-associated infections.
Objectives: We evaluated the suitability of ISIS-AR, with routine care data of positive blood cultures that were tested for antimicrobial susceptibility, as source for automated HOB surveillance.
Methods: We applied an algorithm based on the international PRAISE definition (Aghdassi, 2024) to identify HOB cases in the ISIS-AR data from 2018-2023. Following CDC evaluation guidelines we conducted: 1) a data technical evaluation, 2) validation of the identified HOB cases in four hospitals, with all blood cultures from electronic laboratory data as a reference, and 3) qualitative interviews to assess the usefulness of HOB surveillance, and the suitability of ISIS-AR as a data source (currently ongoing).
Results: Most parameters necessary for identifying HOBs were available and complete in ISIS-AR, except for hospital admission dates; 12/82 hospitals provided admission dates for > 80% of the isolates in each year of the study period. Validation of the HOB cases showed accurate identification of HOBs caused by non-commensals (Fig. 1). However, the identification of HOB caused by common commensals (CC, as specified by the Master Organism Commensals List (NHSN, 2024)), which requires 2 repeated blood cultures with the same CC, varied between the hospitals due to differences in blood culture policies and sample processing.
Conclusion: Preliminary results suggest that this surveillance based on the secondary use of ISIS-AR could serve as signaling tool for HOB caused by non-commensals and as a basis for further in-depth investigations, with minimal hospital workload. However, the limited availability of admission dates restricts its applicability to a small number of hospitals. Understanding hospital/lab policies is essential for interpretation of national HOB-surveillance based on routine data.

Disclosure of Interest
None declared.

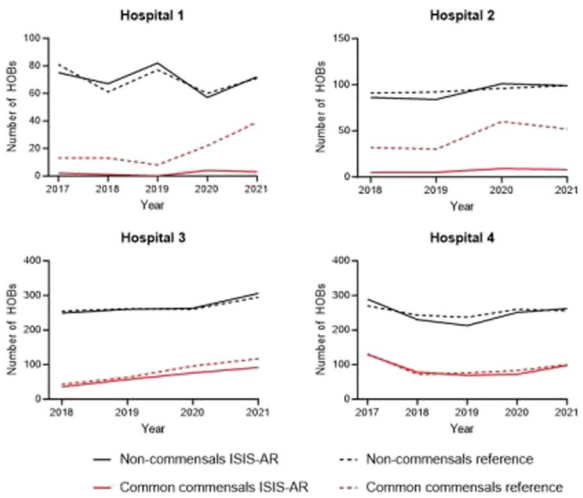

Fig. 1 (abstract P1158). Validation of HOB surveillance results based on ISIS-AR to reference (Detailed EHR data)

P1159

Availability of source data in electronic health records for automated surveillance of central-line bloodstream infections

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Introduction: Complete, accurate and standardized routine care data stored in electronic health records (EHRs) are a prerequisite for implementation of automated surveillance (AS) of Central-Line Bloodstream Infections (CL-BSI).
Objectives: This study aimed to determine the availability, completeness, structure and accessibility of source data relevant for CL-BSI automated surveillance based on EHRs across Dutch hospitals.
Methods: Infection Control Practitioners (ICPs) in Dutch hospitals completed a cross-sectional survey to inventory source data in EHRs required for CL-BSI AS. Availability (registration on a standardized field in the EHR), datatype and possibility of data extraction was described

per source data element with their reliability of registration as to the respondents' judgement.
Results: 19 hospitals completed the survey. Both central line (CL) type and insertion site were available in 94.7% of included hospitals (100% structured data), where this was 100% for insertion and removal date (94.7% structured data). However, 73.7% of the respondents expected problems with the consistent registration of insertion and/or removal dates or time. Availability and structuredness of clinical signs (Fig. 1) ranged from 15.8-84.2% and 0-66.7% respectively, depending on the variable (fever, chills or hypotension). Respondents' judgement on reliable registration of clinical signs ranged from 5.3-73.7%.
Conclusion: This study found that the availability and structuredness of selected variables for reuse in AS differs between hospitals. Data on CLs were highly available and structured but the reliability of registration was judged as uncertain. Clinical signs, in particular 'chills', were less frequently reported in a standardized field in the EHR and more often in unstructured format. Their reliability was also less trusted by the respondents. Based on this study, follow-up research is planned for redefining the currently used case definition and finally to design an algorithm for CL-BSI.

Disclosure of Interest
None declared.

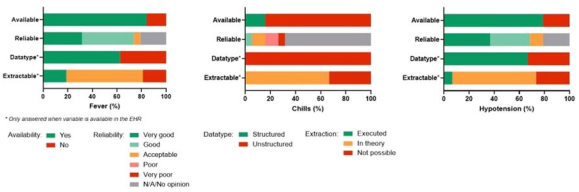

Fig. 1 (abstract P1159). Availibility, reliability, datatype and extraction of clinical signs from Dutch EHRs

P1160

Risk factors for surgical site infections (SSIS): insights from the french national semi-automated surveillance system (SPICMI), 2021–2023

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Introduction: Surgical site infections (SSIs) remain a major healthcare-associated complication. In France, the SPICMI national program monitors SSI incidence and risk factors across hospitals.
Objectives: This study aimed to quantify the impact of patient and procedure-related risk factors collected in the surveillance system on the occurrence of SSIs.
Methods: We analyzed SPICMI data from 2021–2023, including 72,523 procedures monitored for SSI. Fourteen risk factors were assessed using multivariable logistic regression. Due to up to 50% missing data for some risk factors, multiple imputation by chained equations was applied. ORs with 95% CIs were computed using R 4.3.2.
Results: 1,443 SSIs were recorded between 2021 and 2023. In the imputed model, several risk factors were significantly associated with SSI risk: malnutrition (OR = 2.35; 95% CI, 1.79–3.09), ASA score ≥ 3 (OR = 2.16; 95% CI, 1.66-2.83), obesity (OR = 1.24; 95% CI, 1.06–1.46), cancer (OR = 1.62; 95% CI, 1.36–21.96) and multiple procedures (OR = 1.82; 95% CI, 1.56–2.12). Conversely, endoscopic surgery (OR = 0.63; 95% CI, 0.53–0.75) was associated with reduced SSI risk. Compared to orthopedic surgery, cardiac surgery was significantly associated with a higher risk of SSI (OR = 1.56; 95% CI, 1.21–2.02), while gynecologic surgery was associated with a lower risk (OR = 0.69; 95% CI, 0.53–0.91). No significant differences were observed for digestive, neurological, or urologic surgeries. The use of multiple imputation avoided the loss of nearly 90% of patients that would have occurred under complete-case analysis (7,008 patients) and yielded stable estimates across imputations.
Conclusion: This large-scale analysis identified several clinically relevant patient factors independently associated with the risk of surgical site infection. The findings support the inclusion of specific comorbidities such as malnutrition, obesity, and cancer in risk-adjustment strategies to enhance SSI surveillance and inter-hospital benchmarking. Leveraging complete patient data also ensured adequate power and stability for multivariable modeling in a national surveillance context.

Disclosure of Interest
None declared.

P1161

PRAISE: Defining a minimal dataset for risk adjusted (SEMI-) automated surveillance of surgical site infections after colon surgery in Europe

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Introduction: Surgical site infections (SSI) surveillance is crucial for infection control, but still relies mostly on manual case review despite advances in (semi-)automated surveillance (AS). A standardized minimal dataset (MDS) can support AS development and risk adjustment for benchmarking. The PRAISE (Providing a Roadmap for Automated Infection Surveillance in Europe) network aims to harmonize surveillance methods while considering local differences in data availability.
Objectives: This study aims to identify which data elements should be incorporated in an MDS for AS of SSI after colon surgery across Europe.
Methods: A non-systematic literature review of SSI risk factors after colon surgery was conducted between June and November 2024 to identify key data elements for an MDS to support AS and allow for risk adjustment. PRAISE network experts refined the MDS by evaluating the variables' importance and availability across institutes and countries.
Results: Twelve papers including 3 meta-analyses of SSI risk factors after colon surgery written between 2015 and 2024 were analyzed to extract essential data elements for an MDS. Ongoing expert consultations have identified so far key data elements categorized into surgery characteristics, post operative outcomes, and risk factors, as presented in Fig. 1. Some variables were consistently available across sites, while others showed variability due to disparities in local access.
Conclusion: A first version of a standardized MDS was developed to guide risk adjusted AS of SSI after colon surgery, while considering data availability across European sites. Next steps are further MDS refinement and its application in different European countries.

Disclosure of Interest
C. Van Den Boogaard: None declared, S. Aghdassi: None declared, M. Guedes: None declared, M. van Mourik: None declared, E. Presterl: None declared, L. Grammatico-Guillon: None declared, M. Abbas (MD): None declared, N. Benhajkassen: None declared, P. Astagneau: None declared, S. van der Werff Shareholder of: the company P3S (Patient Safety Surveillance Solutions) that works on automated surveillance for adverse events, M. Puig Asensio: None declared, H. Amin: None declared, S. van Rooden: None declared.

Variables	Description	Availability	Comments
Surgery characteristics Essential for population selection and to calculate SSI rate (denominator)			
patientID	patient identification code	Available for everybody	
surgDate	date of index surgery	Available for everybody	
surgCode_EHR	Surgery code from local hospital	Available for everybody	
Post operative outcomes Essential to define SSI event to calculate SSI rate (nominator)			
SSIEvent	SSI event yes or no, based on an algorithm*	Available for everybody	This is based on an algorithm and will only be available in the output data
SSIEventDate	Date when SSI was first detected	Mostly available	This will only be available in the output data
Risk factors Module needed for risk stratification			
patientAge	Patient age in years, at time of surgery	Available for everybody	
patientSex	Patient gender	Available for everybody	
surgDuration	Surgery duration in minutes	Mostly available	
surgASA	ASA score (1-5)	Mostly available	
surgWoundclass	Wound class (1-4)	Crucial, but availability and reliability is a problem	Looking into alternatives such as proxy's or other prediction models (e.g. co-morbidities model in France)

* An example of an algorithm validated in the Netherlands that classifies patients as high or low risk for deep surgical site infections within 30 days of colorectal surgery, is based on at least two of the following criteria: antibiotics, radiology orders, (re)admissions (e.g., prolonged stay, readmissions, or death), and re-surgeries (Verberk et al. 2022).

Fig. 1 (abstract P1161). Key elements of a risk adjusted minimal dataset (MDS) for (semi) automated surveillance of surgical site infections (SSI) after colon surgery in Europe identified during ongoing PRAISE network expert consultations

P1162

Enhancing infection control efficiency through digital automation

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Introduction: Infection prevention and control (IPC) is vital for patient safety, yet conventional surveillance is often time-consuming and prone to delays. Infection control nurses must manage complex tasks such as HAI surveillance, MDRO isolation, and outbreak response, often with limited technical support. Digital automation offers a transformative opportunity to improve efficiency, accuracy, and responsiveness in IPC.
Objectives: To design and validate a modular digital IPC framework that leverages robotic process automation (RPA), HL7 data integration, and low-code tools to enhance surveillance, reporting, and decision-making.
Methods: A hospital-wide IPC system was developed at a tertiary center, incorporating: (1) HL7-integrated real-time surveillance of HAIs, (2) RPA-assisted Creutzfeldt–Jakob disease (CJD) screening, (3) Excel-based monitoring of surgical antibiotic prophylaxis, and (4) web-based dashboards for outbreak visualization. Effectiveness was evaluated through sensitivity/specificity analysis, time-motion studies, and user satisfaction.
Results: The digital infection control system significantly improved surveillance efficiency and accuracy [Fig. 1]. RPA reduced CJD screening time from 37.5 to 0.6 min per case. Surgical antibiotic prophylaxis monitoring achieved > 94% sensitivity and > 99% specificity, while reducing monthly audit time from 240 to 5 min. Automated detection of HABSIs and HAUTIs reached sensitivities of 98.2% and 86.1%, shortening confirmation times from 44 and 60 days to 6 and 9 days, respectively. MDRO isolation delays dropped from 307.8 to 18.1 h. Legal disease reporting time decreased fivefold, and specimen handling time by 60%. Over 9,000 virtual epidemic clinic visits were managed in two months during COVID-19. User satisfaction was high, and IPC resources were reallocated to strategic interventions.
Conclusion: Digital IPC systems combining RPA, Excel logic, and HL7 integration can streamline infection surveillance, empower frontline staff, and shift focus from manual tasks to strategic interventions. This scalable framework lays the foundation for AI-enhanced, data-driven IPC.

Disclosure of Interest
None declared.

Classification	Quality improvement			
Target	HABSIs	HAUTIs	MDROs	Prophylactic Antibiotics in Surgery
Feature	A real-time information technology integrating clinical and laboratory data into a signal entry point user interface to assist infection control personnel in making decision.		The numbers of organisms, patients, and incident patients in each MDRO pattern were presented graphically to describe spatial and time information in a Web-based user interface.	At a 2,388-bed Taiwan medical center, nurses used Excel logic (IF, OR, MID, etc.) to automate infection data analysis from surgical and pharmacy records.
Results	Kappa coefficient of 0.97 (95% CI 0.95–0.99)	Kappa coefficient of 0.88 (95% CI 0.84–0.92)	Monitors 68 drug-resistant bacteria saves eight technicians per day and raises the accuracy rate to 100% (up from 63%).	In Jan–Feb 2019, 11,169 surgical records showed high accuracy: pre-incision antibiotics (sensitivity 94.6%, specificity 99.9%) and post-surgery discontinuation (sensitivity 93.9%, specificity 99.8%).

Classificati	Infectious Disease Prevention and Control			
Target	COVID-19 dashboards	Virtual Epidemic Clinic	Reporting Notifiable diseases	CJD
Feature	COVID-19 cases, alert indicators for community monitoring, COVID-19 beds in dedicated wards or ICUs, and staff infections.	This clinic has undergone process improvements and innovative practices, including deferred payment and waived expenses.	Assistance provided by RPA. ICPs only need daily data verification to ensure RPA's normal operation.	RPA automates HIS schedule checks, file conversion via VBA, CMS uploads/downloads, and alerts for CJD risks, ensuring regulatory compliance.
Results	Manual monitoring: 8 hours per time, dashboard operations: 16 minutes per time.	The Virtual Epidemic Clinic peaked at 8,849 visits during the COVID-19 outbreak in May and June 2021.	Manual operations required 13.4(±0.7) man-hours per day, while RPA required 0.5(±0.1) man-hours per day to ensure its normal operation.	From Sep 28–Nov 14, 2023: 314.2 surgeries, 110.2 endoscopies daily. Manual checks took 37.5 mins; robotic queries, 0.6 mins.

Fig. 1 (abstract P1162). See text for description

P1163

Innovative artificial intelligence surveillance module for a smarter infection prevention and control program

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1163

Introduction: Innovation plays a key role in infection prevention and control (IPC), especially in large healthcare systems. At Prince Sultan Military Medical City (PSMMC), a 1661-bed hospital in Riyadh, traditional manual surveillance of healthcare-associated infections (HAIs) heavily burdened Infection Preventionists (IPs). Despite having

Electronic Health Records (EHRs), time-consuming processes limited IPs' ability to focus on key IPC functions. To address this, an AI-based Infection Control Module was introduced to automate surveillance and improve program efficiency.
Objectives: This project aimed to develop and evaluate an AI-driven module to automate HAI detection, isolationclinical, MDRO identification, IPC reporting, and real-time dashboards, allowing IPs to focus on education and clinical rounds, enhancing patient safety.
Methods: A review of hospital needs guided the selection of a module compatible with the hospital's Electronic Health Records system, offering automation features, and HAI diagnostic and reporting capabilities. The project had three phases: (1) creation of IPC workflows and algorithms aligned with CDC/NHSN criteria; (2) configuration of four key components—MPages for real-time dashboards, an HAIs Advisor to diagnose 16 infections, automated Alerts and Rules, and over 10 IPC reports; and (3) a 12-month pilot phase for validation and staff training. Risk-benefit and effort-impact analyses supported implementation.
Results: The implementation of the AI-powered IPC Module at PSMMC significantly enhanced infection surveillance and IPs performance. It increased the detection of HAIs—by 1.5 times for CLABSI, 1.4 for MDROs, 2.2 for VAE, and 1.2 for CAUTI—while reducing missed reports in non-critical areas by up to 50%. Automation saved two to three working days per week per IPs, enabling greater focus on environmental rounds, training, and staff education. This led to a 45% increase in competency assessment coverage and 60% rise in research participation. Additionally, 25% of the team achieved IPC certification.
Conclusion: The AI module improved surveillance accuracy and IPC performance at PSMMC. Its success led to Ministry of Defense adoption across 26 hospitals, setting a new national benchmark in infection prevention.

Disclosure of Interest
None declared.

P1164

Objective evaluation of surface disinfectant wipes: toward standardised coverage duration assessment

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Introduction: The widespread use of surface disinfectant wipes in both healthcare and household environments underscores the need for reliable methods to assess their effectiveness. Despite their importance in infection control, there is currently no objective method to evaluate the duration of effective surface coverage—a critical factor in ensuring biocidal efficacy.
Objectives: This study aimed to objectively evaluate the surface coverage and liquid release performance of various disinfectant wipe and biocidal agent combinations using a novel, fluorescence-based digital image analysis method. The goal was to identify material and solution pairings that ensure optimal coverage duration across different surface types, supporting standardisation and improved product use.
Methods: This study examined three nonwoven wipe materials (polypropylene, viscose and a viscose-polyester blend), impregnated with either alcohol-based or alcohol-free disinfectant solutions. To assess surface coverage, a fluorescent tracer was incorporated into the solutions in low dose. This made the wet surface well visible under particular imaging conditions. Test surfaces (tile, steel, vinyl) were wiped under controlled conditions, and digital image analysis was used to monitor fluorescence intensity over time, enabling evaluation of both spatial coverage and the persistence of wetness.
Results: Significant differences in surface coverage were observed between wipe materials and disinfectant types. Viscose-based wipes showed broader and more consistent coverage than polypropylene. Wipes impregnated with alcohol-free solutions demonstrated greater surface coverage compared to those containing more volatile, alcohol-based disinfectants. The new digital fluorescence-based method enabled time-resolved analysis of surface coverage, filling a key gap in current evaluation protocols.
Conclusion: The combination of wipe material and disinfectant type plays a critical role in determining surface coverage duration. Our novel image-based method provides an objective, reproducible approach for assessing how long disinfectant remains effectively distributed on a surface. This technique offers a strong foundation for future standardisation efforts in disinfectant wipe evaluation, improving both product development and user guidance.

Disclosure of Interest
P. Szeremy: None declared, A. Galuska Employee of: Employee of the company whose disinfection wipes were studied., T. Haidegger: None declared.

P1165

Analysis of the material of ready-to-use disinfection wipes for surface disinfection and their impact on patient safety

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Introduction: Healthcare facilities face the challenge of becoming sustainable, not only in terms of CO_2 emissions, but also in terms of material consumption and waste production. Disinfectants may play a minor role in a hospital's overall waste production, however, in Germany alone surface disinfection wipes generate more than 1,800 tonnes of plastic waste per year. Therefore, a shift from petroleum-based plastic wipes to sustainable cellulose-based fibres is needed to make surface disinfection more sustainable.
Objectives: Different PET- and cellulose-based fibres for disinfection wipes are currently available. The aim of this study was to compare the physical properties of two cellulose-based wipes to conventional PET-based wipes and to discuss the results in the light of patient safety and ease of use.
Methods: Ready-to-use pre-impregnated disinfection wipes made from different fibres and soaked with low-alcohol or organic acid-based disinfectants were analysed for the tensile strength of the impregnated wipe, linting, and the interaction between fibre material and chemical formulation (pH shifts, discolouration).
Results: Cellulose-based wipes made from a single layer of wiping material exhibited similar tensile strength and linting to plastic-based wipes made from PET. The single-layer cellulose wipes caused a slight reduction in the pH value of the chemical formulation (DpH = 0.3). When the cellulose-based wipes were made from multiple layers of wiping material, including so-called pulp, the tensile strength was reduced by 80% compared to PET. The reduced fibre stability resulted in up to five times more lint than PET-based fibres. Furthermore, the wipe material caused a pH reduction of the chemical formulation by 1.
Conclusion: Reductions in tensile strength make forceful wiping difficult, while lint remaining on surfaces poses a risk to patients, as it can delay healing if it gets into wounds, e.g. during surgery. The observed interaction between cellulose-based materials and the disinfectant solution may influence the efficacy and should be further analysed. Disinfection must undergo a green transformation, but patient safety and ease of use must not be compromised.

Disclosure of Interest
M. Krewing Employee of: The author is employee of BODE Chemie GmbH, a company of the HARTMANN Group, which is a manufacturer and vendor of disinfectants., H. Niesalla Employee of: The author is employee of BODE Chemie GmbH, a company of the HARTMANN Group, which is a manufacturer and vendor of disinfectants., C. Noderer Employee of: The author is employee of BODE Chemie GmbH,

a company of the HARTMANN Group, which is a manufacturer and vendor of disinfectants.

P1166

Development of broad-spectrum disinfectants based on QAC with enhanced virucidal activity

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Introduction: Quaternary ammonium compounds (QAC) have strong antimicrobial properties and remain the basis of disinfectants and antiseptics, eye drops etc. QAC of different structure have different effects against various classes of microorganisms. The antimicrobial activity of these compounds is dependent mainly on the length of the side alkyl chain (the most efficient are C_{12}, C_{14}, C_{16}). QAC are effective against enveloped viruses due to their ability to disrupt the viral lipid membrane. In case of non-enveloped viruses, the efficacy is lower [1].
Objectives: The new disinfectants could be applied against bacteria and fungi, but they also have the potential strong virucidal effect.
Methods: Novel QAC containing at least one hydroxyethyl group and a minimum of two long alkyl chains have been synthesized and evaluated for their antimicrobial activity. In addition, skin-irritation tests and in vitro cytotoxicity using eukaryotic CHO-K1 cells were performed.
Results: We have found out that the presence of the hydroxyethyl group in the molecule and the presence of two alkyl chains (C_8-C_{12}) have a positive effect on the virucidal effect while maintaining the bactericidal and fungicidal effect. In a concentration lower than 0.01%, couple of compounds showed a sufficient efficacy against two strains of viruses: SARS-CoV-2 and murine cytomegalovirus. They were able to reduce virus titre by 5 logarithms upon 5 min exposure.
Conclusion: We have built an extensive database of over 140 QAC and systematically evaluated their antimicrobial properties, focusing on antibacterial, antifungal, and biofilm-eradicating activities. During this screening, we also identified several compounds exhibiting strong antiviral activity against varicella-zoster virus, SARS-CoV-2, and murine cytomegalovirus.
References: [1] Soukup O, Benkova M, Dolezal R, et al. The wide-spectrum antimicrobial effect of novel N-alkyl monoquaternary ammonium salts and their mixtures; the QSAR study against bacteria. *Eur J Med Chem*. 2020;206:112584.
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None declared.

P1167

Structure–activity relationship of quaternary ammonium biocides: towards enhanced antimicrobial efficacy against resistant strains

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Introduction: Quaternary ammonium compounds (QACs) are a structurally diverse group of antimicrobial agents widely used in disinfection and antisepsis. Their efficacy strongly depends on molecular structure, with even minor modifications significantly impacting activity, particularly against viruses.
Objectives: Through extensive screening of novel QACs, we observed substantial differences in effectiveness across structural groups. Traditional monoquaternary compounds show reduced activity against resistant strains, while molecules with multiple alkyl chains or hydroxyalkyl groups exhibit enhanced antimicrobial, including virucidal properties.
Methods: The minimum bactericidal concentration (MBC) and minimum fungicidal concentration (MFC) were measured using the microdilution broth method for the basic evaluation of the antimicrobial effectivity of novel compounds. Furthermore, the Calgary biofilm assay was used to determine the minimum biofilm eradication concentration. Finally, the EN standards methods were used to compare the most promising compounds.
Results: Notably, variability in sensitivity among isolates of the same microbial species underscores the importance of evaluating compounds in clinical contexts. These findings highlight the potential of structure-guided QAC design to develop broad-spectrum disinfectants with improved performance against both viral and resistant bacterial pathogens.
Conclusion: Over the past 10 years, our group has prepared more than 180 new substances of the QAC type from several of the most used groups in practice, divided by structure. All substances were screened against a wide range of microorganisms (bacteria, fungi, viruses), and the influence of the structure and effectiveness of individual groups, as well as differences in sensitivity within one strain isolated from various samples of clinical use, was monitored.
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Disclosure of Interest
None declared.

P1169

Evaluating hospital surface cleaning with hydrogen peroxide, fifth-generation quaternary ammonium compound, and polyhexamethylene biguanide: impact of bioburden on cleaning effectiveness

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Introduction: Healthcare environments face a significant risk of contamination due to the high microbial load (bioburden) on surfaces and equipment.
Objectives: To evaluate the effectiveness of a cleaning agent, composed by three substances, hydrogen peroxide, fifth-generation quaternary ammonium compounds, and polyhexamethylene biguanide (PHMB), in reducing surface bioburden in hospital settings.
Methods: A threshold of ≤ 250 Relative Light Units (RLU) was defined as the acceptable limit for cleanliness. Application of NQ PEROXY PLUS (NOW QUÍMICA) was performed using disposable wipes pre-impregnated with the disinfectant. Surfaces in hospital settings were categorized by contamination levels (11 ranges) and cleaned accordingly. Pre-and post-cleaning ATP bioluminescence readings were taken using the 3 M™ Clean-Trace™ NGi system. The success rate of cleanliness was calculated using point estimation and a 95% confidence interval. A logistic regression model was built to predict the probability of achieving surface cleanliness.
Results: A sample of 25 surfaces was submitted to cleaning between Sep/2023-Apr/2025. Threshold of ≤ 250 RLU was achieved on 22

surfaces, resulting in a cleanliness success rate of 88% (95% C.I.: 69%−97%). In terms of initial contamination, laboratory workbench and toilet bowl present similar higher RLU values, while patient mattress and companion chair have similar lower RLU values. We observed a negative correlation between initial contamination and cleaning effectiveness. NQ PEROXY PLUS achieved high efficacy in surfaces with moderate bioburden (< 10,000 RLU), but performance dropped significantly beyond 74,800 RLU. Regression analysis confirmed that the probability of achieving acceptable cleanliness declined steeply with increasing contamination (Fig. 1).
Conclusion: Our findings highlight the product's reliability in routine disinfection but emphasize the need for adaptive cleaning strategies based on bioburden severity.

Disclosure of Interest
None declared.

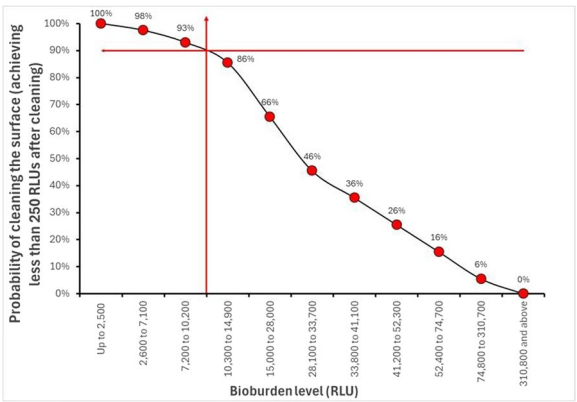

Fig. 1 (abstract P1169). See text for description

P1170

The value of an hospital on-site generated disinfectant and cleaner

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Introduction: Ensuring the safety of patients and healthcare staff requires a clinical environment that is free from infection risks and chemical hazards. The selection of disinfectants and cleaners plays a crucial role in achieving this objective. Traditional disinfectants and cleaners can be harsh on humans, surfaces, and the environment. To address this concern, innovative hypochlorous acid (HOCl) technology has emerged, offering powerful yet safe, simple, sustainable, and effective disinfectant/cleaner on demand. Efficient site-generated HOCl has recently been perfected, providing on-demand systems that deliver an oxidizing, broad-spectrum sporicidal disinfectant, as well as a potent cleaner and degreaser. To assess the impact and effectiveness of a HOCl site-generated disinfectant and cleaner, a case study was conducted at Orlando Regional Medical Center (ORMC).
Objectives:
1. Install a site HOCl generator.
2. Show the effect of using this disinfectant on reducing HAIs.
3. Provide evidence of significant cost savings compared to traditional bottled disinfectants.
Methods: An 18-month trial was carried out at the North Tower of ORMC, excluding the operating rooms. During the trial period, performance was evaluated based on several factors: adenosine triphosphate (ATP) levels, healthcare-associated infections (HAIs), ease of use, aesthetics, employee safety, sustainability, and cost.
Results: The study revealed an overall reduction in HAIs related to *Clostridioides difficile* (C. diff) and methicillin-resistant *Staphylococcus aureus* (MRSA). ATP measurements indicated over a 20% improvement in contaminant inactivation. Furthermore, employee sick days related to chemical exposure dramatically decreased. The facility also experienced a 50% reduction in costs. Notably, there was a 50,000-pound reduction in waste, with the elimination of over 1,000 chemical bottles.
Conclusion: Utilizing a site-generated disinfectant and cleaner significantly mitigates the risk of pathogen transfer, creating a safer environment for both employees and patients. The use of site-generated HOCl also contributes to a substantial reduction in waste and overall costs for the hospital. Ongoing studies aim to enhance the impact of this case study, as well as to expand the application of this technology within multiple hospitals.

Disclosure of Interest
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P1171

Effect of antimicrobial surfaces on bioburden, hai, and patient colonization in clinical settings a: systemic review

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Introduction: Healthcare-associated infections (HAIs) continue to present a major challenge to patient safety and healthcare systems globally. Contaminated high-touch surfaces are known reservoirs for pathogen transmission. Antimicrobial surfaces, such as those coated with copper or silver, have been developed to reduce surface bioburden continuously and without human intervention. Despite their increasing use, literature regarding their clinical effectiveness remains limited.
Objectives: To review and evaluate the effect of antimicrobial surfaces in clinical settings on surface bioburden, HAIs, and patient colonization. This review aims to clarify the evidence supporting these technologies and their practical implications for infection control.
Methods: A systematic literature search was conducted in PubMed and Embase. 3,232 studies were screened by two independent researchers. Disagreements were resolved by consensus or third-party adjudication. Studies were included if they assessed antimicrobial surfaces or coatings applied in clinical settings and reported outcomes on environmental bioburden, HAIs, or patient colonization. Data extraction included type of antimicrobial surface, study design, outcome, microorganisms tested, and study quality.
Results: Eighty studies met the criteria for full text analysis, and 56 studies were included in the review. Studies analyzed bioburden (49), HAIs (13), and patient colonization (5). The most common interventions were copper (29), polymers (8), silver (5), hydrophobic coatings (3), and others (11). Preliminary data analysis suggests that while antimicrobial surfaces consistently reduce bioburden, the evidence for reduction in HAIs and patient colonization is less robust. Variability in study design and lack of standardized outcome reporting were common limitations.
Conclusion: Antimicrobial surfaces are a promising adjunct to infection prevention protocols, particularly for reducing microbial bioburden. Further high-quality studies are needed to determine their impact on clinical outcomes. Data analysis is ongoing, and results will be completed by July 2025.

Disclosure of Interest
None declared.

P1172

Combatting healthcare-associated infections: a copper-based antimicrobial coating resistant to abrasion and chemicals

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Introduction: The spread of antibiotic-resistant bacteria and pathogens on frequently touched surfaces in healthcare and public settings poses a significant public health challenge. Traditional disinfectants and coatings often lack durability and long-term efficacy, necessitating the development of advanced antimicrobial solutions.
Objectives: This study aimed to develop a wear-resistant antimicrobial coating, capable of inhibiting microbial growth on various surfaces while withstanding physical and chemical abrasion. A key focus was achieving controlled release of copper ions for sustained antimicrobial activity.
Methods: The coating formulation comprised an epoxy resin (42%), an amine-based curing agent (21%), copper sulfate (3%), and a surfactant (33%), dissolved in water and ethanol. Copper ions were complexed by the amine groups in the curing agent, enabling their controlled release. The antimicrobial efficacy was tested against Staphylococcus aureus (gram-positive) and Escherichia coli (gram-negative) on coated wood and artificial leather surfaces. Wear resistance was evaluated by subjecting stainless-steel carriers to 10 cycles of abrasion and chemical treatment (water and ethanol). Bacterial reduction was measured after 2 h of exposure.
Results: The coating achieved a 100% reduction in bacterial growth for both tested species within 2 h. The amine-copper complex ensured sustained release of bioactive copper ions, maintaining efficacy even after abrasion and chemical exposure. The coating demonstrated at least one week of residual activity, highlighting its potential for durable and broad-spectrum antimicrobial protection on diverse surfaces.
Conclusion: By leveraging amine-complexed copper ions for controlled release, the developed coating offers a scalable and long-lasting solution to mitigate pathogen transmission on high-touch surfaces in healthcare, industrial, and public environments.

Disclosure of Interest
None declared.

P1173

Analysis of infection control practices in laundering: a need for consensus on microbial sterility of hospital linen

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Introduction: Healthcare linen is one of the sources of healthcare-associated infections (HAIs) and hospital laundering plays a vital role in linen decontamination. Infection control practices in hospital laundering are an inevitable prerequisite for HAI prevention, cost-effectiveness, and marketing triumph in a hospital.
Objectives: -
Methods: The study aimed to assess the quality of hospital linen provided to patients in one of the premier multispecialty hospitals of North India. Microbiological assessments were done using CLSI disk diffusion and MALDI-TOF MS methods for the identification and susceptibility of organisms. The difference in the load of the organisms was analyzed between different stages of the laundry and storage process.
A cross-sectional study was also conducted to assess infection control measures practiced in hospital laundry. The assessment tool used was divided into 3 components having 12 indicators which have 65 parameters.
Results: The laundry cycle follows a pre-wash, washing cycle, and post-wash cycle to clean linen. A total of (n = 155) linen items were collected in different stages of the laundering process [41 linen before decontamination; 114 linen after decontamination (Post washing = 40; Linen Bank = 40; Ward 34)].
A square inch of linen from each linen was vortexed in normal saline and using appropriate media colony forming units (CFU)/inch of linen were calculated. After analysis, it was found that 100% of pre-wash linen harbor viable organisms (22.59% were multidrug-resistant pathogenic organisms: MDROs). The counts decreased to 40% (having no MDROs) in the post-decontamination phase with an overall reduction by a factor of 103.77. The percentage of samples with a load of more than 10^3/square inch reduced to 36.63% after the washing step, but again increased to 49.99% and 46.66% in linen bank and end-level usage respectively.
The scores for each component based on the assessment tool were calculated as 94.1% for safety measures, 84.5% for infection control and 71.5% for quality assurance.
Conclusion: Infection control practices in laundering are one of the essential requirements to minimize HAIs and provide better care and safety to patients as well as to healthcare providers.

Disclosure of Interest
None declared.

P1174

The impact of bacteria colonisation and cost effectiveness of disposable antimicrobial and sporicidal curtains in a community hospital

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Introduction: Curtain contamination in healthcare settings is a significant concern due to several factors. The large surface area of curtains is a habitat for pathogens. Healthcare workers frequently have contact with curtains, increasing the risk of transferring pathogens to patients and surfaces increasing the risk of healthcare-associated infections (HAIs). This underscores the importance of implementing effective infection control measures to reduce HAIs in healthcare environments.
Objectives: The objective of this project is to determine the efficacy and cost effectiveness of utilising disposable antimicrobial and sporicidal curtains in a community hospital.
Methods: The curtains were placed in three 5-bedded cubicles in a Multidrug-Resistant Organism (MDRO) ward and two cubicles in general wards from Septamber 2023 to September 2024 in Outram Community Hospital (OCH). The trial at Sengkang Community Hospital (SKCH) from January 2024 to January 2025 involved one 5-bedded cubicle. To assess the curtains'effectiveness, samples were taken from high-contact points at 1, 3, 6, and 12-month intervals for total aerobic plate count tests. A cost analysis was also performed comparing traditional curtains with disposable options, aiming to provide insights into their effectiveness and economic feasibility in infection control.
Results: Results show there was no growth of microorganisms on the disposal antimicrobial and sporicidal curtains at the 1 st, 3rd, 6th, and 12th months in both community hospitals. This suggests that the antimicrobial properties of the curtains were effective in preventing microbial growth over the observed time periods. A cost benefit analysis of switching from conventional laundry to disposable antimicrobial and sporicidal curtains showed estimated annual savings of $123,403 for 14 wards at OCH and $50,097.10 for 12 wards at SKCH.
Conclusion: The study show that antimicrobial and sporicidal curtains are effective in preventing pathogens transmission to patients. This strategy is beneficial for infection prevention, significantly reducing healthcare-associated infection risks. Additionally, these curtains are cost-effective, leading to considerable savings in laundering and replacement costs.

Disclosure of Interest
None declared.

P1175

Effectiveness of antimicrobial and sporicidal disposable curtain in comparison with cleaning methods on standard curtains against transmission of bacterial in a university hospital setting

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Introduction: Hospital curtains are high-touch surfaces frequently contacted by patients, healthcare personnel, and visitors. Among healthcare teams, curtains are often touched both before and after patient care activities, posing a significant risk for microbial contamination, particularly if not cleaned at appropriate intervals. To mitigate this risk, curtains coated with antimicrobial agents such as silver ions or quaternary ammonium compounds (QACs) have been developed as potential alternatives to fabric curtains.
Objectives: This study aimed to evaluate the effectiveness and cost-efficiency of antimicrobial and sporicidal disposable curtains (experimental group) compared with standard polyester fabric curtains (control group) in a hospital.
Methods: This quasi-experimental study was conducted in the ICU of the Faculty of Medicine, Ramathibodi Hospital. Samples were collected from two high-touch areas on curtain surfaces on days 0, 15, 30, 60, 90, and 120 after installation. Additional samples were taken immediately after the discharge of patients under contact precautions, reflecting actual curtain usage. Curtains were promptly replaced if bacterial contamination exceeded 2.5 CFU/cm^2 or if multidrug-resistant organisms were detected.
Results: Curtains in the experimental group showed significantly lower bacterial contamination than the control group at all time points ($p < 0.001$), with no samples exceeding the 2.5 CFU/cm^2 threshold. The highest contamination was 2.1 CFU/cm^2 in the control group on day 30. Contamination in the experimental group remained below 0.2 CFU/cm^2 throughout the study, while levels in the control group increased over time. A cost analysis showed that the total cost for the experimental curtains was 72% lower than that of the control group over four months.
Conclusion: Antimicrobial and sporicidal disposable curtains are highly effective in reducing bacterial contamination and offer substantial cost savings compared to standard fabric curtains. Their use is particularly recommended in high-risk areas such as intensive care units. Hospitals should consider incorporating these curtains alongside revised cleaning policies to optimize infection prevention strategies.

Disclosure of Interest
None declared.

P1177

Reduced size and duration of microbial clusters in a neonatal intensive care unit after sink and curtain removal

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Introduction: In our neonatal intensive care unit (NICU) we conduct weekly rectal surveillance cultures of all admitted patients. General measures appeared to be insufficient to prevent potential microbial clusters, and in September 2024 sinks and curtains were removed in order to reduce the risk of microbial transmission.
Objectives: To evaluate the impact of our intervention, we conducted a pre-post comparison of the number and size of potential microbial clusters identified in the weekly rectal screening culture results.
Methods: The pre-intervention period was January 2023 to September 2024, and the post-intervention period was October 2024 to April 2025. The start of a 'potential microbial cluster' was defined as ≥ 3 patients with the same gram negative bacilli (GNB, *E. coli* excluded) or ≥ 2 patients with *Serratia sp*, or ≥ 2 patients with the same ESBL-producing GNB species in the same screening week. New cases with similar findings in consecutive weeks were considered part of the potential cluster. The end of a cluster was defined when there were no new similar findings for 3 weeks in a row. The number of clusters, their duration and size were compared between the pre- and post-intervention period.
Results: In the pre-intervention period, 13 potential clusters were found (2.1 clusters/100 days) compared to 7 clusters in the post-intervention period (3.2 clusters/100 days; $P = 0.36$). Median size of a cluster decreased from 5 to 3 patients ($P = 0.006$). Median duration of a cluster decreased from 27 pre- to 15 days post-intervention ($P = 0.241$).
Conclusion: This preliminary analysis shows that the interventions did not lead to less potential clusters, but the clusters of pathogens among NICU patients were smaller. Despite the low numbers, the findings are in line, suggesting a reduction in microbial transmission resulting in smaller and shorter potential clusters. Further analysis with a larger sample size is needed to confirm the impact of our intervention.

Disclosure of Interest
None declared.

P1178

Exploring the hospital environmental reservoir and impact of reinforced cleaning: a before and after study in NICU/PICU in a university hospital in Lao PDR

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Introduction: Environmental hygiene is a key component of infection prevention in healthcare, and a driver of healthcare-associated infections in particular in neonatal (NICU) and paediatric intensive care units (PICU).
Objectives: To assess the prevalence of critical hot spots and environmental reservoirs for cross-transmission in the hospital's environment and to assess the reinforced cleaning efficacy in this setting.
Methods: A cross-sectional study was carried out in a NICU/PICU in a tertiary care hospital in Laos from March to April 2025. Inanimate surfaces and medical equipment identified as hot-spots were sampled in 2 phases. A contaminated sample was defined with a bioburden > 30 CFU or with growth colonies of interest (i.e. *S. aureus*, *P. aeruginosa*, faecal flora). Contaminated samples before cleaning were sampled after reinforced cleaning. Swabs were used which were incubated on neutral and selective plates at 37 °C for 3 days. Colonies of interest were identified with API® galleries and mass spectrometry and antibiograms were obtained by disk diffusion.
Results: In total, 40 samples were taken before cleaning of which 19(47.5%) were sampled after cleaning. The visual cleanliness degree was equal to 47% before cleaning with the sink and monitors being the dirtiest. Before cleaning, 3(7.5%) samples were positive with *Staphylococcus aureus* of which one was MRSA. Three(7.5%) samples were detected positive for ESBL Enterobacteriaceae, all of them located in the surfaces near the sink. After cleaning, the prevalence of contaminated samples was twice reduced after cleaning (47.5% *vs* 22.5%, $p = 0.02$). The sink was systematically contaminated before and after reinforced cleaning with the detection *Pseudomonas* resistant to ceftazidime and *Stenotrophomonas maltophilia* after cleaning, suggesting the existence of biofilm.

Conclusion: Controlling environmental reservoirs, with thorough IPC measures such as validated cleaning protocols is needed. Investigation for more effective cleaning options are necessary in particular in the wet hospital environment to limit the growth of biofilm.

Disclosure of Interest
None declared.

P1179

The hospital environment as a high-risk reservoir for infections in ICU patients in Vietnam

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Introduction: The spread of multidrug-resistant organisms is a major public health threat, particularly in middle-income countries. In Vietnam, microbiological data revealed a high prevalence of carbapenem- and/or colistin-resistant Gram-negative bacilli (CCRGNB), with environmental surfaces suspected to play a key role in cross-transmission.
Objectives: This study aimed to map the environmental microbial ecology of CCRGNB within the ICU of Viet Tiep Hospital.
Methods: On March 12, 2024, a total of 100 environmental samples were collected across three ICU units: intensive care, step-down care, and isolation areas. Samples were taken from surfaces near patients, medical devices, and ancillary areas. Six control samples were collected from surfaces previously disinfected. Samples were collected using eSwab®, stored at room temperature for 48 h, and incubated in Schaedler broth supplemented with ertapenem (0.5 µg/mL). After 18 h, selective media chromID® CARBA SMART, chromID® Colistin R (bioMérieux), and mSuperCarba™ (CHROMagar™) were inoculated. Colonies were identified using mass spectrometry (MALDI-TOF Biotyper®, Bruker), and antimicrobial susceptibility testing was performed. Carbapenemase gene were detected using multiplex PCR (Xpert® Carba-R, Cepheid).
Results: Ouf of 100 samples, 90% were positive for at least one CCRGNB strain (n = 205). Non-fermenting Gram-negative bacilli (n = 155) were the most frequent: *Pseudomonas* spp. (n = 59, with *P. aeruginosa* n = 7), *Acinetobacter* spp. (n = 29, with *A. baumannii* complex n = 11), *Stenotrophomonas maltophilia* (n = 29), *Chryseobacterium* spp. (n = 10), *Aeromonas* spp. (n = 10), *Elizabethkingia* spp. (n = 9), and other environmental bacilli (n = 9).
Among the Enterobacterales isolates (n = 50), 30 NDM, 13 KPC and 6 OXA-48-like producers were identified. Amoug Enterobacterales, *Klebsiella pneumoniae* was the most commonly identified species (n = 15). All control samples collected from supposedly clean surfaces were tested positive.
Conclusion: These preliminary results highlighted the potential involvement of multiple environmental reservoirs in the cross-transmission of CCRGNB in the ICU at Viet Tiep Hospital. Further analysis using whole genome sequencing and MultiLocus Sequence Typing is underway to characterize resistance mechanisms.

Disclosure of Interest
None declared.

P1183

Mapping microbial diversity in critical care sink environments despite routine chlorine disinfection: integrating culture-based and 16 s RRNA sequencing approaches

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Introduction: Hospital sink drains and faucet aerators are persistent reservoirs for healthcare-associated pathogens. These niches are often protected by biofilm structures that resist standard disinfection procedures. Understanding the microbial diversity of such environments is essential for infection control and hospital hygiene.
Objectives: This study aimed to characterize microbial communities in sink drains and faucet aerators from the intensive care units (ICUs) of Trnava University Hospital by integrating conventional culture-based methods with high-throughput 16S rRNA gene sequencing.
Methods: Samples were collected from five high-risk ICUs focusing on siphons, aerators, and sink drains. All locations were routinely disinfected with chlorine-based agents. Cultivation was performed on selective media targeting key resistance mechanisms. Molecular profiling was conducted using Illumina-based 16S rRNA sequencing and a commercial microbiota kit. Microbial diversity was assessed through alpha and beta diversity analyses and statistically compared across departments.
Results: All sampled sites showed high microbial diversity. Culture-based methods identified clinically important pathogens, including *Pseudomonas spp.*, *Acinetobacter spp.*, *Staphylococcus spp.*, and *Enterococcus spp.*, with several isolates resistant to carbapenems or vancomycin. However, 16S rRNA sequencing revealed a broader microbial spectrum, including uncultivable genera such as *Methylobacterium*, *Mycobacterium*, and *Ralstonia*. Diversity metrics demonstrated significant variability in microbial composition and abundance across departments. Persistent microbial contamination was observed despite routine daily chlorine disinfection.
Conclusion: Sink drains and faucet aerators in ICUs harbor complex microbial communities, including MDR pathogens, even under regular chlorine based disinfection protocols. Molecular tools such as 16S rRNA sequencing substantially improve detection sensitivity compared to cultivation alone. These findings highlight the importance of implementing molecular surveillance in routine environmental hygiene programs and support targeted interventions in high-risk hospital areas.

Disclosure of Interest
None declared.

P1185

Risk factors for respiratory infections in long-term care facility residents: a three-year prospective study

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Introduction: Introduction: Respiratory infections (RIs) are a leading cause of mortality among older adults, particularly those residing in long-term care facilities (LTCFs). This study investigates the epidemiology of RIs and associated clinical characteristics among LTCF residents in southern Poland.
Objectives: Identifying modifiable risk factors is essential to improve prevention strategies and healthcare outcomes in this vulnerable population.
Methods: This prospective longitual study aimed to identify risk factors for RIs among LTCFs in southern Poland. Data were collected between 2022 and 2024 across five LTCFs, including 250 residents and totaling 137,537 person-days of observation. Data including demographics, comorbidities, medication use, vaccination and functional status were collected. Additionally, new infections, hospitalizations, and changes in residence were monitored. NCN 2021/41/B/NZ6/00749
Results: During the observation period 68 hospitalizations were recorded, and 63 deaths occurred. Antibiotics were prescribed on 210 occasions, amounting to 1,473 days of therapy (DOT), most commonly β-lactams (745 DOT) and fluoroquinolones (249 DOT). A total of 23 residents received more than one antibiotic (abx). An average

DOT of 7 days for one abx and 15 days for two, abx didn't increase risk of Clostridioides difficile infections. Among study population 70 residents developed RIs.
Residents with RIs were significantly older (Me age: 85 vs. 79 years; $p = 0.002$) and showed greater functional dependence, with lower Barthel Index scores (25 vs. 58; $p < 0.001$) and more support required in daily activities (ADL; $p = 0.024$).
Pneumococcal vaccination have a protective effect: 46.3% of residents without infections had been vaccinated, compared to only 28.2% in the infected group ($p = 0.03$). No statistically significant differences were found between groups regarding chronic conditions or use of common medications.
Conclusion: Older age, reduced functional status were significantly associated with RI in LTCF residents. Pneumococcal vaccination may reduce infection risk. Chronic disease burden and medication use did not significantly affect infection rates.

Disclosure of Interest
None declared.

P1186

Influenza-like illness in senior citizens: insights from a nursing home-based sentinel surveillance in Belgium

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Introduction: The COVID-19 pandemic underlined the vulnerability of the nursing home (NH) population, which accounted for about 50% of all COVID-related deaths in Belgium. In October 2022, a NH-based sentinel surveillance to monitor influenza-like illness (ILI) was set up to complement initiatives in the general population.
Objectives: This study aims to report the main findings of the past three ILI seasons in NH.
Methods: The surveillance is organised in two components. In the epidemiological component, the number of new ILI-cases, hospital admissions and deaths are reported weekly. In the virological component, a maximum of two samples are sent weekly to the National Reference Centre (NRC) for Influenza, during the influenza surveillance season. The samples are analysed for SARS-CoV-2, influenza, and 16 other respiratory infections. Recruitment and follow-up are organised through the regional authorities regulating Infection Prevention and Control in NH.
Results: In Belgium, there are about 1,559 NH and 151,130 residents. In 2022-23, 2023-24, and 2024-25, 34 (2,943 residents), 41 (3,834 residents), and 70 NH (6,925 residents) participated during the entire season, respectively. In the first and second seasons, there were disproportionately more participating NH in Flanders. There were peaks of ILI per 1,000 NH residents in December 2022 (20), December 2023 (20), February 2024 (16), and January 2025 (23) (Fig. 1). In February 2023, an increase in ILI, caused by an outbreak in one NH, could be observed. The highest ILI incidence was reported in January 2025. A limited number of samples (237) were received over the three seasons. Most detected viruses were SARS-CoV-2 (10), enterovirus/rhinovirus (15) and enterovirus/rhinovirus (11) in season 2022-23, 2023-24, and 2024-25, respectively.
Conclusion: The peak of ILI per 1,000 NH residents coincided with that of the influenza epidemic in all seasons, highlighting that this surveillance complements those already established in the general population and enables the federal Risk Assessment Group to propose essential mitigation measures to the authorities. Gradually setting up a NH-based surveillance proved effective in Belgium, resulting in a robust sentinel network. The virological component requires revision due to the limited number of samples received.

Disclosure of Interest
None declared.

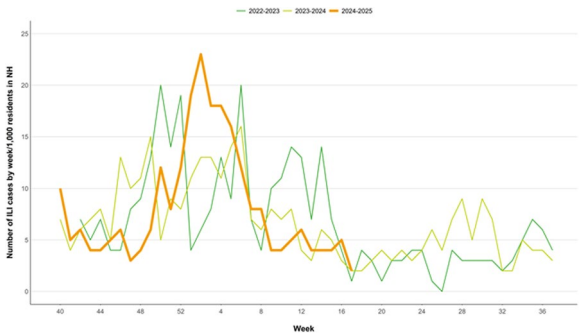

Fig. 1 (abstract P1186). Incidence of influenza-like illness (ILI) cases per 1,000 nursing home (NH) residents per week in the Belgian NH sentinel network, 2022-2025

P1187

Nursing home health personnel Covid vaccine uptake rates before 15/06/2021 vs. perception in 2023 of its link to vaccine mandate in France

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Introduction: The first wave of Covid vaccination in France began in 1/2021 for residents in nursing homes (NH) and health personnel (HP). An obligatory Covid vaccine mandate was announced in 12/07/2021 and enforced for HP from 15/09/2021 onwards. HP vaccine hesitancy, though multifactorial, has been cited as linked to the mandate. Lyon University Hospital (Hospices Civils de Lyon, HCL) has a mobile infection prevention and control (IPC) team EMHE working with 95 NH, with access to NH declared Covid vaccine uptake rates in 2021. In 2023, EMHE conducted a HP questionnaire survey on vaccine perception, with self-declared Covid vaccine uptake in 2021 and its perceived link to the mandate.
Objectives: To analyse actual Covid vaccine uptake rates before 15/6/2021 in NH linked to EMHE, with regards to HP perceived uptake and its link to the mandate from the 2023 survey.
Methods: Actual HP Covid vaccine uptake rates in 15 NH were compiled from NH IPC meeting minutes and email updates between 1/4-15/6/2021, a period considered optimal for HP vaccine access (without 50 + or 50- age limits) and before mandate announcement. A HP survey was conducted from 1/9-8/12/2023 in 27 NH before IPC training by EMHE. 481 questionnaires were analysed on self-declared uptakes of Covid vaccine in 2021, Covid Omicron booster in 2022, and whether Covid vaccination was perceived as linked to the mandate.
Results: In 2021 data from 15 NH, 763 HP (61.47%, range 25-100%) received Covid vaccines before 15/6/2021. In the 2023 survey, 474 HP (98.54%) declared Covid vaccine uptake in 2021 and 162 HP (33.68%) had boosters in 2022. 383 HP (79.63%) declared vaccine uptake in 2021 as linked to the mandate (76 HP 15.80% not linked). In 13/07/2021, a Santé publique France national survey estimated NH HP Covid vaccine uptake rate at 62.4%. (see Fig. 1).
Conclusion: A majority of NH HP personnel received Covid vaccination in 2021 before the mandate announcement. There is strong perception in 2023 that Covid vaccination is linked to the mandate. We note the difficult circumstances in NH during vaccination campaigns in 2021, as Covid outbreaks continued due to circulating variants (Alpha and Delta) in France.

Disclosure of Interest
None declared.

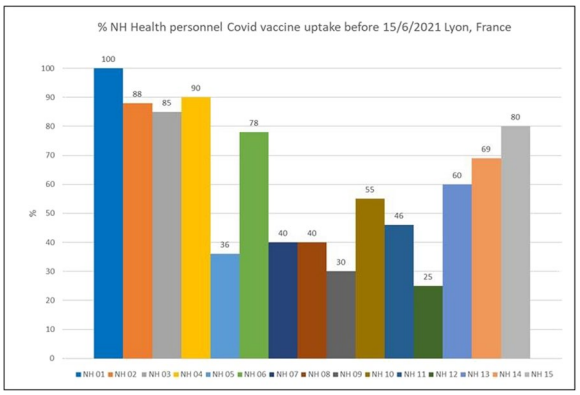

Fig. 1 (abstract P1187). See text for description

P1188

First national point prevalence survey of healthcare-associated infections in Singapore's long-term acute care hospitals

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Introduction: Healthcare-associated infections (HAIs) are significant contributors to patient morbidity and mortality. While HAI prevalence in Singapore's acute care hospitals has been monitored since 2015, data from long-term acute care hospitals (LTACHs) remain unknown. Given the extended lengths of stay and unique patient populations in LTACHs, understanding HAI epidemiology in these settings is crucial for guiding infection prevention efforts.
Objectives: To determine the prevalence, distribution of infection types, and associated microorganisms of HAIs in Singapore's LTACHs.
Methods: We conducted a PPS across nine LTACHs in Singapore between July and November 2024, using an adapted version of the Singapore acute care hospital HAI-PPS protocol[1]. All adult inpatients present in the wards at 8:00 AM on each survey day were included. Data collection encompassed patient demographics, comorbidities, invasive procedures, and HAI details based on standardised surveillance definitions. Standardised infection ratios (SIRs), defined as the ratio of observed to expected HAI cases, were calculated, with the number of expected cases derived using a logistic regression model that adjusted for hospital size, single-bed room proportion, patient age, and presence of chronic lung disease**.**
Results: Among 1,546 patients whose baseline characteristics are presented in Fig. 1, 86 had at least one HAI (5.6%). The most common HAI types were unspecified sepsis (36.2%), urinary tract infections (24.5%), and surgical site infections (18.1%). Microorganisms were isolated from 24 of these infections (25.5%), with *Enterobacterales* predominating (54.8%), followed by *Enterococcus* spp. (9.7%), and *Pseudomonas aeruginosa* (9.7%). Notably, all *Staphylococcus aureus* isolates demonstrated methicillin-resistance while vancomycin resistance was observed in one-third of *Enterococcus* isolates. At the hospital level, most LTACHs had SIRs approximating 1.0, indicating that observed HAI frequencies aligned with risk-adjusted expected numbers.
Conclusion: This first national HAI-PPS establishes a baseline HAI prevalence of 5.6% in Singapore's LTACHs. The observed infection patterns highlight priority areas for prevention.

Disclosure of Interest
None declared.

Reference

1. Cai Y, Venkatachalam I, Tee NW, Kurup A, Wong SY, et al. Prevalence of healthcare associated infections and antimicrobial use among adult inpatients in Singapore acute-care hospitals: results from the first national point prevalence survey. Clin Infect Dis. 2017:64(Suppl_2):S61-7

Baseline characteristics	Number of patients (N=1546) (%)
Gender, female	844 (54.6)
Median length of stay (IQR)	16 (9.0–27.0)
Comorbidities	
• Diabetes	671 (43.4)
• Cerebrovascular disease	377 (24.4)
• Dementia	346 (22.4)
• Chronic kidney disease	344 (22.3)
• Malignant solid tumour	284 (18.4)
• History of myocardial infarction	262 (16.9)
• Hemiplegia/paraplegia	130 (8.4)
• Congestive heart failure	101 (6.5)
• Chronic pulmonary disease	92 (6.0)
• Peripheral vascular disease	81 (5.2)
• Peptic ulcer disease	53 (3.4)
• Liver disease	47 (3.0)
• Connective tissue disease	32 (2.1)
• Haematological malignancy	14 (0.9)
• AIDS	1 (0.1)
Median age-adjusted Charlson Comorbidity Index (IQR)	6 (4.0–8.0)
History of surgery*	535 (34.6)
Presence of devices	
• Central vascular catheter	75 (4.9)
• Peripheral vascular catheter	196 (12.7)
• Indwelling urinary catheter	198 (12.8)
• Feeding tube	86 (5.6)

Fig. 1 (abstract P1188). Baseline characteristics of patients. *Surgery without implant in the past 30 days and surgery with implant in the past 1 year from date of survey

P1189

Risk factors for healthcare-associated infections in Singapore's long-term acute care facilities: findings from the first national point prevalence survey

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Introduction: Long-term acute care facilities (LTACHs) serve an increasingly important role in Singapore's healthcare landscape,

caring for patients requiring extended medical care and invasive devices, potentially increasing their risk of healthcare-associated infections (HAIs). Understanding facility- and patient-specific risk factors for HAIs in LTACHs is crucial for developing targeted prevention strategies, yet such data remain limited in Singapore.
Objectives: To identify risk factors for HAI in Singapore's LTACHs through analysis of national point prevalence survey (PPS) data.
Methods: A PPS was conducted across nine LTACHs in Singapore between July and November 2024 using an adapted version of the Singapore acute care hospital HAI-PPS protocol[1]. Data on hospital size, demographics, comorbidities, devices, and HAI status were collected. A case-control analysis was performed, comparing patients with and without HAI. Multivariate logistic regression included apriori variables (Charlson Comorbidity Index (CCI) and invasive devices) and those with $p < 0.05$ in univariate analysis.
Results: Among 1,546 patients surveyed, 86 (5.6%) developed HAI. The study population had a median age of 75 years (IQR: 67–83), and 54.6% were female. Primary indications for admission were rehabilitation (82.7%), continuation of non-acute medical management (6.1%), and completion of parenteral antimicrobials (5.9%). Univariate analysis showed significant associations between HAI and age, presence of peripheral vascular catheter (PVC), indwelling urinary catheter (IDC), and feeding tube (Fig. 1). In multivariate analysis, use of central vascular catheter (CVC) and PVC significantly increased the odds of HAI (OR: 3.88; 95% CI: 1.66–9.08 and OR: 10.48; 95% CI: 6.45–17.03, respectively). Larger hospital size (≥ 250 beds) was associated with a 38% reduction in the odds of HAI (OR: 0.62; 95% CI: 0.39–0.99).
Conclusion: This first national analysis of HAI risk factors in Singapore's LTACHs identified vascular catheter use as a strong predictor of HAI. However, the relatively small number of patients with HAI is a key limitation for risk factor assessment.

Disclosure of Interest
None declared.

Reference
1. Cai Y, Venkatachalam I, Tee NW, Tan TY, Kurup A, Wong SY, et al. Prevalence of healthcare-associated infections and antimicrobial use among adult inpatients in Singapore acute-care hospitals: results from the first national point prevalence survey. Clin Infect Dis. 2017;64(suppl_2):S61-7

Factor	Univariate OR (95% CI)	P-value	Multivariate OR (95% CI)	P-value
Hospital size				
• <250 beds	1		1	
• =250 beds	0.68 (0.44–1.06)	0.09	0.62 (0.39–0.99)	0.05
Median age (IQR)	1.03 (1.00–1.05)	0.02	1.02 (1.00–1.05)	0.06
Gender				
• Female	1			
• Male	0.78 (0.50–1.21)	0.26		
Median length of stay (IQR)	1.00 (0.99–1.01)	0.54		
Placement in single room	1.26 (0.53–2.98)	0.60		
Age-adjusted CCI	1.05 (0.97–1.14)	0.22	1.01 (0.93–1.11)	0.77
Presence of pressure ulcer	1.31 (0.64–2.67)	0.47		
History of surgery	1.32 (0.85–2.05)	0.22		
Presence of device				
• CVC	2.13 (0.99–4.60)	0.053	3.88 (1.66–9.08)	<0.01
• PVC	10.60 (6.71–16.75)	<0.01	10.48 (6.45–17.03)	<0.01
• IDC	2.86 (1.74–4.70)	<0.01	1.50 (0.86–2.61)	0.15
• Feeding tube	2.10 (1.01–4.35)	0.046	1.39 (0.62–3.09)	0.42

Fig. 1 (abstract P1189). Factors associated with HAI

P1190

Residents of long-term care facilities with dementia may not be at higher risk of acquiring healthcare-associated infections

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Introduction: The risk of acquiring healthcare-associated infections (HAIs) is particularly high for residents of long-term care facilities (LTCFs). To date, less research focused on the relation between dementia and acquiring HAIs.
Objectives: We aimed to investigate whether and to what extent having dementia is associated with acquiring HAIs in residents of LTCFs in the Netherlands.
Methods: Within the Dutch sentinel Surveillance Network Infectious Diseases in Nursing Homes (SNIV), we conducted a longitudinal cohort study in 2022 as part of the European Centre for Disease Prevention Control (ECDC) Healthcare-associated infections and Antimicrobial use in LTCFs project (HALT). We collected data using institutional, resident and infection questionnaires. Dementia status was recorded at baseline. HAIs were registered at each occurrence during the 12-month follow-up period. We assessed the association between dementia and acquiring HAIs using multivariable logistic regression, adjusting for potential confounders, including age, sex, urinary catheter use, incontinence, mobility status, Charlson's comorbidity index and prior COVID-19 infection.
Results: In total, 275 residents with a median age of 85 years (IQR 77-91) were included, of whom 179 (65.1%) were female. Of all residents, 175 (63.6%) acquired an HAI during follow-up, of whom 87 (49.7%) had dementia. At least one COVID-19 infection occurred in 32% of the residents, followed by respiratory and urinary tract infections (20% and 18.9%, respectively). We did not find a significant association between dementia and acquiring an HAI in general (OR 0.91, 95%CI 0.54-1.53), nor between dementia and specific HAI, namely urinary tract infection (OR 0.75, 95%CI 0.37-1.52), respiratory tract infection (OR 1.24, 95%CI 0.68-2.27), COVID-19 infection (OR 1.11, 95%CI 0.66-1.88) and skin infection (OR 0.90, 95%CI 0.46-1.76).
Conclusion: Based on our findings, residents with dementia of LTCFs in the Netherlands are not at higher risk of acquiring an HAI compared to residents without dementia. These results seem to confirm that no additional or other hygiene measures are necessary for patients with dementia compared to those without.

Disclosure of Interest
None declared.

P1191

Embeddedness of infection control link nurses in dutch nursing homes; a mixed-method study

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Introduction: Infection control link nurses (ICLN) are a promising strategy to enhance infection prevention (IPC) in hospitals. Their success varies due to differences in support and integration of the ICLN

role. Little is known about the embedding of ICLNs for improving IPC in nursing homes (NHs).
Objectives: This study investigated the embeddedness of ICLN roles in Dutch nursing homes as well as their challenges and potential.
Methods: In this mixed-method study we used questionnaires and conducted in-depth interviews with NH staff. Participants were recruited though convenience, snowball and purposive sampling. Data was analyzed descriptively (quantitative) and thematically (qualitative).
Results: Between June 2024 and January 2025, we administered 118 questionnaires and conducted 21 semi-structured interviews with staff from 37 NH organizations. While the majority of NH organizations had ICLNs (30/37; 81%), the way the ICLN role was implemented, recognized, supported and fulfilled varied. Additionally, discrepancies in perception of ICLN tasks existed between members of central IPC committees and NH staff fulfilling the ICLN role, indicating incoherent role implementation. Moreover, pre-conditions for sustained role implementation of ICLNs (e.g. support from managers and IPC resources) were usually not met. Finally, the majority of organizations employed infection prevention practitioners indirectly and on limited contracts, which restricted NH staff's access to IPC knowledge. As a result, ICLNs tended to adopt a reactive approach to infection prevention leading to local and temporary improvements in practice.
Conclusion: Although ICLN are present in many NHs, an interplay of factors limit the impact of their role. To achieve sustainable improvements in infection prevention, organizations should ensure a coherent organizational structure that supports consistent role implementation and ensures accessible IPC expertise.

Disclosure of Interest
None declared.

P1192

Antimicrobial use and infections in finnish long-term care facilities: comparison of two different surveillance systems

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Introduction: Since 2023, Finnish long-term care facilities (LTCFs) have been required to use the Resident Assessment Instrument (RAI) when assessing residents' service needs and functional capacity. RAI has been considered a feasible tool for collecting data on antimicrobial use (AMU) and healthcare-associated infections (HAIs) of LTCF residents. Prevalence of HAIs and AMU in Finnish LTCFs were also investigated in the European point prevalence surveys (HALT), coordinated by European Centre for Disease Prevention and Control.
Objectives: To explore prevalences of AMU and HAIs in Finnish LTCFs and compare the results between the two surveillance systems over time.
Methods: We used data on characteristics, AMU, urinary tract infections (UTI) and pneumonia of all residents for whom RAI assessment was completed in October 2017-March 2018 and January-June 2023. To RAI, AMU is compiled within 3-7 days prior to the assessment and infection data were based on a checklist. The HALT surveys were conducted during September-November 2017 and April-May 2024, gathering information on active HAIs and AMU on the day of the survey. Standardized case definitions for HAIs were used.
Results: The first RAI data covered 21 943 and the second 39 575 residents, and the HALT surveys 6 762 and 2 611 residents, respectively. The distributions of residents regarding age and gender were similar in all datasets (Table 1). From the first data collection to the last, the prevalence of AMU decreased from 6 to 4% in RAI and from 5 to 4% in HALT. In the latest datasets, the most common antimicrobial agents were sulfonamides and trimethoprim (28,9%) in RAI and penicillins (25,4%) in HALT. The prevalences of UTI and pneumonia were higher in RAI than in HALT (Table 1).
Conclusion: The two different surveillance systems provided repeatedly similar estimates for AMU. RAI data could be used as an alternative tool for data collection on AMU and with caution also on HAIs in LTCFs. Further analysis is needed to validate data and obtain the best indicators for surveillance, to guide the regional and local infection control activities.

Disclosure of Interest
None declared.

Table 1 (abstract P1192). Characteristics of residents, AMU and HAIs

Year	2017/2018		2023/2024	
Data source	RAI	HALT	RAI	HALT
Age > 85%	52	51	53	52
Female %	70	69	69	66
AMU (without methenamine) %	6	5	4	4
Methenamine %	3	2	1	1
UTI %	5	1	5	1
Pneumonia %	1,5	0,1	0,5	0,3

P1193

Investigating the applicability of infection prevention and control assessment framework as a tool for Dutch long-term care facilities

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Introduction: Adequate infection prevention and control (IPC) programs are essential to protect residents in long-term care facilities (LTCFs), as they are at an increased risk of healthcare-associated infections (HAIs) due to their frailty, shared living conditions, and receiving 24 h nursing care. The World Health Organization (WHO) developed the Infection Prevention and Control Assessment Framework (IPCAF) to evaluate IPC processes and structures in healthcare facilities.
Objectives: In this pilot study we aimed to evaluate the usability of IPCAF as a tool and to gain insight in the general IPC state in Dutch LTCFs.
Methods: The IPCAF, based on eight IPC core components, was translated and adapted to the Dutch LTCF context with the following scoring categories: inadequate (score 0-200), basic (score 201-390), intermediate (score 391-580) or advanced (score 581-770). Data were collected through interviews conducted in fourteen LTCFs (May-September 2024). Subsequently, a questionnaire was distributed to evaluate how participants perceived various aspects of the process, including the interviews, feedback reports, and the applicability of the IPCAF tool in LTCF settings (ongoing).

Results: The median IPCAF score of all LTCFs was 612.5, ranging from 410 to 702.2. Eight (57.1%) LTCFs were categorized as 'advanced IPC status' while six (42.9%) fell into the 'intermediate' category. None of the LTCFs classified as 'inadequate' or 'basic'. The core components of 'HAI surveillance' (median score 25, range: 12,5-77,5) and 'IPC education' (median score 62.5, range: 30,0-90,0) received the lowest ratings. In contrast, the core components 'Workload, Staffing and Bed occupancy' as well as 'Environment, Materials and Equipment' achieved the highest ratings in all LTCFs.
Conclusion: The adapted IPCAF can be used to gain insight in the overall state of IPC state in LTCFs, which is relatively high in the Netherlands. It highlights areas for improvement, such as more focus on 'HAI surveillance' and addressing insufficient 'IPC education'. Evaluation of the feedback reports is ongoing and will be presented.

Disclosure of Interest
None declared.

P1194

Multidrug-resistant microorganisms and toxigenic clostridioides difficile: threats in nursing homes?

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Introduction: The prevalence of multidrug-resistant (MDR) and toxigenic *Clostridioides difficile* (tCD) carriage among residents and healthcare workers (HCW) in nursing homes (NH) has been infrequently studied in Europe.
Objectives: This study estimated this prevalence and identified associated risk factors.
Methods: This prevalence study was conducted across 20 NHs from 2022 to 2024, with approval of the ethics committee of Sud-est. Stools were collected and screened for extended-spectrum beta-lactamase-producing Enterobacterales (ESBL-E), carbapenem-resistant *Enterobacterales* (CRE), vancomycin-resistant enterococci (VRE) and tCD using selective chromogenic media and/or immunochromatographic test and/or PCR detection of toxin-encoding or resistance-encoding genes according to national guidelines. Comparative analysis of strains were performed by wgMLST (EPISEQ CS V1-2 (bioMérieux). Data collected prospectively were: age, sex, date of admission, travel or hospitalization abroad in the last 12 months, dementia, constipation, diarrhea, laxative prescription, urinary or fecal incontinence, presence of a urinary catheter, antacids prescription, antibiotherapy in the past 12 months, and history of tCD infection. All variables were analyzed using the Pearson's Chi-squared test, Wilcoxon rank sum test or Fisher's exact test. Risk factors were analyzed by logistic regression.
Results: A total of 437 residents and 30 HCW were included. The prevalence of ESBL-E, CRE and tCD carriage were respectively of 9.4%, 0,2% and 1.2% among residents, and 4.8%, 0% and 0% among HCW. VRE were not detected. For ESBL-E carriage among residents, a significant variability between each facilities was identified (0% to 20.9%). Among *E. coli* isolates, the most frequently Sequence Type (ST) were ST38 (n = 4), ST69 (n = 3), ST131 (n = 8) and ST405 (n = 2). ESBL-E carriage cross-transmissions (n = 8) between residents and healthcare workers were observed both within and between nursing homes. Multivariate analysis identified diarrhea and fecal incontinence as significant risk factors for ESBL-E carriage.
Conclusion: The prevalence of MDR et tCD are lower than that reported in the European studies but also lower than in the community. However, the findings underscore the need for targeted infection control measures and ongoing surveillance.

Disclosure of Interest
None declared.

P1195

Auditing the organizational levels of infection control in long-term care facilities within a quality network

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Introduction: The level of organization and implementation of infection control measures in long-term care facilities (LTCFs) varies widely.
Objectives: This study evaluates the organizational levels of infection control in LTCFs within a structured quality network using a normative audit.
Methods: Data collection involved structured document review interviews with LTCF representatives and ward observations. Two trained auditors—one with healthcare background and one specialized in infection prevention—led the assessment. Eight key infection prevention areas were evaluated: Governance, Outbreak management, Education and training, Protocol management, Personal hygiene of health care workers (HCW), Hand hygiene compliance, Cleaning and environmental hygiene, Management of MRSA and other multi drug resistant microorganisms (MDRO's).
Each area was assessed at three levels: basic compliance, structural integration and full PDCA-cycle implementation. Participating LTCFs received a personalized report with recommendations, and summarized scores per area were shared on a secured platform. An annual event was organized to facilitate knowledge exchange.
Results: As of December 2024, 19 site visits were conducted across 15 organizations. While extensive knowledge Is available, no single location holds all relevant expertise, highlighting opportunities for peer learning.
A majority of LTCFs showed a full PDCA-cycle level for governance, outbreak management, protocol management, and MRSA/MDRO management. However, only 10 out of 19 sites performed a risk assessment upon resident intake.
Basic hand hygiene conditions existed in all facilities, yet none monitored compliance. Personal hygiene adherence was assessed in 6 out of 19 facilities.
IP training for new staff was present in 4 out of 19 facilities. Regarding cleaning, protocols were unavailable in 6 out of 19 facilities, and only 5 out of 19 conducted periodic cleaning quality checks.
Conclusion: Organization of IP varies significantly across LTCFs. Governance and protocol management are relatively well-developed, but compliance monitoring, training, and cleaning requires improvement. The structured quality network fosters knowledge-sharing, helping LTCFs enhance IP.

Disclosure of Interest
None declared.

P1196

Impact of education on the knowledge of catheter-associated urinary care infections on healthcare workers in long-term care homes

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Introduction: Urinary catheterization remains common in long-term care homes (LTCH) and may contribute to avoidable catheter-associated urinary tract infections (CAUTI).
Objectives: The aim of this study was to assess healthcare workers (HCW) knowledge regarding CAUTI prevention best practices.
Methods: We conducted a before-after study of a targeted interactive educational on CAUTI prevention session across two LTCH. A structured, self-administered questionnaire compared HCW knowledge regarding previously identified knowledge gaps, before and after the educational intervention. The HCW target group included infection prevention and control (IPAC) leads, registered nurses, practical nurses, and personal support workers. Knowledge scores were compared using a paired Student t-test.
Results: A total of 73 HCW across two LTCH attended the education, including 76% (56/73) in- person and 24% (17/73) via a virtual platform. Among in-person attendees, 96% (54/56) completed both questionnaires. HCW reported significant improvements in their knowledge related to practices to prevent CAUTI and surveillance criteria for CAUTI in LTCH ($p < 0.05$). Specific practice improvements included knowing when to collect a urine culture ($p < 0.001$), recognizing the lack of benefit of antibiotics for residents lacking criteria for infection ($p < 0.001$), not using urine dipsticks in this population ($p < 0.001$), knowing how to manage blocked urinary catheters ($p < 0.001$), and placing catheter bags correctly ($p < 0.001$).
Conclusion: A targeted, interactive educational intervention in LTCH resulted in rapid improvement in knowledge in CAUTI prevention best practices. Further evaluation regarding the impact of this intervention on real-world practice is needed.

Disclosure of Interest
None declared.

P1197

Infection prevention and control in long-term care in canton bern: a cross-sectional survey

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Introduction: Long-term care facilities (LTCFs) are a key yet often overlooked setting for infection prevention and control (IPC) and they often exchange patients with the acute care sector.
Objectives: We conducted a survey to better understand the current state of IPC practices in LTCFs in the Canton of Bern.
Methods: The 17-question survey was based on an existing U.S. survey, tested by peers and then distributed by e-mail to all 52 LTCFs in Canton Bern in November 2024.
Results: The survey had a 27% response rate, with 14 participating facilities, including 6 with a dementia unit and 7 offering assisted living. Nine of the 14 (64%) had > 40 beds, and 8 (57%) had > 75 employees. Half of the institutions had dedicated IPC staff, but only three working full time and two with formal IPC training. A physician with infectious diseases and/or IPC training was available in 8 facilities. IPC training for staff was available to a majority (86%), but mostly on demand only. Guidelines for managing communicable diseases were also widely available (86%), and all but one facility had access to single rooms for isolation purposes. However, specific screening procedures for residents potentially carrying multidrug-resistant organisms were rarely done (21%). The majority of the respondents (71%) expressed a need for more specific training and/or practical guidelines, but only a minority had a dedicated IPC budget (14%).
Conclusion: To our knowledge, this is the first survey aimed at better understanding IPC practices in LTCFs in Switzerland. Overall, dedicated IPC staff is often present, and guidelines are available. However, there is a lack of formally trained and full time personnel, and specific medical supervision is not consistently ensured across all facilities. Our findings highlight a need for more specific training and practical guidance, which contrasts with the limited IPC budgets. The study is limited by its low response rate, small sample size, and the potential for response bias. Nevertheless, these results emphasize the importance of gaining a deeper understanding of IPC practices and their implementation in LTCFs.

Disclosure of Interest
None declared.

P1198

Infection prevention and control in swedish nursing homes for older adults before and after the Covid-19-pandemic – a descriptive study

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Introduction: Background
In early spring 2020 the spread of SARS-CoV-2, began which developed into a global pandemic of the disease COVID-19. Nursing homes (NH) for older adults in Stockholm County experienced a significant spread of the virus resulting in many deaths. Scientific articles have been written about the vulnerability and experiences of staff during the pandemic, as well as the vulnerable situation of managers of NHs. The Swedish Health and Social Care Inspectorate (IVO) has reported on deficiencies in care during the pandemic, for example in preventing transmission of covid-19. The National Board of Health and Welfare reports deficiencies in care regarding several indicators. The same applies to the Corona Commission's report on care of older adults during the pandemic. However, none of these articles and reports address the conditions for preventing transmission and/or infection.
Objectives: Aim
The aim of this study was to explore how supply and use of products for protection of residents and staff as well as training concerning IPC was changed in Swedish NHs for older adults between the years 2019 and 2023 and to see if there was a difference between private NHs and those run by the municipalities.
Methods: Methods
A web-based survey form with questions concerning supply and use of products aimed to protect employees and resident from infection as well as training of employees in IPC and use of governing and supporting documents concerning IPC in 2019 and 2023 was sent out to 305 NHs.

Results: Results
Answers were obtained from 130 NHs with a total of 7,377 residents. The response rate was 43.3%. Supply of all products was improved in 2023. There was a significant association between improved supply and improved use for all products ($p < 0.01$) except for single use gloves. The number of employees who received training on IPC had risen significantly from 2019 to 2023 ($p < 0.01$). In 2023 all respondents used guiding documents on IPC. There were no major differences between private nursing homes and those run by the municipalities.
Conclusion: Conclusions
The COVID-19-pandemic resulted in several improvements concerning IPC in NHs for older adults in Sweden. After the pandemic staff got better training, managers used governing and supporting documents to a higher degree and the supply and use of protective products was improved.

Disclosure of Interest
None declared.

P1199

IPC Capacity building- orientation training for Covid-19 preparedness and IPC for healthcare facilities

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1199

Introduction: Infection Prevention and Control (IPC) is crucial in healthcare settings, particularly in light of the COVID-19 pandemic. This study aimed to enhance IPC practices across various healthcare facilities in Kerala, India, marking the first multicenter initiative of its kind in the state. Training and capacity building are especially important in secondary care hospitals with limited resources, where effective IPC measures can significantly reduce the risk of infections.
Objectives: To create advocacy, awareness, and sensitization about IPC among healthcare professionals and stakeholders.
To identify key sites for trainer-of-trainers programs and implement a structured capacity-building plan.
To assess the impact of structured training programs on IPC knowledge, attitudes, and practices.
Methods: A quasi-experimental study was conducted over one year (January 2022—December 2022) across nine healthcare facilities, including one government and eight private hospitals. The project, mentored by the Amrita Institute of Medical Sciences in collaboration with the Indian Council of Medical Research funded by Bill and Melinda Gates Foundation, involved creating IPC advocacy, identifying key trainers, and developing training materials. Baseline assessments and knowledge evaluations were conducted using standardized tools.
Results: A total of 330 healthcare professionals participated in the training, demonstrating significant improvements in IPC knowledge, with all hospitals showing over 75% improvement (Fig. 1) in post-training assessments. The IPCAF tool revealed varied IPC levels across hospitals, with scores ranging from Basic to Advanced. Feedback from participants highlighted a positive reception of the training sessions, with many expressing the desire for ongoing IPC education.
Conclusion: This study successfully strengthened IPC capacities in Kochi, Kerala's healthcare facilities, especially in resource-limited secondary care hospitals, showcasing the effectiveness of structured training programs. The results emphasize the importance of continuous IPC education and the need for further initiatives to sustain improvements in healthcare quality.

Disclosure of Interest
None declared.

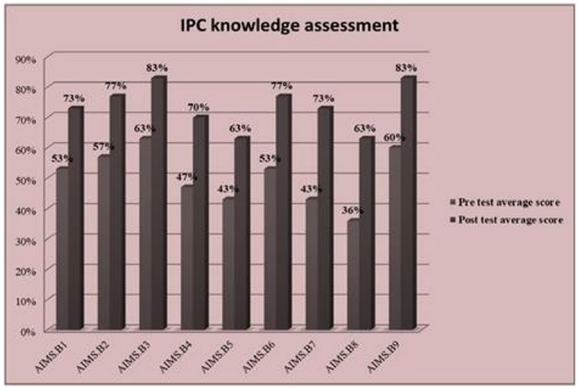

Fig. 1 (abstract P1199). IPC knowledge Assessment

P1200

Epiplot: an interactive application for epidemiological patient movement analysis

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Introduction: Understanding patient movement within healthcare facilities is crucial for identifying and analyzing potential epidemiological links, such as shared hospitalization periods that may indicate the transmission of infectious agents.
Objectives: To address this need, we developed EpiPlot, an innovative application designed for the visualization and analysis of patient movement data in an epidemiological context.
Methods: EpiPlot was developed using the R programming language, leveraging the Shiny package to provide a responsive, interactive user experience. The application is hosted online via the Shinyapps.io platform and can be accessed at: https://github.com/metagenlab/EpiPlot.
Results: EpiPlot enables the clear and efficient exploration of complex patient movement data. Its interactive visualizations allow users to:
- Identify clusters of patients with overlapping hospitalization periods.
- Dynamically explore different time windows or parameters.
- Manipulate visual outputs for customized data analysis.
- Export comprehensive reports that include both the underlying data and the generated graphics.
These features enhance the ability to detect epidemiological patterns and support rapid decision-making in infection control or outbreak investigations.
Conclusion: EpiPlot provides a powerful, user-friendly solution for visualizing and analyzing patient movement data in an epidemiological framework. Its dynamic network visualizations and flexible reporting features make it a valuable tool for researchers and healthcare professionals involved in outbreak detection and infection control.

Disclosure of Interest
None declared.

P1201

Moving from reactive to proactive infection prevention and control: a programmatic approach

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Introduction: Infection prevention and control (IPC) practices in Switzerland are reactive, focusing on transmission and surveillance. Targeted approaches to actively prevent healthcare-associated infections (HAI) are less common.
Objectives: We aimed to develop an adaptive and sustainable IPC system that can proactively and effectively develop, deploy and assess targeted interventions.
Methods: The framework was developed over two years through workshops with the interprofessional IPC team. Participants envisioned future directions in IPC, identified gaps in the current approach, and derived key fields of action.
Results: We adopted a programmatic approach to allow structured, targeted interventions. HAI and transmissions are addressed through dedicated programs with defined objectives, implementation plans, and evaluation strategies. This programmatic approach is supported and operationalized through four key fields of action, which guide implementation and ensure alignment across the organization.
Healthcare-Worker (HCW) Empowerment: HCWs are supported in making informed, autonomous decisions. Relevant knowledge is embedded into organizational structures. A contextual analysis of barriers and facilitators will be completed in 2025.
IPC Competence: To enable a sustained reduction of HAI and transmissions, IPC teams must possess methodological, technical, and setting-specific competencies. A competency framework for IPC personnel is currently being developed. By the end of 2025, a baseline assessment is planned to identify skill gaps and guide targeted professional development.
Digitalization and Digital Transformation: A long-term objective is to enable personalized infection prevention and early detection of HAI through automated surveillance of outcome and process parameters. As a first step, an IPC tool will be implemented.
Organization: The IPC team is organized according to a sociocratic management model to promote joint decision-making and strengthen interprofessional collaboration. First, the leadership team will adopt this structure.
Conclusion: From our perspective, the future of IPC lies in integrated and adaptive systems that translate strategic goals into practice through clearly structured programs. This programmatic approach exemplifies how IPC can evolve from reactive to proactive, evidence-based prevention by enabling targeted action and strengthening IPC teams.

Disclosure of Interest
None declared.

P1202

Raksha ratha: a scalable and economical mobile model for infection prevention and control training in rural South India

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Introduction: Expanding rural healthcare in India is a missed opportunity without Infection Prevention and Control (IPC) training. With HAIs and AMR on the rise, integrating IPC into mobile health models like Wockhardt's Mobile 1000 and Haat Bazaar Clinics is vital. *Raksha Ratha* as a concept adds purpose turning vans into powerful, low-cost IPC training hubs for frontline health workers.
Objectives: The project aims to deliver hands-on, simulation-based IPC training to rural healthcare workers, improve compliance with core practices like hand hygiene, personal protective equipment (PPE)use, biomedical waste management, antibiotic stewardship and establish a scalable, cost-effective education model for low-resource settings. It seeks to drive measurable behavior change through community-integrated outreach and foster collaboration with institutions, governments, and industry to amplify reach and impact.
Methods: This project will pilot a solar-powered mobile van across 4 South Indian sites to train rural HCWs in core IPC practices using simulations, QR-based microlearning, and multilingual content. Staffed by an IPC trainer and support, it will track impact via surveys, checklists, and social media analytics. With a ₹42 lakh (~$50,000) budget, outcomes will be assessed using paired t-tests and McNemar's test. Local, national and global partners will support content validation, innovation, and scalability (Fig. 1).
Results: The *Raksha Ratha* pilot is expected to yield a ≥ 30% improvement in IPC knowledge and ≥ 50% increase in hand hygiene compliance among rural HCWs. High engagement with QR-linked microlearning and improved IPC practices in these sites are anticipated. The model offers a cost-effective, scalable IPC solution with the potential for integration into national programs like Kayakalp in India. It also opens up partnership opportunities for public health agencies, CSR funders, academic institutions, and global IPC networks, enabling collaborative innovation, sustainable investment, and replication in other low-resource settings.
Conclusion: True innovation in IPC is about reaching those who need it most. Raksha Ratha offers a scalable, field-ready solution to integrate IPC into routine rural healthcare in a regional context, delivering measurable public health benefits while providing health-tech innovators and investors an opportunity to pilot, validate, and scale solutions for maximum impact.

Disclosure of Interest
None declared.

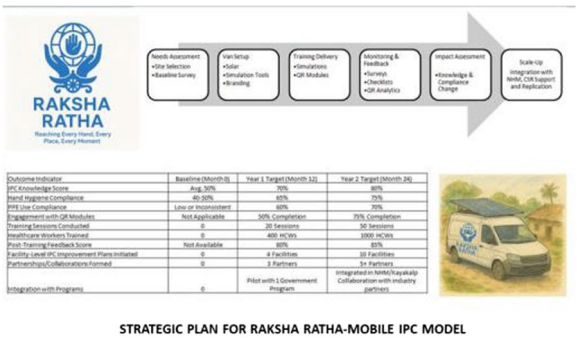

Fig. 1 (abstract P1202). See text for description

P1203

Traditional treasures reinventing infection prevention and control with everyday indian household wisdom

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Introduction: India's traditional households provide sustainable Infection Prevention and Control (IPC) solutions, especially where modern resources are limited. Rooted in Ayurveda, Siddha, and Unani (AYUSH), these age-old hygiene practices offer low-cost prevention strategies that, with validation, can enhance community IPC in daily life and emergencies.
Objectives: This scoping review aimed to catalogue antimicrobial household materials, evaluate their scientific validation, and identify opportunities for integrating validated practices into community and healthcare IPC frameworks.
Methods: A structured scoping review was conducted using PubMed, Scopus, Google Scholar, and ethnobotanical databases for published literature until December 2024. Eligible sources included peer-reviewed articles, ethnobotanical surveys, and historical texts; items used solely for ritualistic purposes were excluded. Fifty household items related to hygiene maintenance, wound care, surface

disinfection, air hygiene, or equipment hygiene were shortlisted. Data extraction captured antimicrobial efficacy, traditional use, biological mechanisms, and items were categorized into five IPC domains. No formal study quality appraisal was performed, in line with scoping review methodology.
Results: Among fifty household items analyzed, 7(14%) had strong scientific validation, 23 (46%) had partial support, and 20 (40%) relied on traditional evidence. Antimicrobial activity was observed in agents like *tulsi, giloy,* and *triphala,* though clinical translation was limited by variability in MIC/MBC values and lack of standardized testing. Systematic reviews reinforced the efficacy of turmeric, neem, honey, copper, and aloe vera for wound care, water storage, and surface disinfection. Eco-friendly practices such as khadi towels, clay (*matka*) storage, and fenugreek hand soaks emerged as promising low-cost IPC strategies.
Conclusion: Validated traditional Indian household practices provide a sustainable, eco-friendly complement to IPC strategies, supporting One Health goals and mitigating antimicrobial resistance. Systematic validation, policy integration, and public awareness are crucial for global adoption. As climate change and environmental impact grow, embracing these practices can foster a resilient, sustainable future for generations to come.

Disclosure of Interest
None declared.

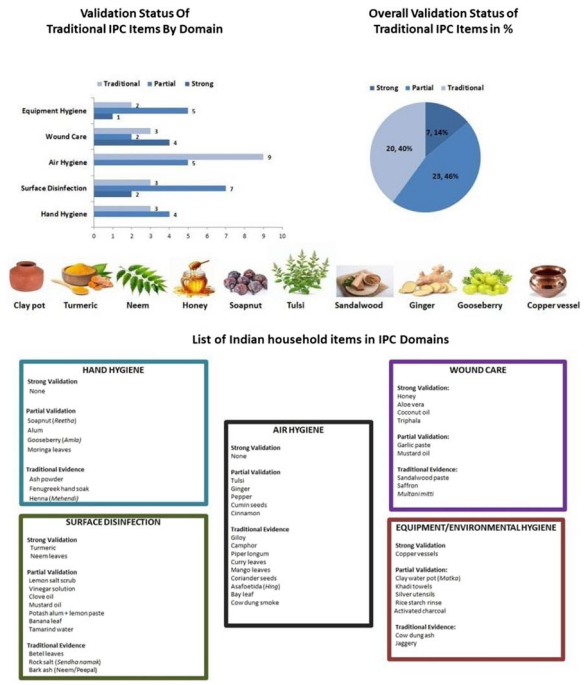

Fig. 1 (abstract P1203). See text for description

P1206

Innovative therapeutic strategies: exploring natural antimicrobial peptides and nanomaterials as adjuncts to conventional antibiotics

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Introduction: Antimicrobial resistance (AMR) is a global health crisis, rendering many conventional antibiotics ineffective. As resistance escalates, finding alternatives to complement or replace existing antibiotics is critical. Natural antimicrobial peptides (AMPs) and nanomaterials are gaining attention for their potential against multidrug-resistant (MDR) pathogens. AMPs, derived from host defense mechanisms, and nanomaterials. This study explores their role in enhancing the effectiveness of conventional antibiotics.
Objectives: This study aims to evaluate the synergistic effects of AMPs and nanomaterials in combination with antibiotics against MDR pathogens. It also seeks to investigate their mechanisms of action, safety profiles, and clinical applicability.
Methods: A systematic review of studies from 2015 to 2024 was conducted to assess the use of AMPs and nanomaterials alongside antibiotics. Databases like PubMed, Google Scholar, and ScienceDirect were searched for relevant research articles, clinical trials, and preclinical studies. Data on antimicrobial activity, synergy assays, resistance modulation, and safety were analyzed.
Results: The review found that AMPs and nanomaterials exhibit strong antimicrobial activity against Gram-negative and Gram-positive bacteria, including Pseudomonas aeruginosa and Staphylococcus aureus. When combined with antibiotics, these agents enhanced synergy, reducing MICs and improving bacterial clearance in vitro and animal models. Nanomaterials, such as silver and carbon-based nanoparticles, effectively disrupted bacterial biofilms. Safety profiles showed minimal toxicity and good biocompatibility in early studies.
Conclusion: AMPs and nanomaterials are promising adjuncts to antibiotics in combating AMR. Their combination with conventional antibiotics enhances efficacy, mitigates resistance, and targets bacterial biofilms, offering new treatment options for MDR infections. Integrating AMPs and nanomaterials into clinical practice could revolutionize infection prevention and control, particularly in healthcare settings. Further studies on clinical trials, dosing regimens, and long-term safety are necessary to move these therapies into clinical use.

Disclosure of Interest
None declared.

P1207

Comparative performance of CLSI based MCIM & ECIM with automated identification and susceptibility system -Vitek2 compact for the detection of carbapenemase producing enterobacterales in tertiary cancer center

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Introduction: Carbapenemase producing enterobacterales are one of the significant threats to immunocompromised patients due to their resistance to beta lactam antibiotics that promotes the use of another high-level antibiotics which may lead to increase in antimicrobial resistance, high morbidity risks, increased healthcare costs. Identification of carbapenmase producing enterobacterales is necessary for appropriate treatment guidance for the treating clinician and implementation of infection control prevention measures to limit the further spread within healthcare facilities. In this study we attempted to compare CLSI based mCIM & eCIM with Vitek2 Compact results.
Objectives: This is the pilot study to compare the performance of CLSI based mCIM & eCIM with automated identification & suceptibility system—Vitek 2 Compact for the detection of carbapenemase producing enterobacterales.
Methods: The study involves 25 CRE- mCIM positive isolates collected from positive blood culture, urine & PTBD tip specimens that were resistant to meropenem, imipenem & ertapenem. These isolates were parallelly tested for detection of carbapenmase by CLSI based mCIM & eCIM and Vitek 2 Compact. Out of these,3 isolates were also run additionally by Multiplex syndromic PCR system – Biofire BCID2 panel. Interpretations were done as per CLSI guideline. All the results were compared for concordance.
Results: Out of 25 mCIM positive isolates 15 were *K. pneumoniae;*[5]*E. coli* & 5 *S. marcescens*. The comparison showed that vitek detected carbapenemase in 15 isolates out of 25 mCIM positive isolates. To confirm the

results of the CLSI based mCIM & eCIM one isolate each of mCIM positive *K. pneumoniae, E. coli* and *S. marcescens* were run parallelly by Biofire BCID2 panel. All mCIM positive results showed concordance with Biofire. (See Fig. 1)
Conclusion: Due to limitation of automation method software, higher cost of rapid and molecular level CRE detection methods, presumptive detection methodology like laboratory based phenotypic method mCIM & eCIM are simple, more accessible & cost-effective approach for identifying detection of carbapenemase production.
Key words- CRE- carbapenem resistant enterobacterales, mCIM – modified carbapenem inactivation method, eCIM–EDTA carbapenem inactivation method.

Disclosure of Interest
None declared.

Organism	Sample	Number	Vitek phenotype carbapenemase	mCIM positive	eCIM positive	eCIM negative
K.pneumoniae	blood	10	10	10	7	3
	Urine	2	2	2	2	0
	Ptbd tip	3	3	3	3	0
E.coli	blood	5	0	5	5	0
S. marscesens	blood	5	0	5	0	5

Fig. 1 (abstract P1207). See text for description

P1208
Designing a simple and rapid method for vancomycin resistant staphylococcus aureus from pure culture
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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1208

Introduction: Emergence of vancomycin resistant Staphylococcus aureus (VRSA) is a global threat causing severe treatment failure. This pathogen is identified as a priority by World Health Organization (WHO). Existing antibiotic sensitivity method takes 16-24 h to detect vancomycin resistance. Therefore, a rapid, simple and user-friendly method that can be deployed by routine diagnostic laboratory is essential for their early diagnosis and clinical intervention.
Objectives: The present study designed a novel and rapid VRSA detection method and optimized its efficacy.
Methods: The experiment was performed using 54 isolates of vancomycin non susceptible Staphylococcus aureus (VISA and VRSA), three isolates of vancomycin susceptible Staphylococcus aureus and negative control i.e. Staphylococcus aureus ATCC 25923. The screening solution containing indicator was added to each well of a 24 well microtiter plate. This was followed by addition of vancomycin solution. Bacterial colonies of Staphylococcus aureus ATCC25923 was inoculated into a designated well and test Staphylococcus aureus isolates were also inoculated. In three wells no bacterial isolate was inoculated and the plate was vortexed and incubated at 37ºC. Any change in coloration of the solution was observed from 15 min to one hour. The isolates were also tested in VRSA screen agar containing vancomycin (2 µg/ml to 16 µg/ml). Sensitivity and specificity of the new test was also determined.
Results: All the test isolates (n = 54) showed a color change from red to yellow within 30 min, whereas negative control did not show any color change. The change of colorations started from 15 min in most of the isolates (n = 32) (Fig. 1). While comparing with the conventional susceptibility method, the new test was found to be 100% sensitive and specific.
Conclusion: This detection method is an effective tool in referral hospitals where burden of infection with resistant organism is in increasing trend and a rapid test will be the key for early decision making by clinicians to initiate appropriate antimicrobial chemotherapy in critical condition.

Disclosure of Interest
None declared.

Fig. 1 (abstract P1208). A1: Staphylococcus aureus ATCC25923 showing susceptible towards vancomycin. A2, A3, A4, B2, B3, B4, C2C3: Test isolates showing non susceptible towards vancomycin. B1, C1, C4: Test isolates showing susceptible towards vancomycin. A5, B5, C5: Suspension with serum and vancomycin without any bacterial inoculation

P1209
Design optimization and validation of a novel carbapenem resistance screening method for simultaneous interpretation of resistance mechanisms; a sample to solution one health approach
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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1209

Introduction: Carbapenem resistant organisms (CROs) pose an enormous threat to human health as mentioned by World Health Organization (WHO) who has enlisted CRO as one among the major pathogens with critical priority. Detection of carbapenem resistance is not yet accessible in terms of daily or routine use by the hospitals of Low- and middle-income countries because the present methods are inadequate in terms of time required, sophistication, facility required and over all the need for specific and trained human resource for this purpose.
Objectives: The present work designed a sample to solution carbapenem resistance screening method (proposed to be named as Carba Plate), optimized and validated its efficacy.
Methods: 250 isolates of Escherichia coli (n = 148), Klebsiella pneumoniae (n = 69), Pseudomonas aeruginosa (n = 33) which were carbapenem non susceptible was selected for the study. E. coli ATCC25922 and 20 susceptible isolates were used as negative control. Isolates streaked onto the test medium containing chromogenic substrate of β-galactosidase and carbapenem antibiotic was incubated at 37 °C for 16 h. After overnight incubation, 2 µl of beta-lactamase substrate solution is added over an isolated colony. Further Carba NP test and Kirby Bauer disc diffusion was performed to calculate specificity and sensitivity of the newly designed media.
Results: All the carbapenem non susceptible isolates could be identified by the new screening method and the test was found to be 100% sensitive and specific comparing with disc diffusion method whereas Carba NP test failed to detect non carbapenemase mediated resistance. Formation of red coloration upon addition of the beta-lactamase substrate indicated carbapenemase production. Also, the blue color and colorless colonies could differentiate between lactose and non-lactose fermenters (Fig. 1).

Conclusion: The present screen agar-based screening method simultaneously differentiates between lactose and non-lactose/non fermenting bacteria and also carbapenemase or non carbapenemase mediated resistance. This proves to be a useful tool with Sample to Solution approach that can detect resistance from clinical, environment and animal samples.

Disclosure of Interest
None declared.

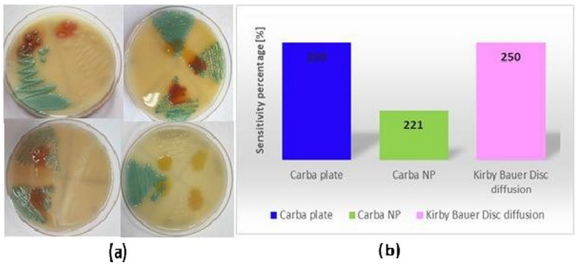

Fig. 1 (abstract P1209). (a) Carbapenem resistance screen agar test pilot validation (b) Carbapenem resistance screen agar test with clinical isolates (n=250) Carba NP test and Kirby Bauer Disc diffusion

P1211

Rapid dna sequencing: a game changer in targeted antibiotic therapy

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Introduction: Antimicrobial resistance (AMR) complicates treatment and worsens patient outcomes. Traditional diagnostics delay treatment, leading to unnecessary antibiotic use. Rapid DNA sequencing offers a promising solution, enabling quick, precise identification of pathogens and resistance profiles. This technology could revolutionize antibiotic therapy, ensuring more targeted and effective interventions.
Objectives: This study assesses the role of rapid DNA sequencing in the timely identification of multidrug-resistant (MDR) pathogens. We evaluate its impact on antibiotic stewardship by providing rapid diagnostic results that guide targeted therapy, reducing inappropriate antibiotic use and improving clinical outcomes.
Methods: A systematic review of studies (2020-2024) was conducted on rapid DNA sequencing for diagnosing MDR infections. It compared sequencing with traditional methods in terms of diagnostic speed, accuracy, and impact on antibiotic prescribing. Data from PubMed, Google Scholar, and ScienceDirect, including clinical trials and cohort studies, were analyzed to assess the effect of rapid sequencing on reducing antibiotic use and time to appropriate therapy.
Results: The review of 15 studies showed that rapid DNA sequencing reduced diagnosis time by 48 h compared to conventional methods. It resulted in a 30% reduction in inappropriate antibiotic prescriptions, particularly for hospital-acquired Gram-negative infections. Sequencing had 95% sensitivity and 98% specificity, leading to a 20% reduction in hospital stay and 15% reduction in mortality rates for sepsis patients.
Conclusion: Rapid DNA sequencing is transforming infection management by enabling precise, real-time pathogen identification. This allows clinicians to tailor antibiotic therapy, reducing unnecessary broad-spectrum use and improving outcomes. As the technology becomes more accessible, its adoption could alleviate the AMR burden and support sustainable antimicrobial stewardship, requiring further cost-effectiveness studies.

Disclosure of Interest
None declared.

P1212

Evaluation of fourier transform-infrared spectroscopy (FT-IR) as a control measure for legionella pneumophila nosocomial outbreak investigations

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Introduction:*Legionella pneumophila* is a waterborne pathogen responsible for Legionnaires' disease, primarily affecting immunocompromised and hospitalised patients.
Objectives: This study investigates the application of FTIR spectroscopy as a practical method for the rapid detection and management of nosocomial *L. pneumophila* outbreaks.
Methods: Thirty-four *L. pneumophila* strains were collected over two years from various sites at the University Hospital of Verona. These strains are divided into two collections: an older collection and a newer collection. FTIR spectroscopy was performed with IR Byotyper (Bruker Daltonics, Germany) in quadruplicate for each isolate according to the manufacturer's instructions. Spectral analysis was conducted using IR Biotyper spectrometers and OPUS software.
Results: FTIR spectroscopy differentiated the 34 *L. pneumophila* strains into three distinct clusters, correlating with both the isolation period and the epidemiological context of the strains. One cluster consisted predominantly of strains from the older collection, while a second cluster included strains mainly from the recent collection. A third, smaller cluster consisted of three strains from the new collection. FTIR was also able to differentiate *Legionella pneumophila* from *Legionella fraseri* and *Legionella pascullei* strains stored in the instrument's database. These results confirm FTIR's speed and reliability for nosocomial surveillance. To validate the clustering obtained via FTIR, further analysis using pulsed-field gel electrophoresis (PFGE), the gold standard method, is planned.
Conclusion: These preliminary results suggest that FTIR spectroscopy is a promising tool for rapid discrimination of *L. pneumophila* strains. Its application as a frontline screening method in nosocomial outbreak investigations could significantly accelerate the identification process, enabling timely and more effective infection control interventions.

Disclosure of Interest
None declared.

P1214

Performance evaluation of qiastat multiplex panels for detection of gastrointestinal pathogens from clinical stool specimens

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Introduction: The detection of pathogens associated with gastrointestinal disease may be important in certain patient populations, such as immunocompromised hosts, the critically ill, or individuals with prolonged disease that is refractory to treatment. In this study, we evaluated two commercially available multiplex panels (the FilmArray gastrointestinal [GI] panel [BioFire Diagnostics, Salt Lake City, UT] and QIAstat-Dx Gastrointestinal Panel 2 [Qiagen, Düsseldorf, Germany]. The QIAstat-Dx GIP assay offers simultaneous testing for 24 bacterial, viral, and parasitic enteropathogens using a single test that reports the results in 70 min.
Objectives: In this study, we compared the performance of the GIP assay to laboratory-establised multiplex PCR Biofire.

Methods: We tested prospective ($n = 100$) stool samples sent for routine diagnostics by the QIAstat GIP comparing it to the FDA-approved BioFire FilmArray GIP
Results: Out of the 100 samples, 88 samples were matching both methods, were a total of 49 samples were negative by both methods and 39 samaples where positive similarly by both methods, there where 12 samples were discrepant between the two methods.
After discrepancy testing, QIAstat GIP detected correctly all samples except 6 pathogens (98.2%, 95% confidence interval (CI) 96.6–99.1%). There were 06 false positive detections. Multiple pathogens were detected in 32.5% of positive samples. The QIAstat GIP detected a large range of AGE pathogens with a high sensitivity. It offers an easy-to-use system for GI pathogen detection in stool within 70 min. An advantage of the QIAstat is the availability of cycle threshold (CT) values to aid in interpretation of results.
Conclusion: This is head-to-head comparison examining the performance of the novel multiplex PCR-based tests Qistat and FilmArray GI panel in detecting each pathogen. Point estimates calculated from eligible studies showed that both GI panels are highly accurate and may provide important diagnostic information for early identification of gastroenteritis. In addition, although Qistat can provide the CT value that may represent true vs late or old infection both methods has good sensitivity and post-test probability for most of the pathogens, this must translate to a clinical setting. Further testing to clear the discrepancy still ongoing.

Disclosure of Interest
None declared.

P1215

Comparative evaluation of a commercial microbroth dilution method as a reliable alternative to routine clinical methods for antifungal susceptibility testing

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Introduction: The global emergence of antifungal resistance presents a significant public health concern, emphasizing the need to test individual fungal isolate. Although the broth microdilution (BMD) is the reference standard for antifungal susceptibility testing (AST), it is routine implementation in clinical laboratories is limited due to practical challenges. Consequently, commercial microbroth dilution systems represent a valuable system for routine AST owing to its close alignment with BMD method and its wide fungal coverage.
Objectives: This study aims to evaluate the performance of a commercial microbroth dilution system in comparison with standard automated and gradient diffusion methods for AST.
Methods: A total of 15 clinical fungal isolates, including *Candida* spp., *Trichophyton asahii*, and *Aspergillus* spp., were tested. AST was performed in duplicate using a commercial microbroth dilution system [Sensititre™ YeastOne™ YO10 AST Plate, Thermo Scientific]. Parallel AST was conducted using an automated AST method [VITEK® 2, bioMérieux] and a gradient diffusion method [Etest®, bioMérieux], which were employed as comparator methods. Minimum inhibitory concentrations (MICs) were interpreted according to the breakpoints defined by the Clinical and Laboratory Standards Institute (CLSI). Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy were calculated to assess diagnostic performance.
Results: The commercial microbroth dilution system [Sensititre™ YeastOne™ YO10 AST Plate] demonstrated a sensitivity of 98.59% (95% CI: 92.40%—99.96%) and a specificity of 100.00% (95% CI: 76.84%—100.00%). The PPV and NPV were 100.00% (95% CI: 94.87%—100.00%) and 93.33% (95% CI: 66.66%—98.99%), respectively. The overall accuracy was 98.82% (95% CI: 93.62%—99.97%).
Conclusion: The evaluated system [Sensititre™ YeastOne™ YO10 AST Plate] yielded high diagnostic performance and agreement with MIC results obtained from routine clinical AST methods [VITEK® 2, and Etest®] across diverse fungal isolates, including yeasts and molds. These findings confirm the system's suitability as a reliable alternative for routine clinical AST.

Disclosure of Interest
None declared.

P1217

Yield of routine mycobacterial cultures from osteoarticular specimens and clinical characteristics associated with a positive culture: a retrospective, cohort study

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Introduction: Mycobacterial bone and joint infections (BJI) are rare, yet osteoarticular specimens are often routinely submitted for mycobacterial culture.
Objectives: To evaluate the diagnostic yield of routine mycobacterial cultures from osteoarticular specimens, and identify characteristics associated with positive cultures.
Methods: Retrospective review of osteoarticular specimens submitted for mycobacterial culture from January 1, 2017, to December 31, 2021. Mycobacterial BJI cases were defined as relevant culture growth and evaluation for antimycobacterial therapy. Controls were mycobacterial culture-negative matched by sampling year. Clinical and microbiological data were analysed using univariate and multivariable regression models, and propensity score matching for outcome comparisons.
Results: Of 179,034 specimens submitted for mycobacterial culture, 11,782 (6.5%) were osteoarticular, representing 4,611 individuals. Mycobacterial growth occurred in 120 samples (1.02%), corresponding to 43 confirmed BJI cases (0.93%). Rapidly growing mycobacteria accounted for 51.2% of cases and *Mycobacterium avium* was the most common slowly growing species. Most infections involved the hand (32%), and 15 (35%) were associated with prosthetic material. In multivariable analysis, rheumatoid arthritis (odds ratio [OR] 2.36, 95% confidence interval [CI] 1.07 −5.18, $p = 0.03$), deficiency anemia (OR 2.37, 95%CI 1.26-4.45, $p = 0.007$), blood loss anemia (OR 4.68, 95%CI 1.05-20.8, $p = 0.04$), and uncomplicated diabetes (OR 2.52, 95%CI 1.11-5.74, $p = 0.03$) were significant risk factors for mycobacterial BJI (Fig. 1). Mycobacterial BJI cases had a significantly higher 90-day readmission rate (27.9% vs 0.5%, $p < 0.001$), a trend that persisted following 1:1 propensity score matching (27.9% vs 4.7%, $p = 0.004$).
Conclusion: Routine mycobacterial cultures of osteoarticular specimens yielded clinically actionable results in < 1% of cases, supporting concerns of overutilization. Selective testing based on risk factors may improve diagnostic efficiency.

Disclosure of Interest
None declared.

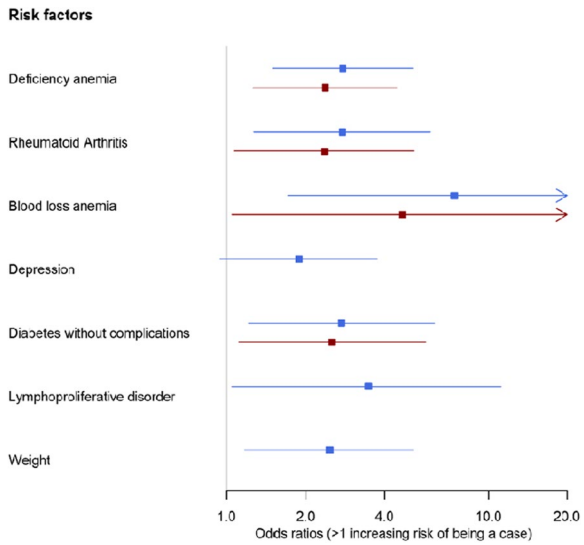

Fig. 1 (abstract P1217). Factors associated with Mycobacterial bone and joint infections. Forst plot of estimates (squares) from filled logistic regression models (95% confidence intervals, error bars) of factors associated with increased risk of mycobacterial bone and joint infection. Univariable (blue) and multivariable (red, only for those factors significant at the 5% level) are shown

P1218

Development of rapid point-of-care test kits for HIV, HBV, and Syphilis

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Introduction: Infectious diseases like HIV, HBV, and syphilis pose significant public health challenges in low- and middle- income countries such as the Philippines, contributing to maternal and neonatal morbidity. Limited access to timely diagnostics, especially in rural areas, underscores the need for effective tools. This project aims to develop rapid, multiplex point-of-care immunoassay kits for simultaneous detection of these infections. Improved diagnostics can also support surveillance, infection control indicators, and benchmarking of infection rates to monitor and reduce healthcare- associated infections (HAIs).
Objectives: 1. Build capacity for recombinant protein and antibody production through equipment acquisition and personnel training.
2. Develop a multiplex dot-blot assay (DBA) for simultaneous screening of HIV, HBV, and syphilis.
3. Develop a lateral flow device (LFD) for rapid detection of HBV and syphilis.
Methods: Supported by government collaborations, trainees were trained in recombinant antigen expression and hybridoma technology in Canada. The project focuses on creating two primary diagnostic tools—a multiplex DBA and a lateral flow device—designed for adaptation with locally produced components. These tools aim to facilitate surveillance and infection control by enabling rapid, point-of-care detection, integrable into broader infection monitoring systems.
Results: We successfully developed prototype multiplex test kits, and local staff are trained in recombinant protein production. Sensitivity and specificity testing are planned, but the emphasis on local expertise ensures high-quality materials. This immunology-focused approach enables targeted detection of immune responses, enhancing diagnostic accuracy. These diagnostics support individual diagnosis, as well as public health surveillance and infection rate benchmarking.
Conclusion: The project demonstrates the feasibility of creating rapid, multiplex diagnostic kits in the Philippines, reducing reliance on imported solutions and improving access in remote areas. Incorporating immunology enhances accuracy and utility. Future validation and preclinical testing will ensure their effectiveness, contributing to sustainable healthcare solutions in resource-limited settings.

Disclosure of Interest
None declared.

P1220

Four years of experience on dry pasteurizer microbiological surveillance

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1220

Introduction: Food-borne infections are a widespread issue that always concerns infant and neonatal wards, especially when dealing with preterm or premature newborns. While infant formulas are evaluated with periodical and standardised procedures, the same cannot be said for the places where milk is kept and processed. We use a dry pasteurizer Beldico PA 45 for the milk bank pasteurisation procedures; there are no guidelines regarding environmental bacteria contamination and microbiological check-up standards for this nowadays
Objectives: The aim of this work is to bring our 4 years of experience on a microbiological monitoring procedure and to evaluate the impact of environmental contamination and the standardised sanitisation of the pasteurizer.
Methods: Monthly, we collected 12 samples from 12 surfaces, deemed as critical, of the dry pasteurizer after sanitisation. Samples were collected using a sampling device for monitoring of surface microbial contamination, the FLOQSwabs® (Copan Italy), associated with an isotonic solution aimed at neutralising detergents.
Within four hours after collection, 100 µl of solution has been streaked out on different media. Plates were incubated at 37 °C for 24 h, and then at room temperature for 72 h.
The colonies were isolated and identified via MALDI-TOF mass spectrometry (VITEK-MS BioMerieux).
Results: Our results evidenced the presence of different levels of contamination and singled out particularly critical hotspots. The sampling showed the prevalence of Staphylococci, Micrococci, Bacilli and Corynebacteria.
The monitoring of the pastorizer allows for the time to make its reconditioning and to retrain all operators on hand hygiene.
After these interventions, the monitoring procedure showed no growth in 11 out of 12 points checked.
Conclusion: A monitoring pasteurizer procedure is necessary to avoid bank milk contamination, and it allows taking extraordinary measures in case of increased detection of microorganisms in the 12 critical points
The FLOQSwabs® (Copan Italy) demonstrated the capacity of recovering a microbial load even after the sanitising procedures.
A constant awareness concerning equipment sanitisation and hand hygiene is fundamental in dealing with infant care.

Disclosure of Interest
None declared.

P1221

Knowledge gaps in the preventive effect of hand hygiene against healthcare-associated infections

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Introduction: Despite decades of advocacy and research, hand hygiene (HH) remains the cornerstone of infection prevention and control (IPC) without a fully elucidated scientific foundation.
Objectives: To identify research needs regarding the preventive effect of HH against pathogen transmission and healthcare-associated infections (HAI) in *acute* healthcare settings.
Methods: We developed a conceptual framework of pathogen transmission and infection based on literature synthesis and expert discussions, incorporating ecological, behavioral, and microbiological dimensions. Using this framework, we identified and categorized open research questions regarding the potential preventive effect of HH.
Results: The framework elucidates the complex journey of pathogens from environmental or human reservoirs to patient colonization or infection. It highlights transitional stages where HH could play a potential preventive role: pathogen pick-up, hand-surface dynamics, temporo-spatial displacement, host susceptibility, and microbiome disruption. Within this structure, we identified ten priority research questions:
1 How many HH actions are needed to prevent one relevant transmission event?
2 What is the differential risk of colonization based on body site contact and type of invasive procedure?
3 How do pathogens move between body sites within the same patient?
4 Does contamination site on the hand affect transmission efficiency?
5 How does the introduction of a novel bacterial strain into the patient's microbiome influence their HAI risk?
6 What proportion of the various HAI types is of endogenous versus exogenous origin?
7 How quickly does transient hand flora change during healthcare delivery with repetitive hand-to-surface exposures?
8 What is the relative contribution of human vs environmental sources to patient colonization with key pathogens?
9 Is colonization driven by a single high-dose versus cumulative low-dose exposure to contaminated hands?
10 What role does antimicrobial use play in between-patient transmission in overall rising antimicrobial resistance?
Conclusion: The transmission/infection framework facilitated the development of a research agenda to refine IPC. Addressing these questions is essential for advancing HH beyond compliance toward measurable prevention outcomes.

Disclosure of Interest
None declared.

P1222

Understanding the factors affecting hand hygiene adherence among critical care healthcare workers: a systematic review

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Introduction: Hand hygiene (HH) is the most effective and cost-efficient measure to prevent healthcare-associated infections. However, compliance remains suboptimal, particularly in intensive care units (ICUs) and emergency departments (EDs), where organizational and operational barriers hinder adherence.
Objectives: We aimed to analyse the main factors affecting hand hygiene compliance among critical settings healthcare workers (HCW).
Methods: We conducted a systematic review according to the PRISMA statement, searching PubMed, SCOPUS, Web Of Science for studies evaluating barriers and obstacles encountered by ED and ICU healthcare workers in pursuing hand hygiene adherence. Main findings were described through a narrative synthesis.
Results: Thirty studies published between 1994 and 2024 were included (twenty-one quantitative and seven qualitative, two mixed), twelve were from European Countries, with a study population of 25 to 300 HCWs. Methods used to assess barriers and other factors associated with poor adherence to HH included surveys, interviews, direct and retrospective observation. The main barriers to reduced hand hygiene compliance included structural and organizational factors (scarcity of available materials and time, poor visibility of sinks, high work rhythms, overcrowding – especially in medical, cardiac and pediatric ICUs) and personal factors (skin irritation, use of gloves). Coworkers'attitudes were also associated to poor HH.
Conclusion: Health care personnel in ICUs and EDs, even when properly trained, face structural and organizational barriers that prevent proper adherence to hand hygiene practices. In addition, personal beliefs and work group attitude are very influential in determining compliance with HH standards. Continuous staff training is critical to maintaining proper compliance, but it is also important to provide the right support from the hospital facility in terms of logistics and architecture.

Disclosure of Interest
None declared.

P1223

Hand hygiene beyond healthcare workers: risk assessment of patient-associated surface contamination

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Introduction: Today, hand hygiene (HH) is a fundamental part of healthcare professionals' education. Hospital staff receive HH training, and their compliance is monitored through various methods. In contrast, patients and visitors are rarely included in such training or monitoring efforts, and patient empowerment initiatives gained modest traction.
Objectives: Our study aimed to assess the potential impact of patients'hand hygiene on environmental contamination in hospital wards.
Methods: A systematic surface sampling was conducted over a four-week period in six hospital wards. Five frequently touched surface types were examined: two were primarily touched by staff, two were primarily touched by patients, and one was commonly touched by both groups. Samples were collected weekly from each ward, using sterile swabs moistened then vortexed onto 3 ml physiological saline solution. Suspensions were plated on Chromogenic Plate Selective Enterobacteriaceae (CPSE) agar, a culture medium for the direct identification of *E. coli*, *Enterococci* and *Klebsiella–Enterobacter–Serratia–Citrobacter* (KESC). After 24 h of incubation at 35 °C, colony counts were performed. With respect to the assessment, red colonies indicated *E. coli*, greenish colonies indicated KESC or *Enterococci*. To minimize the influence of outlier data, a 'Microbial Load Score' was assigned to each surface based on colony counts, and scores were summarized. One ward did not participate in the fourth week of the sampling.
Results: Surface types predominantly touched by patients had higher Microbial Load Score (patient's bed rails: 36; patients' WC inner door knob: 32) than those touched only by staff (telephone and computer mouse on the nurse station: 21, 21 each). The surfaces shared by both groups—the patients' bathroom room outer door knob—had an intermediate score of 26, higher than staff-exclusive surfaces but lower than patient-exclusive ones (Fig. 1).

Conclusion: Our initial findings highlight the importance of including patients in hand hygiene education and intervention programs to reduce contamination risk in their environment. Patients'hands may serve as significant vectors for pathogen transmission. Improving hand hygiene compliance among patients could be a crucial step in reducing healthcare-associated infections.

Disclosure of Interest
None declared.

Sampling site	Microbial Load Week #1	Week #2	Week #3	Week #4	SUM
Door knob at patient room	5	6	7	8	26
Bed rails	6	6	13	11	36
Patient restroom's inner door knob	12	8	9	3	32
Computer mouse at nurse station	4	6	3	8	21
Telephone at nurse station	1	2	7	11	21

Microbial load is expressed by the Microbial Load Score (larger numerical value) and the number of Colony Forming Units (CFUs) in samples collected from the six wards. The colonies are categorized by color: **red** (*E.coli*), **greenish** (KESC+*Enterococci*), and **other**.

Fig. 1 (abstract P1223). See text for description

P1224

Anestheasia induction: a potential colonisation highway with rare infection risk moments

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1224

Introduction: Hand-to-surface exposures (HSE) during anesthesia induction may lead to colonization or healthcare-associated infections (HAI). Understanding the timing, surfaces involved, and hand hygiene practices is key to targeted prevention.
Objectives: To systematically analyze HSE during anesthesia induction, identifying high-touch surfaces, categorizing HSE, distinguishing colonization vs. infection risk moments, and evaluating hand hygiene (HH) behavior.
Methods: We performed a detailed video analysis of three anesthesia inductions, coding all HSEs by surface type: patient skin, invasive sites, patient zone, mobile, and stationary surfaces. We marked colonization and infection risk moments and hand hygiene actions.
Results: The 3 videos were 14, 30, 17 min long, captured line insertions, ECG equipment, pre-oxygenation, and intubation by 2-4 anesthesia personnel featuring 237, 347, 299 HSE. Overall, 260 HSE potentially led to patient colonization (patient skin (101) or environment HSE (159) with uncleaned hands after touching healthcare environment, modified WHO moment 1) and 2 HSE to infection (asepsis error with WHO moment 2). The number of HH actions were 6, 9, 1, of which 3, 3, 1 were on gloves. Table 1 summarizes the high-touch surfaces most frequently involved in these HSEs.
Conclusion: This video-based analysis shows that while high-risk infection moments were rare, colonization moments were abundant and rarely met by hand hygiene. The sheer volume of exposure makes HH alone impractical, highlighting the need for systemic measures, including environmental microbial control.

Disclosure of Interest
None declared.

Table 1 (abstract P1224). 10 most frequently touched surfaces in all three videos

Surfaces	Frequency (n)	Proportion (%)
Patient	144	16.3%
Infusion Lines	64	7.2%
Patient Blanket	48	5.4%
Tape	35	4.0%
Self-Touch	33	3.7%
Mouse	29	3.2%
Vitals Monitor Touchscreen	24	2.7%
ECG Cables	23	2.6%
Tourniquete	19	2.2%
Patient Bed	17	1.9%

P1225

Can technology improve hand hygiene compliance?

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Introduction: The hands of the medical staff are an important instrument in the performance of all procedures in healthcare. All procedures begin and end with the hands of the healthcare professional. If hand hygiene is not performed according to the WHO guidelines for the 5 moments of hand hygiene, hands can become objects through which microorganisms, potential infectious agents, are transmitted. Education and training are important elements to improve and increase hand hygiene compliance. However, advanced technological solutions are becoming additional tools for improvement. In September 2023, an advanced system for monitoring the consumption of alcohol-based antiseptics and the frequency of hand disinfection NOSOEX was installed in the General Hospital of Pula, Croatia.
Objectives: The aim was to determine whether advanced technology would improve hand hygiene compliance.
Methods: A detailed data analysis was performed from January 2024 till April 2025. Using quantitative data processing methods, a retrospective analysis of the consumption of alcoholic antiseptics after the installation of the system was carried out, while monitoring the trend of disinfection by staff category, day of the week and part/hour in the day.
Results: In the period from 1.1—31.12.2024, a total of 40,917 disinfection measures were carried out and 128.4 L of alcoholic antiseptic were consumed, while in the period from 1.1—31.4.2025, 124.4 L of alcoholic antiseptic were consumed, and 41,112 disinfections were carried out. The greatest difference and increase in cooperation and the number of disinfections was recorded after the distribution of sensors to health personnel in January 2025, which is confirmed by the data for December 2024, 7,068 disinfections and 21.7 L of alcoholic antiseptic, while for January 2025 the number of disinfections is 11,867 and the consumption of alcoholic antiseptic is 36.1 L.
Conclusion: The advanced technology greatly contributes to hand hygiene compliance, which is particularly noticeable after the sensors have been distributed to staff. The Hawthorne effect confirms that employees become aware of the monitoring and sanitize their hands more frequently. Technology cannot replace the human factor, but together with subjective monitoring of hand hygiene compliance, it is an ideal complement to the whole process.

Disclosure of Interest
None declared.

P1226

Validation of an electronic monitoring system for optimization of hand hygiene in intensive care units: opticoms

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Introduction: For validation of the EMS, data from the adapted EMS was compared with data from direct hand hygiene (HH) observation. Here we present the validation data as prerequisite for the intervention.
Objectives: The overarching aim of OPTICOMS is to evaluate if an Electronic Monitoring Systems (EMS by TORK, an Essity brand) improve compliance with HH in intensive care units (ICU).
Methods: A monocentric intervention study was conducted in an ICU. The EMS was comprised of an indoor positioning system that allowed for monitoring the movement of staff with a sub-meter precision and connected HH sanitizer dispensers. A cloud-based rule engine recorded dispenser usage (i) before, (ii) between and (iii) after movement in-between bed zones to calculate EMS-defined compliance. Manual observations were conducted according to the WHO moments by infection preventionist. Matching based on time, place and staff movement. The investigation was approved by the local ethics committee (Ref. No. 02727), staff council and is subject to the data protection regulations.
Results: In a first step, the EMS was adapted to specific conditions of the ICU by fine-tuning thresholds in the rule engine and shapes of the bed zones. A total of 78,165 EMS observations and 202 manual observations were recorded (Oct-Dec/24), of which 104 were excluded (Fig. 1). Of the 98 included manual observations 46 could be matched to corresponding EMS observations. The agreement between EMS-defined compliance and observed compliance was 0.67 [95 CI: 0.53-0.79].
Conclusion: For the first time the EMS has been adapted for the workflows in an ICU. The study showed an acceptable agreement between EMS- and manual observations, even in the ICU. Together with the high number of recorded observations, EMS could allow for usage as a surrogate for compliance, avoiding the psychological stress and additional workload. This would allow for directing IPC resources to other tasks. Limitation of the EMS is that it cannot detect WHO moments 2 and 3.

Disclosure of Interest

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		N	Comment
Total manual observations		**202**	
Exclusion criterias	Non-stationary dispensers used	51	*Dispensers mounted on moveable carts; EMS designed for stationary dispensers only.*
	WHO moment 2 or 3	39	*EMS is unable to measure WHO 2&3*
	Excluded after data review	14	*Example: HCP seen entering the room in EMS, but never seen leaving*
Included manual observations		**98**	
Unmatched observations		52	*HCP was not seen by EMS, typically because of HCP not wearing tag or movement not satisfying certain thresholds (time in zone etc.) stipulated by the EMS.*
Matched observations	of which agrees	31	67 %
	of which disagrees	15	33 %

Fig. 1 (abstract P1226). See text for description

P1227

Evaluation of three electronic hand hygiene monitoring systems: insights from four UAE hospitals

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Introduction: Hand hygiene (HH) is a critical component of infection prevention in healthcare settings, and the monitoring of compliance plays an essential role in reducing the transmission of infections.
Objectives: This abstract aims to summarize the evaluation of three electronic HH monitoring systems at four hospitals in the United Arab Emirates (UAE).
Methods: Sensors were strategically placed on alcohol-based dispensers, healthcare workers'ID badges, and patients'beds for the three systems and near handwashing sinks in one system. Each hospital independently evaluated the strengths and limitations of the respective systems. Additionally, a comparative analysis was conducted between data obtained through direct observation and the automated data gathered by the monitoring systems.
Results: The first system was evaluated at Hospitals A and B. Hospital A assessed it over 3.5 months with 42 ICU staff, finding a 65% compliance rate (23,170 opportunities) versus 88% analyzed by direct observation. Hospital B's one-month trial with 12 ICU staff showed 46% compliance (6,362 opportunities) compared to 80% observed directly. Hospital C tested the second system for 5 months on 30 surgical ward staff, reporting 70% compliance versus 94% by direct observation. Hospital D evaluated the third system over 5 months with 45 ICU staff, showing 39% compliance (62,618 opportunities) versus 88% observed directly.
Conclusion: Automated monitoring systems, while offering the advantages of continuous monitoring, audible or visual alerts, mitigated Hawthorne effect, automated unit-specific and individualized data analysis capabilities, resource efficiency, face inherent limitations. These costly sophisticated systems failed to distinguish between a HH indication and opportunity at all times. Moreover, they exhibit limitations in identifying the requisite"5 moments,"as well as nuances related to technique and glove utilization. Understanding the strengths and limitations of these technologies is crucial for healthcare institutions seeking to implement effective HH monitoring strategies that ultimately enhance patient safety and reduce HAI.

Disclosure of Interest

None declared.

P1228

A Multimodal strategy for improved healthcare hand hygiene: utilizing an adapted toy robot (Ozires) and positive outlier feedback as key components

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Introduction: Improving hand hygiene (HH) adherence among healthcare workers (HCWs) remains challenging despite its known impact since Semmelweiss (1840s). Perhaps the act's simplicity, lacking technology, contributes to low compliance. We envisioned a robot

reminder but faced cost. Our solution: adapting a US$200 Meccanoid toy robot. Modified (mini-projector, audio amp, alcohol dispenser, camera),"Ozires"became a professor teaching HCWs how, when, why to wash hands.
Objectives: This paper describes the Ozires-centered multimodal strategy.
Methods: The multimodal strategy consists of six key elements: 1) Ozires, with a practitioner, delivers HH lectures, videos, data feedback; 2)Wooden robot replicas with motion-activated sound reminders placed hospital-wide; 3)HH monitoring app (https://nsp.sachiweb.com); 4)Adherence rates by professional category; 5)Individual feedback, plus identification and celebration of positive outliers (high adherers); 6)Prominent HH compliance signage.
Results: Ozires began lectures May 2018 hospital-wide. HH adherence rose from 23% (Jul-Dec 2017) to 60% (Jun 2018-Dec 2021). Implementing the full multimodal strategy increased HH rates to 75% (Fig. 1). While further improvement is needed, this is a significant result from a sub-30% baseline.
Conclusion: The Ozires-centered multimodal strategy is effective. HH compliance increased significantly post-intervention. It works; behavior changed. People respond well to the robot tutor – they listen more attentively than to humans and love the robot. Improvement continues, but the approach is sustainable. We successfully adapted a toy robot into an effective, continuous HCW education tool – a novel robot tutor.

Disclosure of Interest
None declared.

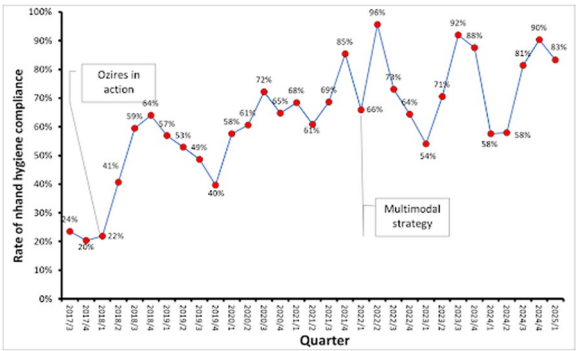

Fig. 1 (abstract P1228). See text for description

P1229

Hand hygiene compliance surveillance in residential care homes using an artificial-intelligence-powered indoor tracing system: a pre-post intervention study in Hong Kong
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1229

Introduction: Nursing assistants in residential care homes (RCHs) show < 20% hand hygiene compliance rates. Innovative training approaches are urgently needed.
Objectives: This pilot study assessed the effectiveness of a hand hygiene training mobile application using the artificial intelligence (AI)-based algorithms on improving hand hygiene compliance among nursing assistants in RCHs, using a Bluetooth indoor positioning system.
Methods: We invited nursing assistants from an RCH in Hong Kong and conducted a 20-min training session during their working shifts. Participants used a mobile application based on AI-algorithms for hand movement, to provide video instructions, on-screen prompts and real-time feedback on step-by-step hand hygiene techniques. A Bluetooth-based indoor positioning system to track individuals' proximities to hand hygiene stations pre- and post-training. Each participant wore a beacon for 12 days, transmitting signals every minute to nearby gateways. The frequencies of participants approached a Bluetooth gateway near the alcohol-based hand rub (ABHR) stations ***(intervention gateways)*** were compared with those gateways placed in areas without ABHR stations ***(control gateways)***. A check-in event was defined as ≥ 2 min of close proximity, limited to one participant per gateway per day. Mixed-effects models assessed changes in daily check-ins, with gateway as a random effect and time, group, and their interaction as fixed effects.
Results: There were 115 staff and residents in the RCH, with 20 staff participants included in the analysis. Across the study period of 12 days (6 days before and 6 days after the intervention), 301 check-in events were recorded. Daily check-ins at intervention gateways significantly increased post-session (mean [SD]: 3.50 [1.96] vs. 4.90 [1.45]; $p = 0.005$), indicating improved hygiene. No significant change was observed at control gateways (2.92 [1.77] vs. 2.85 [1.95]; $p = 0.646$). A significant interaction effect ($p = 0.033$) supported that the increase was attributable to the intervention.
Conclusion: A brief training session using the AI application effectively enhanced hand hygiene practices. Future large-scale studies are needed to optimize the integration of AI tools to improve infection prevention and control in RCHs.

Disclosure of Interest
None declared.

P1230

3D Ambient perceptual-action monitoring and ai system with real time nudges and dashboard increased hand hygiene compliance (HHC) in a Canadian hospital setting: a mixed methods study
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Introduction: HHC is the most important infection prevention control. Yet globally HHC remains low. The ceiling mounted Artificially Intelligent Monitoring System (AIMS) uses anonymous 3D ambient perceptual-action monitoring and AI to constantly monitor HHC in clinical environments. It generates complete and highly granular data 24/7 not otherwise available in any healthcare setting. AIMS issues audio and visual alerts to nudge staff if they approach patients without proper HHC and generates a real-time dashboard on HHC to support quality improvement initiatives.
Objectives: To evaluate the effects of AIMS on hand hygiene compliance rates in a 36-bed transitional care unit in Canada.
Methods: Given abstract format constraints, we only present data on moment 1 HHC as captured by AIMS. Before-after study 4 weeks before and 5 weeks after AIMS implementation and analysis using T-tests. Post study compliance was measured 12 months after the install. Qualitative study involved semi-structured interviews with diverse ward staff (nurses, physicians, allied healthcare professionals, ancillary staff) based upon the Theoretical Framework of Acceptability analyzed by thematic analysis.
Results: AIMS observed 927 HH moment 1/day during the post intervention period. The mean absolute improvement in moment 1 HHC rates was + 10.79% (95% CI + 9.12%, + 12.45% T-Test $P = 0.0001$) following implementation. 12 months after the implementation, the

mean moment 1 HHC improvement was sustained. Staff valued AIMS and its support to improve HHC. Staff reported a high degree of comfort and confidence with AIMS, it's role and function. AIMS was positively embraced by patients and family members. No patients, family members or staff requested the AIMS technology to be disabled. The AIMS dashboard was a helpful tool that supported ward management to work with and encourage staff to improve their hand hygiene performance.
Conclusion: AIMS captured detailed information on HHC 24/7 that is step function improvement to human hand hygiene audits. The implementation of AIMS led to significant and sustained improvements in moment 1 HHC and was acceptable to ward staff, patients and their carers.

Disclosure of Interest
J. Grimshaw Employee of: Lumenix—Medical Director and Senior Scientist.

P1231

Digital transformation of hand hygiene audits: enhancing accuracy, efficiency, and manpower savings

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1231

Introduction: In our hospital, hand hygiene (HH) audit was previously conducted using paper-based forms, with manual data entry and graph generation. This traditional method was time-consuming, error-prone, and labour-intensive. To improve efficiency and leverage technology, a project was launched to implement and evaluate a mobile application (App) for HH audits.
Objectives: This project aimed to streamline the HH audit process through digitalization, enhancing efficiency, accuracy, and data visualisation while saving manpower.
Methods: The implementation of the mobile App commenced in Apr 2024. The process involved backend parameter setup, training HH auditors to use the app and communicating with stakeholders. HH audit data collected by auditors using mobile devices commenced in Jul 2024. Barriers and strategies were identified using the Plan-Do-Check-Act (PDCA) cycle. The system's performance, including audit data collection and graph generation, was evaluated by comparing results before and after implementing the app. Staff feedback was gathered over a 9-month period following the implementation.
Results: From Jul 2024 to Mar 2025, data was collected across all 45 inpatient areas through a total of 18 audit sessions. The audit processing time was reduced from 1133 to 874.7 man-hours annually, saving a total of 258.3 man-hours—a 22.8% improvement. The digital system streamlined several workflows for auditors, system administrators, and data reporters. It also enhanced data accuracy and enable real-time visualization of compliance trends, supporting timely interventions. The team achieved a 90% (97/108) training completion rate for HH auditors. Quicker data collection and improved users' experiences led to positive users' feedback and acceptance of the new system.
Conclusion: The digital transformation of the HH audit process significantly improved audit efficiency, data reliability, and user satisfaction. The success of this initiative was driven by meticulous and thorough planning, active stakeholder engagement, open communication and collaborative problem-solving and continuous improvement cycles. This project not only resolved previous inefficiencies but also established the foundation for future innovation in healthcare.

Disclosure of Interest
None declared.

P1232

The effectiveness of an AI-based augmented reality system for hand hygiene training on enhancing hand hygiene knowledge in university staff and students

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Introduction: Hand hygiene is fundamental for infection prevention. While research has focused on healthcare professionals, a substantial gap exists in effective education for the general public. Traditional methods lack engagement and feedback, resulting in suboptimal technique and compliance. Following the COVID-19 pandemic, hand hygiene awareness has grown, yet conventional approaches remain insufficient for non-healthcare populations. AI-based augmented reality systems may address these limitations through interactive learning.
Objectives: This study aimed to develop an AI-based augmented reality hand hygiene training app, assess users'technique performance, measure their knowledge and attitudes toward hand hygiene, and evaluate user satisfaction.
Methods: We developed the HAND HygiEne Augmented Reality Tool (HAND-HEART) and conducted a cross-sectional study at Hong Kong Polytechnic University. Students and staff who passed a hand hygiene booth on campus were invited to use the application and complete an online survey assessing their hand hygiene knowledge.
Results: The application recorded approximately 720 usage sessions, with users achieving an average correct rate of 58.7% (SD = 22.5%) in WHO 7-step hand hygiene technique as assessed by HAND-HEART. 303 participants completed the knowledge survey (mean score 11.57 ± 2.79 out of 19), with 91.7% acknowledging hand hygiene as essential for infection prevention. App feedback was positive, with 96.5% of 344 respondents rating the interface at 4 + stars and 95.1% willing to recommend it.
Conclusion: Our preliminary findings suggest this AI-based system shows promise in addressing traditional method limitations through real-time feedback, as evidenced by high user acceptance. The moderate knowledge scores alongside positive reception indicate potential for this technology to complement existing hand hygiene training programs and bridge educational gaps in community settings.

Disclosure of Interest
None declared.

P1233

Feasibility of an AI-based system for hand hygiene training in an acute Hong Kong hospital

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Introduction: Monitoring of hand hygiene indicators remains a challenge in clinical settings, as it still relies on direct observations by nurses and the Hawthorne effect is almost unavoidable. We recently applied AI image processing and augmented reality (AR) technologies to develop the HAND Hygiene Augmented Reality Tool (HAND-HEART) which offers a potential solution for automatic monitoring with feedback.
Objectives: To test the feasibility of using an AI-based AR system to enhance hand hygiene compliance in hospital settings.

Methods: On 6 May 2025, we conducted a hand hygiene campaign in an acute hospital in Hong Kong. Healthcare workers were invited to try HAND-HEART using tablets to assess the quality of their hand hygiene techniques. They were also asked to complete an online questionnaire to gather their knowledge on hand hygiene.
Results: A total of 274 healthcare workers participated in the AI-powered hand hygiene (HH) program trial, including 120 nurses, 14 doctors, 27 allied health professionals, 40 supporting staff, and 73 participants from other roles. Among them, 150 participants engaged with the auditing mode, while 124 used the training mode. At the same time, 235 participants completed a post-program questionnaire. Results showed that 82.2% correctly identified the recommended HH duration ($\geq$ 20 s), and 95% recognized that HH protects patients, themselves, and their families. Furthermore, 92.8% rated HH promotion activities as highly effective in improving awareness and compliance, while 70.2% and 13.6% rated the AI program as 5 stars and 4 stars, respectively, in improving technique.
Conclusion: Our findings suggest that HAND-HEART demonstrated excellent performance in real-time feedback, which can ensure conscientious hand hygiene by healthcare workers and decrease the risk of hospital-acquired infections. The positive feedback from healthcare workers further supports the feasibility of using this app in clinical settings.

Disclosure of Interest
None declared.

P1234

Creation of a mobile, evolving, and adaptive escape game for different professional categories to promote hand hygiene at the Lausanne university hospital (CHUV), Switzerland

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Introduction: Serious games are recognized as effective educational tools. However, they remain underutilized in the field of infection prevention and control (IPC).
Objectives: To present a flexible and evolving escape game, developed by the IPC unit of Lausanne University Hospital (CHUV), designed as a campaign tool and adaptable to various professional categories and students within the healthcare sector.
Methods: The game involves a team of five players who must solve targeted puzzles within a set time limit, focusing on best practices in hand hygiene and appropriate glove use. To ensure ease of implementation, the project team developed a concise and engaging scenario. Several tailored versions were created to reflect the specific tasks of different professional roles. Furthermore, the game materials were streamlined to facilitate transport and setup.
Results: Since its launch in May 2023, the IPC team has conducted over 140 sessions, reaching more than 700 healthcare professionals. 96% of surveyed participants appreciated the game format, and 79% felt they had acquired useful knowledge for their practice. Since September 2023, the game has also been incorporated into practical small-group sessions focused on IPC issues, serving as an educational tool for fourth-year medical students, and has reached over 300 participants to date.
Conclusion: With its engaging, immersive, and easy-to-deploy format, this escape game represents an innovative educational tool that fosters collaboration. Its adaptable and evolving content enables broad dissemination across diverse target audiences.

Disclosure of Interest
None declared.

P1235

Inclusive innovation: using a music-based app to improve hand hygiene in students with disabilities

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Introduction: Effective hand hygiene is essential for infection prevention, but can be difficult to teach to students with cognitive, sensory, or learning differences. Traditional methods often fall short in building the necessary skills for consistent, thorough handwashing in this underserved population.
Objectives: To evaluate the feasibility and impact of a music-based, interactive Hand Hygiene Trainer (HHT) app on handwashing technique among high school students with disabilities.
Methods: A single-case design was conducted in a U.S. prevocational high school. Eight students (ages 16–22) with disabilities including intellectual disability, ADHD, traumatic brain injury, autism, and speech/language impairments, participated. The HHT app provided gameplay using 3D hand models and feedback on missed areas. After gameplay, students washed their hands at a sink monitored by fixed cameras. Independent raters, blinded to the study phase, scored handwashing technique using a 12-step WHO-based rubric. Baseline and intervention phase scores were compared. Student and teacher feedback were gathered via surveys and structured interviews.
Results: Baseline scores were stable, with averages ranging from 1.3 to 6.2. During the intervention, most students improved, with individual percent gains from 0 to 89%. Qualitative data supported these results: students reported high enjoyment, ease of use, and increased awareness of effective handwashing. Participants agreed they learned "different ways to get my hands clean." The teacher noted that "students were extremely engaged" and described a "huge impact" on several students' skills and independence. She confirmed that students could use the app independently with available classroom technology and suggested additional supports to better connect digital learning to real-world behavior.
Conclusion: HHT is a promising, inclusive tool for improving hand hygiene among students with disabilities. This low-cost, scalable approach supports WHO goals for accessible and equitable health education and infection prevention.

Disclosure of Interest
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P1236

Necessity as the catalyst for innovation: advancing public hand hygiene practices in response to Covid-19

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Introduction: COVID drastically reshaped attitudes toward infection control, with hand hygiene emerging as one of the most important defenses against infections. Despite widespread messaging by healthcare organisations, ensuring effective handwashing remains a challenge in both public and clinical settings. We attempted to address

this issue by introducing a device called SmartWash to improve hygiene practices through visual feedback. We hoped that by improving hand hygiene techniques, we could help limit the spread of contagious diseases.
Objectives: The objective of SmartWash was to provide simple solutions to enhance hand hygiene compliance, and thereby reduce transmission of infectious diseases. Our goal during prototype development was to assess usability, behavioral feedback, and to gain general feedback regarding the product.
Methods: The intial design combined a UV-reactive hand soap with a modified hand dryer that emits ultraviolet light. As users dry their hands, the UV beam reveals missed spots. A controlled user trial was conducted in a campus bathroom to assess SmartWash's usability and behavioral impact. 25 university volunteers from varied age groups were recruited and instructed to wash their hands using the UV-reactive SmartWash soap. They then used the UV light–equipped prototype, which revealed missed areas. A facilitator observed the entire process. Data regarding washing duration and hand washing accuracy were collected and feedback regarding usability and perceived utility was collected through a short post-trial questionnaire. This trial was repeated later on in the same day to assess if the first set of feedback had an impact on handwashing technique.
Results: The pilot study showed a statistically significant improvement in handwashing technique across the repeated trial. On average, the number of missed areas decreased by over 77% between the first and second attempt. Areas such as the fingertips were cleaner in the second attempt. The volunteers reports that they found the system easy to use and understood the importance of correct handwashing technique.
Conclusion: Our trial demonstrated that SmartWash can improve hand hygiene technique through significantly. Unfortunately our market research did not demonstrate any strong demand by direct consumers or organisations in the UK, despite the recent pandemic.

Disclosure of Interest
None declared.

P1238

Alcohol-based hand rubs fulfil en 1500 in 15 seconds

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Introduction: The efficacy of alcohol-based hand rubs (ABHRs) is evaluated according to standardized test methods, such as EN 1500 for hygienic hand disinfection. To meet EN 1500 requirements, an ABHR must reproducibly demonstrate bacterial reduction on the hands of volunteers that is at least equivalent to that achieved by a reference alcohol. Moreover, ABHRs have to be tested for a contact time of between 30 and 60 s. In clinical practice, however, prolonged rub-in times are often seen as an impediment to hand hygiene compliance, potentially leading healthcare workers to omit necessary disinfections in an effort to save time.
Objectives: This study investigated, whether two ABHRs (ethanol- and propanol-based) can meet the efficacy requirements of EN 1500 already in 15 s compared to the currently specified 30 s.
Methods: Hands of 20 volunteers were artificially contaminated with *E. coli* and finger tips were sampled to obtain the pre-value. Hands were then disinfected, either with the reference alcohol (60% v/v isopropanol) with 2×3 ml for 2×30 s or with the tested ABHRs. For the latter, disinfection was performed with 3 ml for 15 s using the "responsible rub-in technique" or with 5 ml for 15 s using the standardized rub-in technique. Finger tips were sampled again for the post-value and reduction of bacteria on the hands was compared between the reference and the test products.
Results: Both ethanol- and propanol-based ABHRs were non-inferior to the unmodified efficacy requirements of EN 1500 and achieved similar log-reductions in 15 s compared to the reference in 30 s.
Conclusion: We show here that the two tested ABHRs are comparably effective in 15 s as well as in 30 s. The results contribute to a more user-friendly hand disinfection and can have a positive impact on hand hygiene compliance in daily practice.

Disclosure of Interest
V. Kolbe Employee of: VK is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., E. Mönch Employee of: EM is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., A. Bolten Employee of: AB is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., H. Niesalla Employee of: HN is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., C. Senges Employee of: CS is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs.

P1239

Influence of hand rub volume on hand coverage, spillage and user preference

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1239

Introduction: Hand hygiene is the most important measure for the prevention of healthcare-associated infections. However, there is a gap between how it is performed vs. how it should be performed. Current standards for testing the efficacy of an alcohol-based hand rub (ABHR) are performed mostly with a volume of 3 mL. Nevertheless, the volume used in daily practice is often below the recommendations and some ABHRs require larger volumes (> 3 mL) to pass the required standards.
Objectives: An initial study evaluated factors such as coverage, spillage, drying times, and satisfaction with the handling of ABHRs in different formats – liquid, gel and foam—when rubbing according to manufacturers'instructions. In a next step, the influence of volume on hand coverage was investigated.
Methods: For all analyses, ABHRs mixed with a fluorescent dye (Visirub®) were used. Evaluation of the different ABHR formats was performed with 3 different ABHRs containing 85% (w/w) ethanol. Participants were asked to rub their hands on 3 different days using the respective ABHR formats and the volume specified by the manufacturer. Rubbing was performed above an A3 sheet of paper to detect spillage and the time was measured until the volunteers felt their hands were dry. To investigate the influence of ABHR volume on hand coverage, volunteers were asked to rub their hands for 30 s. with a propanol-based hand rub (75% w/w), using a specified volume ranging from 0.5 to 3 mL on 6 days (e.g. 3 mL day 1, 1.5 mL day 2, 0.5 mL day 3). In both studies, the volunteers'experience of hand rubbing ranged from novice to experienced. Hand coverage was measured using a Semmelweis Scanner and volunteers were asked to rate their satisfaction with the product (scale of 1-5, 5 = very satisfying).
Results: Regardless of the format, good coverage was achieved with all three formats and the liquid rub dried significantly faster than the foam or gel. The foam rub spilled significantly less than the others. Volunteers rated the foam and liquid as easier to use than the gel.
Conclusion: The results of the study provide more insights into the requirements for an effective hand disinfection to bridge the gap

between theory and daily practice. The volumes that yielded in sufficient hand coverage are to be further analysed regarding their antimicrobial efficacy by additionally probing the hands before and after disinfection.

Disclosure of Interest
V. Kolbe Employee of: VK is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., M. Krewing Employee of: MK is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., H. Niesalla Employee of: HN is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs., C. Senges Employee of: CS is an employee of BODE Chemie GmbH, a company of the HARTMANN GROUP (Hamburg, Germany), the manufacturer of the tested hand rubs.

P1240

Evaluating hand hygiene control interventions: insights from ASTM E1174 and ASTM E2755 in vivo testing

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Introduction: Hand hygiene is fundamental to infection risk reduction in healthcare settings where cross-contamination easily occurs. Understanding the antimicrobial efficacy of different hand hygiene products by in vivo hand studies is crucial for risk assessments, choosing interventions and establishing effective guidance. Little data is published on common controls tested by standardized methods commonly used to evaluate the antimicrobial efficacy of hand hygiene agents.
Objectives: This study evaluated the variability with the common controls used in multiple studies conducted from 2021-2025 using ASTM E1174 and E2755 methodologies.
Methods: The laboratory used methods defined in ASTM E1174 ("*Evaluation of the Effectiveness of Healthcare Personnel Handwash Formulations*") and ASTM E2755 ("*Determining the Bacteria-Eliminating Effectiveness of Healthcare Personnel Hand Rub Formulations Using Hands of Adults*"). Parameters analyzed included the number of studies and subjects, average mean $\log_{10}$ reduction on microbial count, average standard deviation and coefficient of variation. For ASTM E1174, three controls (Saline, Hibiclens and Avagard) were evaluated. For ASTM E2755, Saline, Avagard and 60% isopropyl alcohol (IPA) were analyzed.
Results: Data is summarized in Fig. 1. Under ASTM E1174, Hibiclens achieved the highest average mean log reduction (3.03 LR) and a moderate coefficient of variation (15.4% CV), followed by Saline (1.96 LR; 19.6% CV) and Avagard (1.75 LR; 8.6% CV). In contrast, ASTM E2755 shows that Avagard had the highest mean log reduction (2.86) despite greater variability (25.8% CV), followed by 60% IPA (2.51 LR; CV: 25.6%) and Saline (1.59 LR; 29.8% CV). Saline consistently demonstrated the lowest efficacy across methods. The ASTM E2755 method demonstrates higher inherent variability.
Conclusion: Hibiclens was the most effective agent under ASTM E1174, while Avagard performed best under ASTM E2755. The differences highlight how methodological variations can influence efficacy outcomes. Saline, used as a negative control (no active ingredient), predictably yielded the lowest microbial reduction. These findings emphasize the importance of selecting appropriate test methods, test formulations and an experienced clinical testing lab.

Disclosure of Interest
J. Arbogast Consultant for: travel support, S. Mujawar Employee of: Salary, L. Asangi Employee of: Salary, N. Gupta Employee of: Salary, P. Thombare Employee of: Salary, S. Asai Employee of: Salary, V. Padbidri Employee of: Salary, M. Patole Employee of: Salary.

Method→	ASTM E1174				
Control Test Article↓	# of Studies	# of Subjects	Average Mean Log Reduction	Average Standard Deviation	Coefficient of Variation
Saline	3	60	1.96	0.39	19.6%
Hibiclens	4	72	3.03	0.47	15.4%
Avagard	1	12	1.75	0.15	8.6%
Method→	**ASTM E2755**				
Control Test Article↓	# of Studies	# of Subjects	Average Mean Log Reduction	Average Standard Deviation	Coefficient of Variation
Saline	7	180	1.59	0.47	29.8%
Avagard	4	92	2.86	0.74	25.8%
60% IPA	5	720	2.51	0.64	25.6%

Fig. 1 (abstract P1240). See text for description

P1241

From insight to impact: new research on ABHR dose supports continued journey to hand hygiene excellence

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Introduction: Effective alcohol-based hand rubs (ABHR) and healthcare worker compliance to hand hygiene guidelines are important to prevent pathogen transmission in healthcare settings. The Leapfrog Group recommend that ABHR is wet on hands for 15 s whereas WHO and CDC recommend a wet time of at least 20 s. ABHRs must meet these wet time requirements, whilst balancing skin feel and user experience to maximize hand hygiene compliance.
Objectives: This study evaluated the wet time of 3 ABHR foam doses (0.75 mL, 1.0 mL and 1.5 mL) and assessed the influence of hand size on drying duration.
Methods: 49 adult subjects applied each dose in random order in a central location test, with at least 1-h between applications. Hand length and circumference were measured prior to testing. Subjects placed one hand below an ABHR dispenser, and a moderator dispensed the proper dose. A stopwatch was started, and the product was rubbed into hands following a standardized application method. Subjects were asked to indicate when they perceived the product to be dry, and wet time duration was recorded.
Results: The average glove size of the tested cohort was medium (7.8-inch circumference), with 73% of participants below average. Mean wet times were 15.6, 17.2, and 27.2 s for the 0.75 mL, 1.0 mL, and 1.5 mL ABHR doses, respectively (Fig. 1). Only 50% of participants exceeded the Leapfrog 15-s wet time requirement with 0.75 mL, increasing to 75% with a 1.0 mL ABHR dose. However, the 1.0 mL dose failed to meet the WHO/CDC 20-s minimum wet time threshold for 75% of subjects. At 1.5 mL, all subjects exceeded 15 s, and 85% exceeded 20 s. Hand size showed weak correlation with wet time.
Conclusion: An ABHR dose of $\geq$ 1.5 mL dose is necessary to ensure compliance with the Leapfrog Group's recommendation of a 15-s minimum wet time. Dose sizes below 1.5 mL result in insufficient wet time for a meaningful percentage of adult hands, and therefore non-compliant hand hygiene events that increase patient safety risk. The impact of ABHR dose size on pathogen reduction and healthcare personnel user experience plus usage rates needs further assessment and consideration. In the spirit of science-driven guideline improvement, this new evidence urges reexamination of existing hand sanitizer requirements in practice and in monitoring.

Disclosure of Interest
G. Oxley-Smith Employee of: Salary, J. Arbogast Consultant for: Consulting fee, K. Ormandy Employee of: Salary.

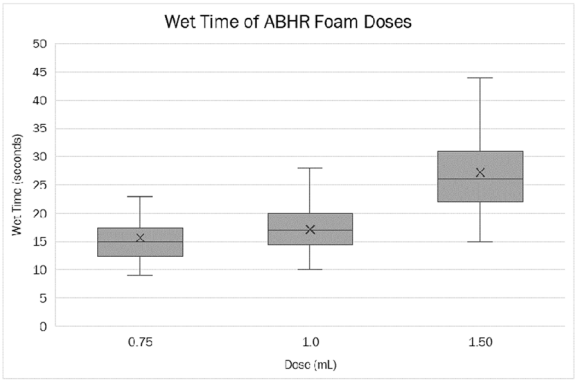

Fig. 1 (abstract P1241). See Results for impact of different ABHR foam doses on wet time on human hands. The box plot shows distribution of wet time (in seconds) for three doses (0.75 mL, 1.0 mL, and 1.5 mL) of one ABHR foam formulation. The boxes represent the interquartile range (IQR), the horizontal line within each box indicates the median, and the'X'marks the mean. Whiskers extend to the minimum and maximum values exluding outliers

P1242

In-vivo-efficacy of alcohol-based hand rubs against human adenovirus in a cross-over study based on EN 17430

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Introduction: Alcohol-based hand rubs are the most important single infection prevention and control measurement. Methods to examine virus infection and transmission are underated in this context. Consequently, it was a milestone when the new standard EN 17430 was published in 2024. This method allows the efficacy evaluation of a hand rub on the hands of volunteers against the murine Norovirus as test virus and is subsequently a big step forward. The method is based on the same test principle as the EN 1500 for bacteria.
Objectives: The purpose of our study was to find out about the performance of hand rubs against human Adenovirus type 5 (AdV-5) as important clinical pathogen under practical conditions.
Methods: For the study a ethics approval was granted by the ethics commission in Hamburg, Germany under the number 2024-101356-BO-ff. The study was performed in a cross-over design on the hands of 20 adult and skin healthy volunteers based on EN 17430. The hands were contaminated with AdV-5 before standardized application of different market relevant alcohol-based formulations: 70% to 97% ethanol and mixtures of ethanol/1-propanol and 2-propanol/1-propanol. The remaining viruses were recovered before and after treatment with the hand rub and their infectivity determined.
Results: The results show that pure ethanol formulations significantly reduced the viral titer, leading to a greater reduction with increased concentration. Additionally, the reduction of the viral titer depends on the type of alcohol used. The ethanol-based formulation was more effective than the 2-propanol mixture (see Fig. 1).
Conclusion: The data show that alcohol-based hand rubs significantly reduce human adenovirus on hands. Therefore, AdV-5 can be used as a test virus in the aforementioned assay, yielding valid results. In contrast to findings from suspension tests with human adenovirus, this study based on EN 17430 shows that increased alcohol concentrations lead to higher reduction factors. This demonstrates the importance of practical data for evaluating the efficacy of infection control measures.

Disclosure of Interest
F. Brill: None declared, D. Paulmann: None declared, B. Becker: None declared, J. Steinmann: None declared, B. Bischoff: None declared, H. Henze Employee of: AA is an employee of B. Braun Medical AG which is manufacturer of alcohol-based hand rubs., A. Arndt Employee of: AA is an employee of B. Braun Medical AG which is manufacturer of alcohol-based hand rubs., Grant/Research support from: B. Braun supported the study financially.

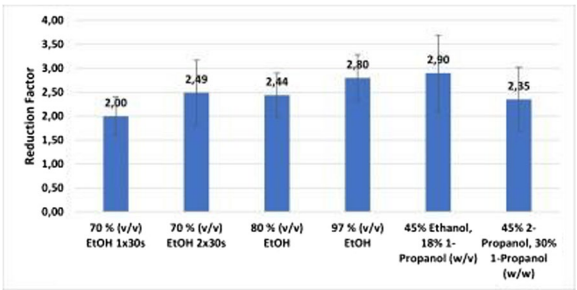

Fig. 1 (abstract P1242). See text for description

P1243

Factors and characteristics of Abhr-dispensers related to handhygiene performance- a systematic review

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1243

Introduction: Alcohol-based hand rub (ABHR) is an evidence-based prevention measure and contributes to the reduction of nosocomial infections in healthcare. For this purpose, the use of ABHR-dispensers is a common practise.
Objectives: Aims of this systematic review were (1) to summarize examined characteritics of ABHR-dispensers and (2) to highlight factors concerning ABHR dispensers, influencing their use in handhygiene.
Methods: Sensitive research was conducted. We searched Medline via Pubmed and Web of Science in german and english language without date restrictions. Studies were included designating characteristics or factors towards ABHR-dispenser use. Studies that did not report the original research (i.e. reviews or protocols) were excluded. In addition to data on the study, we extracted data on characteristics describing or factors influencing usage of ABHR-dispensers and related results and endpoints. This study is registered in PROSPERO (CRD420251052789) and was conducted according to PRISMA guidelines
Results: We identified 495 search results. (1) Examined characteristics relate to different aspects of ABHR-dispensers. They differ in their influence on relevant endpoints from no improve to significant influences, up to 30% enhancement of compliance. Effects relate to handhygiene-compliance, ABHR-consumption and perceptions of healthcareworkers regarding the use of ABHR-dispensers (barriers and facilitators). (2) Factors associated with ABHR-dispenser use are availability of ABHR-dispensers, position and number of ABHR-dispensers, visual incentives, feedback and condition of ABHR-dispensers.
Conclusion: On the one hand, studies show characteristics with no impact on ABHR-dispenser use. On the other hand, they show correlations between factors related to ABHR-dispensers and relevant outcomes, such as handhygiene compliance, ABHR use or

healthcareworker perceptions. These factors should be considered when installing new ABHR-dispensers or setting up interventions. In addition, they can be used to question the current context of ABHR dispenser deployment.

Disclosure of Interest
None declared.

P1244

Design, development, and implementation of a digital application (eco-handhygiener) to measure water savings by promoting hand hygiene disinfection in the clinical setting

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Introduction: Hand hygiene is a key strategy in the prevention of Healthcare-Associated Infections (HAIs). It is important to promote hand hygiene disinfection with an alcohol-based hand sanitizer due to its effectiveness and greater availability, as healthcare professionals in Mexico prefer handwashing with soap and water 9:1.
Objectives: To measure water savings through hand hygiene disinfection using a digital application.
Methods: The ECO-HandHygiene^{R} digital application was designed and developed in Hypertext Preprocessor (PHP) and Hypertext Markup Language (HTML).
It is hosted on the website https://aesculapseguridaddelpaciente.org.mx/ahorro-agua_EN/index.php for use on computers or mobile phones with internet access. Each hand hygiene disinfection action in the clinical setting can be recorded. The app is available for use on any operating system and contains general information about the objective, individual and collective results, and a video tutorial. A pilot test was conducted in a public health institution for 30 days with a group of observers.
Results: Water savings amounted to 12,297 L in 4,099 opportunities.
These data validate the tool's usefulness as a mechanism for raising awareness and taking direct action to promote sustainable hand hygiene practices in healthcare. The app is easy to access and use and can be easily adapted to a larger number of users or future actions, e-mail validation and the database structure allow for consistent and controlled individual records.
Conclusion: It is essential to raise awareness among healthcare professionals to encourage and promote sustainability in all healthcare activities, given the emerging problems generated by climate change. Any initiative with this purpose contributes, and together a greater environmental impact will be achieved.
With the use of the ECO-HandHygiene^{R} app, we have another additional benefit will be palpable: water savings, in addition to promoting hand hygiene disinfection with an alcohol-based hand sanitizer. Detailed information on how to use the app can be found in the following link.
https://aesculapseguridaddelpaciente.org.mx/ahorro-agua_EN/index.php

Disclosure of Interest
None declared.

P1247

Results of epidemiological surveillance of antimicrobial resistance among the war-wounded in Ukraine

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Introduction: The rise of antimicrobial resistance (AMR) poses a significant global health challenge. Addressing AMR) in Ukraine has been systematically implemented despite challenges.
Objectives: Our study aimed to evaluate the burden of AMR of highly virulent and resistant bacterial pathogens (including ESKAPE) among the casualties of the Russian full-scale aggression in Ukraine.
Methods: Hospitals conduct microbiological cultures of wound, blood, and cerebral spinal fluid from wounded patients in line with the requirements of the approved 2023 ministerial order for enhanced AMR epidemiological surveillance causing purulent-inflammatory wound infections in wounded as a result of hostilities. We implemented a structured self-reporting system across almost 500 hospitals in Ukraine to document resistance patterns among pathogens and to verify the ESKAPE at the Reference laboratory in the Public Health Center of the Ministry of Health of Ukraine. Specimens were analyzed using EUCAST methodology. Concordance between reported and verified data was analyzed to assess methodological rigor.
Results: A total of 40,823 strains of microorganisms were isolated, of which 18,848 (46.2%) were strains identified as ESKAPE. The highest number of ESKAPE pathogens (~65%) were in patients who had multiple hospitalizations and were treated for a longer time. Gram-positive bacteria with adequate levels of susceptibility were cultured among patients with more than 72 h of hospitalization. However, for those with long-term treatment, the number of Gram-negative multidrug-resistant strains significantly increased. The Reference laboratory has confirmed thousands of multidrug-resistant strains of bacteria with the identification of resistance mechanisms.
Conclusion: The results demonstrate the impact of war on AMR in Ukraine. Also, we see a trend towards a shift from Gram-positive to Gram-negative multidrug-resistant organisms during prolonged treatment of war-wounded. The AMR profile demonstrates the importance of implementing infection prevention control measures and improving AMR surveillance and laboratory QA in Ukraine.

Disclosure of Interest
None declared.

P1248

Assessing risks in pre hospital infection control: prioritizing strategies for enhanced safety

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Introduction: Infection control is paramount in healthcare settings. Implementing multimodal strategies is crucial, but their efficacy heavily relies on robust risk assessment and management. A comprehensive evaluation of potential risks allows tailored strategies addressing specific vulnerabilities such as patient demographics, facility infrastructure, and infection trends.
Objectives: The aim of this study is to assess infection control risks in pre-hospital care in Portugal.
Methods: One focus group facilitated data collection at different stages of the research: initial, intermediate, and final in first quarter of 2024 involving group interaction on four topics presented by a lead investigator. Emphasizing the importance of focusing the discussion on a specific subject, 10 participants were required to share relevant characteristics of the study setting. Severity scale criteria assess risks based on consequences, evaluating their impact on potential adverse outcomes.
Results: The results show the presence of risk among all stakeholders in prehospital emergency care across all 10 domains of basic infection control precautions (ICP). However, the level of risk and its impact on

care are particularly significant regarding the safe treatment of clothing and waste, with negligible risk in other ICP areas. It is also necessary to consider patient placement, hand hygiene, and safe injection administration. The organization needs to primarily invest in four ICP areas, including environmental control and clinical equipment decontamination, in addition to the two identified as high-risk
Conclusion: Group discussions map problems and allow clarification of solutions to major quality of care. This approach allows participants to assess risks systematically, providing valuable information to prioritize and address the most critical concerns. By fostering a culture of risk awareness, infection control comissions are more likely to adopt changes aligned with best practices, based on severity to mitigate the greatest threats. Behavioral changes promote not only safety but also regulatory compliance and patient trust.

Disclosure of Interest
None declared.

P1249

Strengthening infection prevention and control in humanitarian settings: lessons and opportunities from MSF (2021-2023)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1249

Introduction: Infection Prevention and Control (IPC) programs are fundamental to patient safety and reducing healthcare-associated infections (HAIs), particularly in low- and middle-income countries (LMICs). The growing threat of antimicrobial resistance (AMR) underscores the importance of effective IPC strategies. Médecins Sans Frontières (MSF) developed the Stepwise Infection Prevention and Control Approach (SIPCA) tool to systematically evaluate and enhance IPC activities in healthcare facilities in humanitarian settings.
Objectives: This study aimed to assess IPC implementation in MSF projects from January 2021 to December 2023 using the SIPCA tool, identify common gaps, and explore organizational factors influencing IPC success.
Methods: This retrospective cross-sectional study evaluated IPC practices in secondary and tertiary healthcare facilities within MSF projects using the SIPCA tool. Data were collected via questionnaire submissions through the KOBO application. The tool comprises nine components, with each question rated on a scale of 1 to 5. Statistical analysis included descriptive statistics, trend analysis, and inferential analysis examining relationships between organisational factors and IPC performance scores.
Results: Data from 374 assessments across 173 MSF health facilities globally were analysed (Fig. 1). Facilities were predominantly classified as Level 3 (Intermediate, 37.4%) and Level 4 (Upper-Intermediate, 44.1%). Hand Hygiene (76.7%) and Organisational Aspects (66.7%) emerged as the highest-scoring domains, while Ancillary Services (55.3%) and Surgical Site Infection prevention (40.6%) scored lowest. Strong positive correlations were observed between organisational factors (IPC committee presence, structured action plans) and overall IPC performance ($p < 0.001$). Facilities conducting multiple assessments showed significant improvements in IPC scores, particularly in environmental cleaning, organisational aspects, and hand hygiene domains.
Conclusion: SIPCA proves valuable for assessing IPC in resource-limited settings. Strong organizational structures and regular reassessments are key to sustainable IPC improvements in humanitarian healthcare facilities.

Disclosure of Interest
None declared.

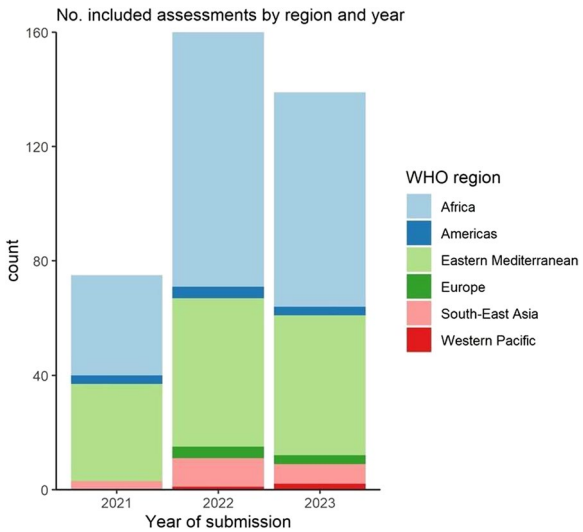

Fig. 1 (abstract P1249). See text for description

P1250

Infection prevention and control (IPC) learning preferences during emergency readiness and response phases: a multinational survey

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1250

Introduction: Most IPC evaluations are derived from high income settings during preparedness rather than readiness or response phases of a public health emergencies (PHE) including in fragile, conflict -affected and vulnerable settings (FCV). Technologies and teaching methods impact learner preferences.
Objectives: To collect information about preferred IPC training delivery modes, methods, and formats among health workers (HW) to inform World Health Organization's (WHO) approach for training guidance, during PHEs.
Methods: An online survey in 2024 of HW preferences and experiences of IPC training during PHEs was conducted focusing on modes of delivery, training formats, teaching methods, and expectations. Preferences were ranked. Responses were subgrouped into five domains: context of emergency readiness or response phases; gender; experience working in health care in a PHE or FCV; country income group; supervisory experience of others.
Results: Participants were from all WHO regions, 76.8% were $\geq$ 35 years; 13.4% did not manage others at work. In previous five years, 45% of respondents had a role as IPC professional or focal point, 37% of respondents had worked in low or lower-middle income countries and 48% in FCV settings.
Interactive learning experiences, such as scenarios and simulations were preferred over passive learning. Subgroup analysis shows a

stronger preference for mentoring from respondents who worked in resource limited settings, FCVs, women and those with less supervisory experience. Virtual reality use in training was ranked low.
Conclusion: There is little preference variation by learner context except for mentoring. Interactive and traditional training modes were preferred over passive or novel training modes.

Disclosure of Interest
None declared.

P1251

Piloting of the who implementation manual on infection prevention and control for outbreak preparedness, readiness, and response at the national level in Ukraine

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Introduction: In 2022, WHO developed a framework and toolkit Infection Prevention and Control for Outbreak Preparedness, Readiness, and Response (IPC-OFT) to strengthen national IPC outbreak capacities. To facilitate implementation, WHO created a manual offering step-by-step guidance, tools, and resources for a systematic and well-documented rollout. The Ministry of Health of Ukraine agreed to pilot this implementation manual.
Objectives: To accelerate implementation of IPC outbreak capacities in Ukraine.
Methods: In 2024, series of meetings were held to establish the implementation team and select diseases for the pilot. Cholera and measles were chosen by health authorities due to the ongoing conflict in Ukraine, which has disrupted clean water access and national immunization efforts. A situation analysis was conducted to assess IPC preparedness, readiness, and response capacities in the context of cholera and measles. This was followed by onsite evaluation of potential barriers and enablers for implementing the IPC-OFT. An action plan was developed to address identified gaps and strengthen IPC outbreak capacities at national level.
Results: Since 2024, a ministerial order in Ukraine has mandated that all healthcare facilities implement the WHO Minimum Requirements (MR) for IPC programmes and regularly assess their progress through an IPC MR action plan. National and regional measles contingency plans are in place, while cholera preparedness and response plans exist at regional and facility levels. However, both sets of plans can be strengthened by including IPC MR, along with using recommended, standardized, IPC procedures and protocols, to ensure a more cohesive and effective response.
Conclusion: Piloting the IPC-OFT implementation manual in Ukraine provided a valuable opportunity to strengthen the integration of IPC capacities essential for the prevention, preparedness, and response to cholera and measles outbreaks. This collaborative and structured approach enhanced national outbreak response efforts and contributed to the International Health Regulations (IIHR 2005) core capacities for IPC implementation.

Disclosure of Interest
None declared.

P1252

Infection prevention and control during conflict: insights from public hospitals in post-war Tigray, Ethiopia

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Introduction: In conflict-affected settings, numerous barriers hinder effective infection prevention and control.
Objectives: This study aimed to assess the infection prevention and control (IPC) status of public hospitals in post-war Tigray, using the World Health Organization (WHO) Infection Prevention and Control Assessment Framework (IPCAF) and the Hand Hygiene Self-Assessment (HHSA) tool.
Methods: Data were collected from June to July 2024 using standardized WHO IPCAF and HHSA tools across 33 hospitals. Descriptive statistics, Pearson correlation analysis, and independent t-tests were employed for data analysis.
Results: The overall median IPCAF score for the 33 hospitals was 348 (IQR: 258–439), indicating a basic level of IPC. The mean HHSA score was 126 (range: 15-318), reflecting inadequate hand hygiene practices. Most facilities demonstrated basic IPC levels, with insufficient hand hygiene protocols. During the conflict, healthcare workers faced shortages of medical supplies, leading to unconventional practices such as reusing gloves, using white cloth brought in by patients as gauze, and working without personal protective equipment. A strong positive correlation was observed between IPCAF and HHSA scores ($r = 0.765$, $p < 0.001$).
Conclusion: The IPC levels in post-war hospitals in Tigray were found to be unsatisfactory, with deficiencies evident across all zones and types of facilities. This situation heightens the risk of healthcare-associated infections for healthcare personnel, patients, and visitors. Addressing the identified gaps through enhancements in IPC core components and capacity building is crucial for preventing healthcare-associated infections in conflict-affected areas. Longitudinal studies are recommended to monitor IPCAF and HHSA levels for on-going assessment and improvement.
Key words: Ethiopia, HHSA, IPC, IPCAF, Post war, Tigray

Disclosure of Interest
A. Asgedom Conflict with: None, A. Ruano Conflict with: None, B. Moen Grant/Research support from: None.

P1253

Surge of multidrug-resistant acinetobacter baumannii in a tertiary care icu during the september 2024 war in lebanon

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Introduction: Multidrug-resistant *Acinetobacter baumannii* (MDR-Ab) remains a serious threat in intensive care units (ICUs) due to its environmental persistence and high transmission potential. After sustaining zero MDR-Ab transmissions in adult ICUs for over 5 months, a new outbreak was identified in October 2024.
Objectives: To describe the epidemiological characteristics of an MDR-MDR-Ab outbreak in the ICU during war times.

Methods: A prospective observational study was conducted in the adult ICUs (ICU and Neuro-ICU) of a tertiary care center in Lebanon in 2024. The investigation included an analysis of infection control (IC) practices, colonization pressure (CP), transfer patterns, and relevant risk factors. IC measures implemented during the outbreak included universal contact isolation, enhanced environmental cleaning and disinfection protocols, and routine screening of patients for MDR-Ab colonization. In addition, a review of surveillance cameras installed in the ICUs was conducted to assess adherence to IC protocols.
Results: A cluster of 17 ICU patients was identified in October 2024, coinciding with the escalation of the Lebanon-Israeli conflict in September. All cases were transferred from peripheral hospitals managing war-related injuries and had MDR-Ab colonization upon admission. During this period, the hospital experienced a surge in trauma admissions across both critical and regular units. Prior to the outbreak, the ICU had maintained zero MDR-Ab transmissions for 5 consecutive months. Environmental cultures remained negative throughout the investigation. Notably, CP rose sharply from 0‰ in Q2–Q3 2024 to 274‰ in Q4 2024 (MDR-Ab trends shown in Fig. 1). The outbreak was associated with increased patient acuity, prolonged hospital stays, and a substantial strain on existing infection control resources.
Conclusion: The MDR-Ab outbreak was temporally and epidemiologically linked to the influx of war-injured patients from external healthcare facilities. These findings demonstrate how elevated colonization pressure and inter-facility patient movement can drive MDRO transmission even in previously well-controlled environments. In times of crisis, robust admission screening, cohorting, and resource planning are essential to prevent reintroduction and spread of resistant organisms.

Disclosure of Interest
None declared.

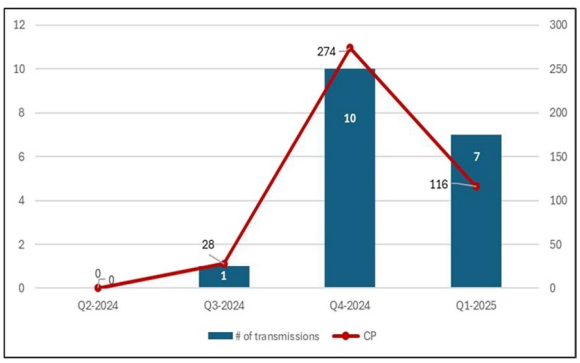

Fig. 1 (abstract P1253). See text for description

P1254

Establishing a regional network for infection prevention and antimicrobial stewardship in hemodialysis units

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Introduction: Hemodialysis is a high-risk procedure for healthcare-associated infections due to repeated use of vascular access, technical complexity, and impaired immunity in chronic kidney disease patients. National French guidelines on infection prevention in hemodialysis were last updated in 2005, necessitating renewed regional coordination to improve practices in the dialysis units.
Objectives: To improve infection prevention practices and promote appropriate antibiotic use in dialysis units across a French region through a multidisciplinary professional network.
Methods: A regional network was created in 2023, coordinated by the regional centers for infection prevention and antimicrobial stewardship. It comprises two working groups: one focused on infection prevention (IPC), the other on antimicrobial stewardship (AMS), including infectious disease specialists, nephrologists, pharmacists, and nurses. Activities included virtual meetings, surveys, and the development of practical tools
Results: Following a regional call, 34 healthcare professionals joined the network. Between 2023 and 2024, six online meetings were held, and a regional conference gathered 44 participants in September 2024. The IPC subgroup assessed hand hygiene compliance in 58 dialysis units using an audit tool developed by an extra-regional structure. Findings showed that when hand hygiene was indicated, it was not performed in 18% of cases. The AMS subgroup developed local guidance sheets for antibiotic locks and empiric treatment of infections in dialysis patients (e.g., urinary tract, pulmonary, catheter-related), based on regional resistance data. Drafts of these tools were presented during the regional conference.
Conclusion: In the absence of updated national guidelines, the creation of a regional multidisciplinary network promotes experience-sharing, identifies challenges, and supports targeted action. A regional tool for improving hand hygiene adherence is under development. Future work will address viral hepatitis screening, multidrug-resistant organism management, and other infection control priorities in dialysis

Disclosure of Interest
None declared.

P1255

Carriage of multi-drug-resistant bacteria among patients and healthcare personnel in hemodialysis units of public hospitals in Yaounde

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Introduction: Multidrug-resistant bacteria (MDR) represent a significant public health concern due to their spread in hospital settings.
Objectives: This study aimed to determine the prevalence of MDR bacterial carriage among patients and healthcare personnel in hemodialysis units of public hospitals in Cameroon.
Methods: Participants were recruited from CHUY and General Hospital between November 2023 and April 2024. Nasal and rectal swabs were collected from participants. MDR bacteria isolated on selective culture media were identified using conventional techniques and mass spectrometry. Susceptibility testing and resistance phenotype detection were performed according to CASFM 2023.
Results: A total of 155 participants (130 patients; 25 healthcare) were recruited. The prevalence of MDR bacteria was 40%. Among participants, 51.54% of patients and 20% of healthcare were carriers of MDR bacteria. Based on the hospital and participant category, the following proportions were observed: At CHUY, 23.71% MRSA (100% patients), 11.11% glycopeptide-resistant enterococci (87.5% patients; 12.5% healthcare), and 13.89% ESBL (90% patients; 10% healthcare). At General Hospitall 13.89% MRSA (80% patients; 20% healthcare), 16.66% glycopeptide-resistant enterococci (91.66% patients; 8.33%

healthcare), 2.78% ESBL (100% patients), and 18.06% carbapenem-resistant non-fermenting Gram-negative bacilli (100% patients). A recurrence of Bordetella trematum with the same resistance profile was noted in seven patients.
Conclusion: Given this observed recurrence and the frequency of Multi Drug Resistance bacteria isolation, it is necessary to implement an infection risk prevention program to limit the spread of MDR bacteria in these units.

Disclosure of Interest
None declared.

P1256

Viral Etiology of gastroenteritis in hospitalized children in Northeastern Iran

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Introduction: Diarrheal diseases, including viral gastroenteritis, represent the second leading cause of morbidity due to infectious diseases and rank among the top 10 causes of mortality worldwide. The mortality rate from diarrheal diseases in children under five years of age is particularly high in sub-Saharan Africa and Southeast Asia. Viruses are among the most common causes of both endemic and epidemic gastroenteritis..
Objectives: Children are susceptible to acute gastroenteritis pathogens, so in this study, we investigated the viral etiology of acute gastroenteritis among hospitalized children in northeastern Iran.
Methods: In this cross-sectional descriptive-analytical study, a researcher-designed checklist was completed for all children aged two months to 14 years who were admitted to Akbar Hospital in Mashhad with a diagnosis of acute gastroenteritis from May 2024 to April 2025. Stool samples were collected from each patient to test for viruses, including enterovirus, rotavirus, astrovirus, and norovirus. Viral detection was performed following nucleic acid extraction, using the RT-PCR method. Checklist data were entered into SPSS software version 26 for evaluation and analysis.
Results: A total of 55 children with gastroenteritis were included; 22 (40%) were girls and the remainder were boys. The average age was one year and seven months. All children had complete vaccination histories. In this study, rotavirus was identified as the most common viral cause of gastroenteritis (71%), followed by norovirus (14.5%). No cases of astrovirus infection were detected. In 11% of cases, two types of viruses were identified simultaneously in stool samples. Among these, 83.33% were co-infections of rotavirus and norovirus, with only one case showing simultaneous positivity for enterovirus and norovirus
Conclusion: These findings indicate that rotavirus remains the leading cause of gastroenteritis requiring hospitalization among children in northeastern Iran. Norovirus should also receive greater attention as a significant cause of diarrhea leading to hospitalization in this population.

Disclosure of Interest
None declared.

P1257

Incidence and microbiological profile of hospital-acquired bloodstream infections in a neonatal intensive care unit in barbados: a two-year surveillance study

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Introduction: Hospital-acquired bloodstream infections (BSI) are a significant cause of morbidity and mortality in neonatal intensive care units (NICUs).
Objectives: This study aimed to investigate the incidence rate and microbiological characteristics of BSI in the NICU of an acute care hospital in Barbados, with the goal of improving infection control practices and neonatal outcomes.
Methods: A prospective study was conducted from November 1, 2021, to November 30, 2023, at the NICU of an acute care hospital in Barbados. All neonates diagnosed with late-onset sepsis, defined as a positive blood culture after 72 h of life, were enrolled. Blood cultures were collected and processed to identify pathogens. The incidence rate of BSI was calculated as the number of infections per 100 NICU admissions. Data on demographic characteristics, clinical outcomes, and length of hospital stay were also collected. Statistical analysis was performed using descriptive statistics and incidence rate calculations. Mortality rates among infected neonates were reported per 100 admissions.
Results: During the study period, 699 neonates were admitted to the NICU. Seventy-three neonates (10.44%) developed late-onset sepsis and were confirmed to have hospital-acquired BSI. The overall mortality rate among infected neonates was 39.73 per 100 admissions. The most frequently isolated pathogens included *Staphylococcus haemolyticus* (19.2%), *Staphylococcus epidermidis* (16.4%), and coagulase-negative staphylococci (11%). Prolonged hospital stays were observed in infected neonates, further highlighting the impact of BSI on clinical outcomes.
Conclusion: Hospital-acquired BSI represent a significant burden in the NICU, with *Staphylococcus* species, particularly *Staphylococcus haemolyticus*, being the predominant pathogens. The study found a high incidence of BSI and associated mortality, emphasizing the need for enhanced infection prevention and control measures. These findings highlight the importance of improving blood collection techniques and addressing staffing challenges to reduce infection rates and improve outcomes in neonates. Effective surveillance and intervention strategies are critical in minimizing the impact of BSI in NICUs.

Disclosure of Interest
None declared.

P1261

Effectiveness of infection control interventions in containing MDR-acinetobacter Baumannii in ICU settings

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Introduction: Multidrug-resistant *Acinetobacter baumannii* (MDR-Ab) is a major challenge to infection control (IC) in critical care settings due to its environmental persistence and ability to spread among vulnerable patients. Outbreaks of MDR-Ab contribute significantly to patient morbidity, mortality, and costs. Timely and effective implementation of IC measures is essential to limit transmission. Evaluating the impact of these interventions during outbreaks is crucial for refining containment strategies in ICU environments.
Objectives: To evaluate the effectiveness of enhanced environmental cleaning in reducing MDR-Ab transmissions in ICU.
Methods: This observational study was conducted in the adult ICUs of the American University of Beirut Medical Center following an MDR-Ab outbreak in December 2023. All patients admitted during this period were placed on contact precautions pending skin screening results. Routine surveillance included review of clinical cultures, environmental sampling, and auditing compliance with IC protocols. Phylogenetic analysis was performed on MDR-Ab isolates to assess genetic relatedness and transmission pathways.

Results: MDR-Ab was detected on 18% of high-touch surfaces, suggesting serious environmental contamination, probably spread via the hands of hopsital staff and visitors, or showing inadequate cleaning/disinfection methods of devices and surfaces. In response, a revised cleaning and disinfection protocol was implemented in January 2024, and hand hygiene audits were intensified through anonymous observers. Phylogenetic analysis confirmed genetic relatedness between environmental and clinical isolates, supporting the hypothesis of patient-to-environment-to-patient transmission (Fig. 1 Decline in MDR-*Ab* Transmissions).
Conclusion: The implementation of targeted IC interventions resulted in a notable reduction in MDR-Ab transmission within the ICUs. These findings reinforce the association between cross-transmission and environmental reservoirs, and highlight the importance of applying IC protocols, maintaining lean ICU environments, and ensuring consistent staff compliance to effectively manage MDRO outbreaks in high-risk hospital settings.

Disclosure of Interest
None declared.

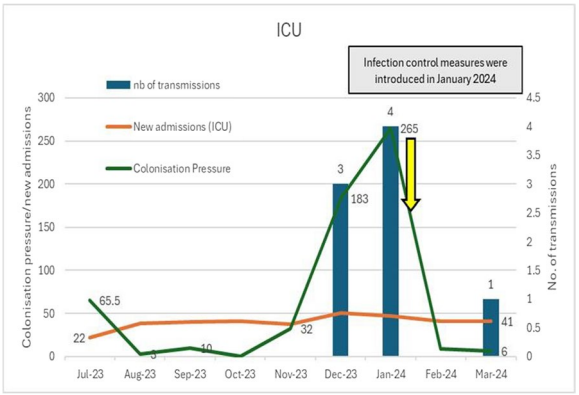

Fig. 1 (abstract P1261). See text for description

P1262

Seasonality patterns of HMPV, RSV and other respiratory viruses in adults following hematopoietic stem cell transplant (HSCT) recipients at a tertiary care hospital in India

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Introduction: Annual fluctuations in temperature & humidity, is a pivotal factor in the seasonal surge of respiratory infections causing economic & public health crises. The host's air tracts & mucosal response of the intra & extra-thoracic airways are affected by variations in the temperature & moisture of inhaled air
Objectives: Understanding the seasonal variation to predict the outbreaks that can guide the timings of preventive measures like vaccinations & public health advisoriesMonitoring the seasonality in vulnerable population for better surveillance, rapid detection & response during outbreaks
Methods: This cohort study included 100 HSCT recipients, enrolled from January 2017 to February 2020, followed up prospectively for 18 months for respiratory episodes until August 2021. RT-PCR was performed for human metapneumo virus (hMPV), Respiratory syncytial virus (RSV), influenza virus (A & B), adenovirus, rhinovirus & parainfluenza virus (PIV 1-4). Seasonality of viruses were analysed in their followed-up respiratory episodes
Results: The highest rates of total viral infection were detected during the winter (48.5%) followed by rainy season (36.7%). Early summer (March) showed the highest VRIs (54.5%) but overall winters has the higher viral positive throughout all its months i.e., January (48.3%), February (47.4%). Influenza showed the highest rates during the autumn i.e., in the post rainy months (7.7%; 3/39), followed by winter season (3/66; 4.5%). RSV showed the highest rates during the winters (10.6%; 7/66), followed by autumn season i.e., in the post rainy months (3/39; 7.7%). %). PIVs, HMPV and Rhino also showed the highest rates during the winter season (10.6%; 7/66) and (9.1%; 6/66) and (13.6%; 9/66) respectively
Conclusion: Understanding the seasonality is crucial for implementing preventive measures, vaccinations & early therapeutic interventions in such populations. The mechanisms underlying the seasonal variations in these infections need further investigation. Surveillance within immune-compromised groups signifies the study of environmental factors (temperature & humidity). This will help optimize the modulation of the host's immune response to viral infections, particularly during the pre & early engraftment phases

Disclosure of Interest
None declared.

P1263

Oral care practices currently performed in Brazilian intensive care units: a survey embedded in the oral care layered enhancement (Oracle) project

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Introduction: Despite being an essential preventive measure against ventilator-associated pneumonia (VAP), oral care practices vary widely between hospitals.
Objectives: We aimed to describe the current oral care practices among a sample of Brazilian Intensive Care Units (ICUs) nationwide distributed.
Methods: This survey is embedded in the ORACLE Project, which is intended to promote good oral care practices among Brazilian ICUs. The present study represented phase I of this project and evaluated current practices in a sample of 51 ICUs affiliated with a research platform (Impacto MR). ICUs were invited to participate, and those accepting were visited by a research nurse specially trained for that. During the visit, the nurse administered a questionnaire to the healthcare professionals in charge of the ICU. She also inspected key aspects regarding oral care practices and other preventive measures against VAP. All data were collected in the REDCap™ platform and descriptively analyzed here.
Results: Most of the included ICUs were publicly affiliated (45/55, 88.2%), were mixed medical-surgical units (29/51, 56.9%), and their average bed number was 12.9 ± 5.5. All units had a written protocol for VAP prevention, comprising explicit recommendations for daily oral hygiene, and all units collected daily checklists to evaluate the implementation of these bundle recommendations. Most units (43/51, 84.3%) had a written standard operational procedure for oral hygiene. However, only 41.2% of ICUs (21/51) had access to toothbrush, 33.3% (17/51) to toothpaste, 23.5% (12/51) to oral swabs, and 11.8% (6/51) to tongue scraper. On the other hand, 94.1% (48/51) had access to 0.12% chlorhexidine solution, and 78,4% (40/51) used it routinely. Approximately half of the ICUs had a dentist providing regular care for admitted patients (26/51, 51.0%), and 9 out of the 51 (17.6%) had access to dental care on demand.
Conclusion: A large inter-hospital variation was observed regarding oral care practices in Brazilian ICUs. There is room for improvement in most of them, which is deemed necessary for enhancing patient safety in this setting.
Funding:
Brazilian Ministry of Health (PROADI-SUS).

Disclosure of Interest
None declared.

P1264

Analysis of the implementation of zero projects in Spanish ICUS using a self-assessment tool

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Introduction: The COVID-19 pandemic abruptly disrupted the implementation of Project Zero (PZ) in Spanish ICUs. The PZ Advisory Council developed an adaptation document, updated recommendations, and provided training to local leaders.
Objectives: (1) Know the current implementation of the PZ and detect areas for improvement.
(2) Assess whether a self-assessment questionnaire designed "ad hoc" allows for periodic self-assessment of the units.
(3) Update the self-assessment survey annually.
Methods: An observational, descriptive, cross-sectional study using an ad hoc, targeted, non-probability snowball sampling online questionnaire sent between August and September 2024 to the leaders of the ICUs'primary care centers in Spain. Data were collected on demographic, structural, organizational, human resource, and training aspects.
A strong recommendation was defined as a recommendation that was highly implemented (adherence ≥ 80%) and a weak recommendation as a recommendation that was poorly implemented (adherence < 80%).
Results: A total of 182 surveys were received.
Structural strengths included the availability of hand sanitizer dispensers (99.5%), transparent dressings (100%), and disposable tubing (100%). Structural weaknesses included the availability of ETTs with subglottic suction (75.8%) and continuous pneumotamponade pressure monitoring systems (55.1%).
No strengths were identified in human resources or training, and weaknesses included the selection and training of staff likely to be admitted to the ICU during a pandemic (27.5%), prone positioning (59.3%), and internal transfer (59.3%).
Organizational strengths included the placement of barrier devices after PPE (95.6%) and visible identification (98.9%). Weaknesses include the existence of a nurse referent for control of measures (65.9%) or the existence of checklists for compliance with cleaning standards for reusable and/or shared clinical material (33.5%).
Conclusion: The questionnaire helps assess the implementation of PZ recommendations, highlighting strengths and areas needing improvement, and supports ongoing self-evaluation.

Disclosure of Interest
None declared.

P1265

Prevalence of healthcare-associated infections in intensive care units in Russia: results of a multicenter study riorita-2

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Introduction: The prevalence data on healthcare-associated infections (HAIs) in intensive care units (ICU) in Russia is limited to a small number of single-center studies.
Objectives: To evaluate prevalence, clinical and etiological structure of HAIs, and antibiotic use in ICU patients in Russia.
Methods: The study included 1274 patients admitted to 112 ICUs in 68 healthcare facilities. The data was collected on a single day (18 October 2022) in all participating ICUs and included data on infections, use of invasive devices, and microbiological studies. HAI was defined using a CDC definition.
Results: The mean age of study participants was 55.8 years; 56.4% were males. Invasive devices were used at following rates (per 100 ICU patients): mechanical ventilation—41.9 ± 1.4; central venous catheter (CVC)—66.4 ± 1.3; urinary catheter—81.1 ± 1.1. At least one HAI was detected in 654 patients with 714 total cases (56.0 ± 1.4 cases per 100 ICU patients). Among patients with HAIs, 191 had sepsis (21.3 ± 1.4 per 100 patients with HAI), and 68 had septic shock (7.6 ± 0.9 per 100 patients with HAI). Device-associated HAIs included: 195 cases of ventilator-associated pneumonia (VAP) (36.5 ± 2.1 per 100 patients on mechanical ventilation); 25 cases of CVC-associated bloodstream infection (3.0 ± 0.6 per 100 patients with CVC); and 56 cases of catheter-associated urinary tract infection (5.4 ± 0.7 per 100 patients with urinary catheter).
A total of 829 microbiological isolates were identified in patients with HAIs: 781 were bacteria, 43 were yeasts, and 5 were viruses. Gram-negative bacteria accounted for 67% of isolates while Gram-positive bacteria were significantly lower, at 24.1%. Of all bacteria, *Klebsiella pneumoniae* comprised 29.4%, *Acinetobacter baumannii*—16.9%, *Pseudomonas aeruginosa*—11%, *Staphylococcus aureus*—7.7%.
56.1% of patients received antibiotics with a mean of 1.8 antimicrobials per patient.
Conclusion: Over a half of ICU patients in Russia develop HAIs, and 42.2% of them are device-associated. Ventilator-associated pneumonia is the most frequent device-associated HAI. Gram-negative bacteria led by *Klebsiella pneumoniae* are the most frequently identified cause of HAIs.

Disclosure of Interest
None declared.

P1266

Knowledge of multi-drug resistance colonization status and initial antibiotic treatment appropriateness for ICU-acquired bloodstream infections

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Introduction: Treatment of ICU-acquired BSI should consider local resistance rates and patient risk factors. Yet, screening patients for multidrug resistant organisms (MDRO) colonization is inconsistent across ICUs
Objectives: To evaluate whether knowledge of MDRO colonization status for a patient reduces the frequency of inappropriate empirical antibiotic therapy in the first 24 h from BSI onset
Methods: A sub-analysis of an international cohort study (Eurobact-II), included patients (≥ 18 years) with ICU-acquired BSIs (≥ 48 h in ICU) treated in 333 ICUs (Jun-19-Feb-21). Main exposure was knowledge of MDRO colonization (unscreened, screened-negative and screened-positive) classified according to ICU screening policy. Primary outcome was appropriate antibiotic treatment in first 24 h after blood culture collection, and was defined as receipt of ≥ 1 antibiotic with in-vitro

activity for all causative pathogen(s) with adequate dose and route. Hierarchical mixed-effects logistic regression models were used to account for clustering and clinically relevant confounder adjustment.
Results: A total of 1,800 patients were included with mean age of 60.7 ± 16.6 years, and 637 (35.4%) were female. MDRO screening was negative in 919 patients (51.1%), positive in 349 patients (19.4%) and 532 patients were not screened (29.6%). Appropriate antibiotic treatment was prescribed to 878 patients (48.8%) within the first 24 h. Across the different groups, appropriate antibiotics were given to 474/919 (51.6%) of negative screened patients, 175/349 (50.1%) of positive screened patients, and 229/532 (43.1%) of unscreened patients. In adjusted analysis, compared to unscreened, negatively and positively screened patients had increased odds for appropriate treatment (Figure).
Figure Hierarchical logistic models for appropriate antibiotic treatment in first 24 h after blood culture collection adjusting for clinically relevant confounders.
Conclusion: Both positive and negative MDRO screening were independently associated with higher odds of appropriate antibiotic treatment within 24 h of BSI onset, highlighting the potential value of systematic MDRO screening in ICUs for guiding timely antibiotic treatment.

Disclosure of Interest
None declared.

Characteristic	Odds ratio	95%CI	P value
MDRO status			
Not screened (reference)			
Screened negative	**1.57**	**1.15-2.14**	**0.004**
Screened positive	**1.58**	**1.12-2.24**	**0.009**
Age >60	0.89	0.69-1.16	0.388
Female vs. male	0.97	0.78-1.20	0.781
Charlson's score >3	0.94	0.72-1.23	0.650
Immunosuppression	1.19	0.90-1.56	0.219
≥2 weeks in hospital stay before BSI onset	0.85	0.69-1.06	0.146
Temperature>38.2 C before BSI onset	1.36	1.09-1.69	**0.007**
Proven or suspected infection on ICU admission	0.68	0.55-0.85	**0.001**
Sepsis category	Ref		
No septic shock (reference)			
Sepsis no steroids treatment	1.31	0.97-1.77	0.079
Septic shock	1.40	0.98-2.00	0.067
Most likely source of BSI			
Primary (reference)			
Catheter	1.33	0.97-1.83	0.079
Intra-abdominal	1.41	0.94-2.13	0.097
Other	1.24	0.76-2.01	0.393
Respiratory	1.91	1.37-2.64	**<0.001**
Urinary	1.56	0.92-2.62	0.096

Fig. 1 (abstract P1266). See text for description

P1267

Risk factors for secondary lower respiratory tract infections in patients with Covid-19 hospitalized in intensive care units, Colombia, 2021

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1267

Introduction: Secondary lower respiratory tract infections (LRTI) were a major cause of complications and mortality in intensive care units (ICU) COVID-19 patients.
Objectives: This study aimed to determine risk factors for secondary LRTIs in adult patients hospitalized due to COVID-19 in ICUs in Colombia in 2021.
Methods: A matched case-control study was conducted in 18 healthcare facilities. Participants included adult patients with COVID-19 admitted to the ICU. Cases included a random sample of patients who developed LRTI in the ICU diagnosed based on positive culture and clinical/radiological signs and symptoms. Controls were matched 1:1 with cases by healthcare facility and date of admission to the ICU. Patient demographics, comorbidities, treatment, device use and procedures were collected from medical records. Descriptive statistics and odds ratios with 95% confidence intervals were estimated using conditional logistic regression at a 5% significance level.
Results: Among 202 cases and 202 controls, 69.3% and 64.9% were men; the mean ages were 59.5 years (± 13.2 SD) and 61.5 years (± 13.2 SD), respectively. The most frequent comorbidities were hypertension (48% vs 50.5%), obesity (51% vs 36.6%), and diabetes mellitus (29.7% vs 30.7%), respectively. The mortality rate was 58.4% (n = 118) for cases and 46.5% (n = 94) for controls. The pathogens most frequently isolated in cases were *Klebsiella pneumoniae* in 41.1% (n = 81) and *Pseudomonas aeruginosa* in 10.7% (n = 21). In multivariate analysis, cases were more likely to be classified as obese (OR 1.72, 95% CI 1.02-2.91), receive mechanical ventilation (OR 8.75, 95% CI 3.39-22.59) or to have been diagnosed with a device-associated infection (other than ventilator-associated pneumonia) during their ICU stay (OR 3.73, 95% CI 1.79-7.79).
Conclusion: Risk factors for secondary LRTIs were identified, highlighting the need to strengthen infection prevention and control in healthcare facilities for this specific population at risk.

Disclosure of Interest
None declared.

P1268

Outbreak of Carbapenem-resistant Acinetobacter Baumannii in a burn unit: role of the environment in the transmission

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1268

Introduction:*Acinetobacter baumannii* (Ab) is a muti-drug resistant pathogen responsible of hospital outbreak that are difficult to control due to its ability to persist on inert surfaces.
Objectives: In this study, we described an outbreak of carbapenem-resistant Ab (CRAb) carrying a class 2 integron, that occurred in a French hospital burn unit.
Methods: CRAb isolates were collected from clinical, screening (rectal and buccal swabs) and environmental sampling. All isolates were identified by mass spectrometry and tested for antibiotic susceptibility, clonality by ERIC-PCR and the presence of integrons.
Results: Twelve CRAb cases (9 infected and 3 carriers) were detected over 6 months, 4 patients died during the outbreak. A total of 53 isolates were collected from patients (n = 42) and their environment (n = 11). The outbreak started with the admission of 4 repatriated patients from Benin, subsequently local patients developed CRAb infections, afterward, 2

new infections cases occurred in the unit in the absence of another carrier (Fig. 1). We identified a CRAb environmental colonization on shared medical devices, even after complete closure and disinfection of the burn unit. All isolates carried a class 2 integron. Carbapenem resistant was due to bla_{OXA23} and/or bla_{NDM} genes. We identified 13 different clones, 10 of them carried by the repatriated patients and 2 widely spread in the in the environment.

Conclusion: We report an outbreak transmission of different CRAb clones harboring a class 2 integron, which is unusual in France. Patient to patient transmission occurred, as well as implantation in the environment which prolonged the outbreak after extensive disinfection of the unit. Our results highlight the role of environmental colonization in the difficulties encountered to control hospital CRAb outbreaks.

Disclosure of Interest
None declared.

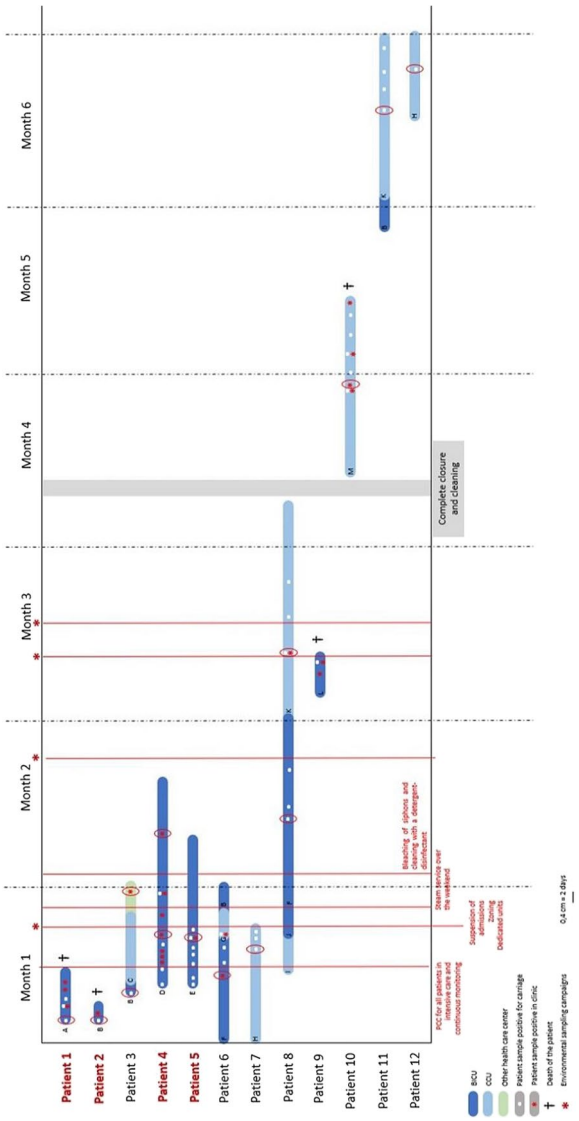

Fig. 1 (abstract P1268). See text for description

P1269

Prolonged outbreak of NDM-1-producing Klebsiella pneumoniae on a haemato-oncological ward linked to toilet water: a molecular and environmental investigation

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1269

Introduction: We investigated a prolonged outbreak of New Delhi beta-lactamase-producing Klebsiella pneumoniae (NDM-1 KP) in a haemato-oncological ward of our tertiary care hospital.

Objectives: Understanding the role of environmental reservoirs is critical in preventing dissemination of multidrug-resistant organisms, including carbapenem-resistant gram-negative bacteria (CR-GNB), in high-risk hospital settings.

Methods: Upon identifying the initial cluster in September 2021, we implemented extensive control measures including patient screening, routine bathing with chlorhexidine (CHG) wipes, environmental sampling and intensified surface cleaning. In June 2023, water filtration and microbiological analysis were conducted on toilet water samples. Daily toilet disinfection with 100 mL of 7.6% sodium hypochlorite solution was introduced once daily for all toilets of the ward in November 2023.

Results: Between August 2021 and November 2023, 24 patients (median age 64 years; median length of stay 35 days; median time to acquisition 17 days) were identified with clonally related NDM-1 KP using core genome multilocus sequence typing (cgMLST) (Fig. 1 A,B). Eight patients developed infections. NDM-1 KP was detected in toilet water from two bathrooms used by colonized patients, six and eleven weeks post-discharge, respectively. Following the introduction of daily hypochlorite toilet disinfection, no further outbreak-related NDM-1 KP cases were identified (screening ongoing). To date, a reduction in non-outbreak hospital-onset CR-GNB has been observed following the intervention (Fig. 1 C).

Conclusion: Detection of NDM-1 KP in toilet water weeks after patient discharge demonstrates that hospital sanitary systems can serve as long-term environmental reservoirs. Eradication of this environmental source additionally to other outbreak control measures was necessary to stop the outbreak. This intervention was also associated with a global reduction in hospital-onset CR-GNB, suggesting that addressing hidden environmental reservoirs may be critical not only for outbreak control but also for prevention of CR-GNB acquisition in high-risk hospital settings.

Disclosure of Interest
None declared.

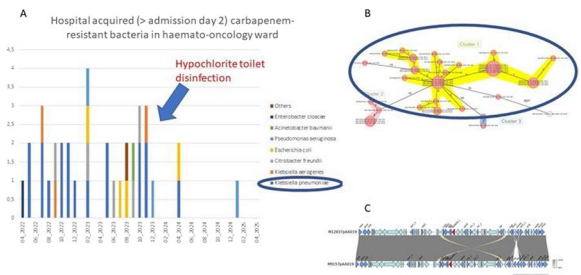

Fig. 1 (abstract P1269). See text for description

P1270

From colonisation to infection: infection risk in Carbapenemase-Producing Organisms (CPO) at a Singapore tertiary hospital

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Antimicrobial Resistance & Infection Control 2025,**14(1):**P1270

Introduction: Carbapenemase-producing organisms (CPO) pose a significant healthcare challenge due to their resistance to multiple antibiotics and increasing prevalence in acute hospitals. While CPO colonisation is considered a prerequisite for infection, the relationship between colonisation and subsequent infection remains poorly understood. This data is crucial for developing evidence-based infection control policies.
Objectives: This study aimed to understand the rate of CPO infection following colonisation in patients with different risk factors to develop appropriate CPO interventions and minimise the rate of infection.
Methods: A retrospective study was conducted from January 2023 to March 2025 in a tertiary teaching hospital in Singapore. Patients with positive CPO results were collected and analysed to identify patients with new colonisation during this period. These patients were monitored until development of an infection in the same admission. Time to infection was analysed for high-risk patients and non-high-risk patients. High-risk patients are defined as those in Intensive Care Units (ICU), Intermediate Care Area (ICA), High Dependency (HD) or haematology, oncology, or renal patients.
Results: A total of 2876 patients without known CPO positive prior their current admission was included in this study. Of these, 97.5% of them were positive from screening (2803/2876), and subsequently 4.9% (137/2803) turned into an infection. The average time taken for these cases to turn to an infection status, although shorter in high-risk patients than non-high-risk patients (15.32 days), is not significant ($p = 0.518$).
Conclusion: The overall risk of CPO infection following colonisation is relatively low at 4.9%, with high-risk patients developing infections slightly faster than non-high-risk patients (12.62 vs 15.32 days), though this difference was not statistically significant. These findings suggest that while CPO colonisation is a concern, the progression to active infection may be less common than previously thought. This evidence supports maintaining current screening protocols while considering risk-stratified approaches for resource allocation. Further studies can be conducted to understand the risk factors that predict progression from colonisation to infection.

Disclosure of Interest
None declared.

P1271

Risk factors for subsequent clinical infections among carbapenem-resistant Acinetobacter Baumannii carriers

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Introduction: Carbapenem-resistant *Acinetobacter baumannii* (CRAB) is a global healthcare challenge, associated with high mortality rates. In endemic settings, active surveillance in high-risk units is widely implemented to identify asymptomatic carriers and guide infection prevention efforts. Factors associated with progression to clinical infection and their impact on patient outcomes remain incompletely defined.
Objectives: To identify risk factors for clinical infection among CRAB carriers and impact on mortality.
Methods: We conducted a retrospective cohort study of adult patients identified as CRAB carriers via active surveillance at a 700-bed acute-care hospital between June 2020 and July 2023. Screening (rectal, buccal, sputum) was performed on admission and weekly in high-risk units. Clinical infection was defined per NHSN criteria. Univariate and multivariate logistic regression were used to identify predictors of clinical infection, bacteremia, and in-hospital mortality.
Results: Among 9,730 screened patients, 276 were CRAB carriers. Clinical infection developed in 55 (19.9%), with a median time to onset of 11 days. (IQR 1-13 days). Infected patients were younger (median age 72 vs. 77 years, $p = 0.043$), more likely to have multisite carriage (32.7% vs. 16.7%, $p = 0.008$). On multivariate analysis, infection was independently associated with mechanical ventilation (OR = 4.8), ICU admission (OR = 3.5), and multisite colonization (OR = 2.2). Among patients with bacteremia (n = 35), central venous catheter (CVC) use was significantly more frequent compared to non-bacteremic carriers (40% vs. 17%, $p = 0.001$). Overall, in-hospital mortality was higher among patients with infection (69.1% vs. 46.2%, $p = 0.002$). Clinical infection (OR = 2.6), mechanical ventilation (OR = 3.7), renal disease (OR = 2.6), and older age (OR = 1.04) were independently associated with mortality.
Conclusion: CRAB carriers had a high burden of clinical infection and mortality. Mechanical ventilation, ICU admission, and multisite carriage were associated with infection, while CVC use was strongly linked to bacteremia. These findings highlight the need for targeted prevention efforts and antimicrobial stewardship among high-risk carriers.

Disclosure of Interest
None declared.

P1272

Needles in a haystack? prevalence and factors associated with transmission of carbapenem-resistant organisms in household contacts

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Antimicrobial Resistance & Infection Control 2025,**14(1):**P1272

Abstract video clip description: Background
Carbapenem-resistant Organisms (CRO's) are increasingly in the United States and represent an eminent public health threat. While transmission and control of CRO's is well understood in hospitals, there is very little literature on community and household transmission. In our study we screened household contacts of known CRO cases to understand transmission patterns and factors associated with high transmission.
Objective/Methods
The study was conducted to determine the prevalence and factors associated with transmission of CRO's among household contacts of persons with lab confirmed CRO. In this study we only included 17 persons with CRO's, 3 with a positive gene expression and 14 without. We also enrolled 51 household contacts who had lived with the CRO cases for 3 or more months. Once a month, over a course of three months, specimens were collected from 7 body sites of each participant. All specimens underwent Genotypic RT_PCR testing to detect Carbapenem resistance and positive CRO isolates were further tested to detect carbapenem genes. Demographic and clinical factors of participants were evaluated using a multivariate logistic regression.
Results
The prevalence of CRO's among the contacts was 7.5% overall. Contact of gene + CRO's had a higher colonization rate (11.3%) compared to contacts of none-gene positive participants (3.7%). None of the contacts tested positive for carbapenemase genes. In our logistic regression model family size > 3, contacts over 50 years old, being immunocompromised and being a significant other were highly

associated with transmission (adjusted odds ratio 2.32; 95% confidence interval 1.07-5.05; p = 0.03).

Conclusion

Our small study does validate that household transmission of CRO's does occur and requires some attention. Colonized household contacts might be responsible for some community and healthcare transmission of CRO's. Understanding the prevalence and role colonized household contacts play in the transmission of CRO's is critical for informing effective infection control and public health interventions.

Disclosure of Interest

None declared.

P1273

The impact of revised admission screening and exposure investigation criteria for Carbapenem-resistant Enterobacterales on colonization prevalence and resource use in a Seoul Tertiary hospital

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1273

Introduction: In 2024, the Republic of Korea recorded 42,891 cases of Carbapenem-resistant *Enterobacterales* (CRE) infections—a 258.8% increase from 11,954 cases in 2018. The Korea Disease Control and Prevention Agency (KDCA) issued national CRE guidelines, but individual healthcare institutions have exercised their own discretion in adapting those recommendations, especially in light of financial pressures tied to isolation-room reimbursement. Accordingly, the authors' hospital has revised its infection-control policies, requiring ongoing evaluation of their effectiveness.

Objectives: This study assessed the impact of revised CRE surveillance on infection control by comparing August 2020–August 2022 (Period 1) and September 2022–September 2024 (Period 2) in a Seoul tertiary hospital.

Methods: In Period 1, CRE screening targeted patients who had been hospitalized or had a history of CRE within the previous six months. In Period 2, this was narrowed to three months, excluding those de-isolated for over three months. Exposure criteria were modified from sharing a room with a CPE (Carbapenemase-producing *Enterobacterales*)-positive patient for ≥ 48 h (Period 1) to ≥ 5 days (Period 2). We compared Periods 1 and 2 with respect to admission screening coverage and positivity rates, the number of positive exposure investigations and incident CRE acquisition rates(newly acquired cases per 1,000 patient-days), and colonization prevalence(colonized patients per 100 inpatients).

Results: Inpatient admissions increased from 63,736 in Period 1 to 71,676 in Period 2. Screening rates improved (74.9% → 82.3%), with a rise in screening positivity (17.3% → 27.3%) and colonization rates (16.2% → 24.6%). Exposure cases declined from 121 to 73, though positivity among exposed individuals slightly increased (18.1% → 20.2%). The total cost of exposure management decreased significantly (USD 11,175 → 2,537). Meanwhile, CRE acquisition rate per 1,000 patient-days slightly declined (0.36 → 0.34).

Conclusion: Revised criteria led to increased screening and greater detection sensitivity. Relaxation of exposure definitions reduced laboratory workload and associated costs. Despite these changes, CRE acquisition and colonization rates remained stable, likely reflecting sustained adherence to standard precautions and environmental cleaning.

Disclosure of Interest

None declared.

P1277

Improving compliance in the screening program for Multidrug resistant organisms in a resource-limited acute care hospital in Barbados

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1277

Introduction: Multidrug-Resistant Organisms (MDROs), including carbapenem-resistant organisms (CROs) and methicillin-resistant *Staphylococcus aureus* (MRSA), represent a significant challenge to healthcare systems, particularly in resource-limited settings. In Barbados, the rise of MDROs has contributed to increased morbidity, mortality, and prolonged hospital stays. Routine screening for MDROs is essential to prevent transmission and guide infection prevention and control (IPC) measures. However, ensuring consistent adherence to screening protocols in such settings remains difficult.

Objectives: This study aimed to improve adherence to MDRO screening protocols for high-risk patients at an acute care hospital in Barbados. The secondary objective was to assess the efficacy of a targeted screening strategy in identifying MRSA and CROs, thus enhancing early detection and infection control practices

Methods: A Plan-Do-Study-Act (PDSA) framework was employed over a 13-month period (January 2023 to January 2024) to improve compliance with MDRO screening. High-risk patient groups included those with indwelling catheters, undergoing dialysis, transferred from other hospitals, readmitted within 90 days, admitted to Intensive Care Units (ICUs), or with prolonged hospital stays. IPC personnel monitored adherence by reviewing patient admissions and addressing non-compliance.

Results: Of the 16,590 hospital admissions, 2,882 patients (17.4%) met the criteria for MDRO screening. Overall compliance with the screening protocol increased to 91%, reflecting a 53% improvement from prior adherence rates. Among screened patients, 13.4% tested positive for MRSA and 4.06% were identified as carriers of CROs. These findings underscore the effectiveness of targeted screening in identifying at-risk patients and facilitating timely infection control interventions.

Conclusion: Implementing a standardized MDRO screening protocol, combined with continuous monitoring and feedback, significantly improved compliance and early detection of MDROs. This study demonstrates that even in resource-constrained settings, structured screening interventions can substantially enhance infection prevention efforts and reduce the burden of MDRO infections. These findings suggest that similar approaches could be adapted to other hospitals with comparable resource limitations.

Disclosure of Interest

None declared.

P1278

Rapid control of a Nosocomial outbreak of extended-spectrum β-lactamase (ESBL)-producing Klebsiella Pneumoniae in a Neurorehabilitation unit: integrated investigation and lessons learned

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1278

Introduction:*Klebsiella pneumoniae* (KP) is a significant nosocomial pathogen, commonly linked to the production of ESBL and characterized by its rapid dissemination potential within hospital settings.

Objectives: To describe the investigation, molecular characterization, and control of an ESBL-KP outbreak in a neurorehabilitation unit.
Methods: Following 2 nosocomial ESBL-KP cases in Jul-Aug 2024, an outbreak investigation was initiated. It included: (1) comparing the incidence of ESBL producers before and during the cluster; (2) enhanced control measures (3) rectal screening at admission and weekly from Aug 9 to Sept 2, with monthly prevalence surveys; (4) review of patient trajectories (n = 17); (5) audits of hand hygiene and cleaning using 332 fluorescent marker audits (GlowCheck) at several critical points, assessed at 24 and 96 h post-cleaning; and (6) molecular typing of 9 isolates using multilocus variable-number tandem-repeat analysis (MLVA) and core genome multilocus sequence typing (cgMLST).
Results: Between July 30 and August 12, 5 nosocomial cases were identified (attack rate, 35%). All cases were linked to one unit. No clinical infections were observed. Prompt interventions including isolation, cohorting, staff training, and intensified cleaning halted the outbreak, with no further cases after August 12 (Fig. 1). Environmental audits showed that 67% of surfaces were not cleaned properly within 24 h (45% after 96 h). No environmental reservoir of ESBL-KP was conducted. Molecular analyses confirmed a clonal cluster of ST4263 strains (n = 4) with fewer than 2 loci differences, sharing the same plasmid; 1 additional case was genetically unrelated. Transmission probably occurred through direct and indirect contact, possibly via shared equipment, including physiotherapy tools. Surveillance ended March 7, 2025.
Conclusion: This monoclonal outbreak of ESBL-KP was swiftly contained through targeted control measures, highlighting the significance of molecular surveillance, environmental audits, and strong interdisciplinary coordination in high-risk units.

Disclosure of Interest
None declared.

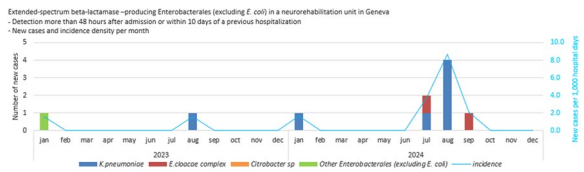

Fig. 1 (abstract P1278). See text for description

P1279

Trend analysis of carbapenem-resistant enterobacteriaceae (CRE) incidence in the eastern province of Saudi Arabia: a multi-hospital review (2021–2025)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1279

Introduction: Carbapenem-Resistant Enterobacteriaceae (CRE) pose a serious threat to patient safety and healthcare systems globally. This study examines the trend of CRE incidence in secondary and tertiary hospitals within the Eastern Health Cluster of Saudi Arabia over a five-year period.
Objectives: To evaluate the incidence and trend of Carbapenem-Resistant Enterobacteriaceae (CRE) across secondary and tertiary hospitals in the Eastern Health Cluster of Saudi Arabia from 2021 to 2025, and to assess the impact of infection control interventions on CRE case reduction.
Methods: A retrospective analysis was conducted on CRE case data collected from three hospitals—Dammam Medical Complex, Qatif Central Hospital, and King Fahd Hospital—from 2021 to 2025. The annual number of confirmed CRE cases was compiled and analyzed for year-on-year changes to evaluate infection trends and potential impacts of infection control interventions.
Results: The total number of CRE cases declined from 78 in 2021 to 27 in 2025, marking an overall reduction of 65.4%. The data showed a significant drop in 2022 (−37.2%) followed by an increase in 2023 (+26.5%). However, consecutive decreases occurred in 2024 (−37.1%) and 2025 (−30.8%). These yearly fluctuations and the sustained downward trend are illustrated in Fig. 1, which presents the total number of CRE cases reported annually across the three hospitals.
Conclusion: Despite fluctuations, the overall decline in CRE incidence across the Eastern Health Cluster hospitals suggests effective implementation of infection prevention strategies. Continued surveillance and strengthened infection control practices are essential to sustain and further this progress.

Disclosure of Interest
None declared.

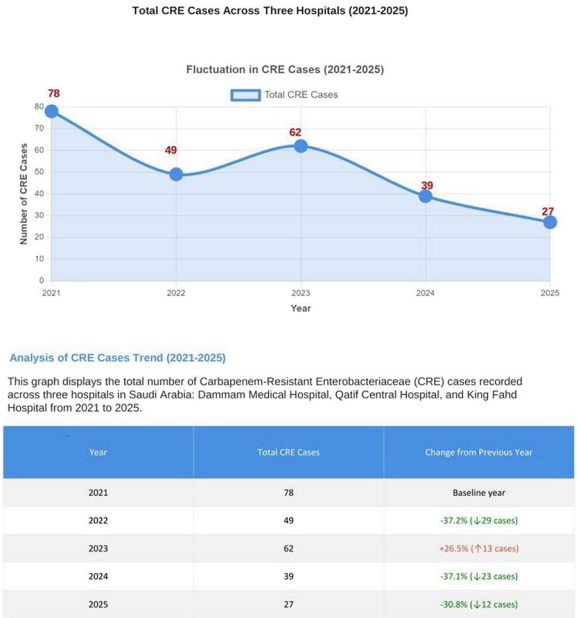

Fig. 1 (abstract P1279). Total CRE Cases Across Three Hospitals (2021-2025)

P1280

Citrobacter SPP.: a hidden reservoir of antimicrobial resistance (AMR) in hospital environments

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1280

Introduction: AMR surveillance efforts typically prioritize high-risk ESKAPE pathogens. Less virulent genera like *Citrobacter* spp. are often overlooked, even though emerging evidence suggests *Citrobacter* may play an important role in AMR ecology within healthcare settings.
Objectives: Investigate the role of *Citrobacter* spp. as reservoirs and potential vectors of plasmid-mediated AMR by comparing the structure, content, and mobility of plasmids identified in environmental *Citrobacter* isolates with those found in clinically relevant high-risk pathogens.

Methods: As part of the on-going multicentric RESERVOIR study, a prospective, integrative surveillance study was conducted in a high-risk ward at HUG. Sinks, toilets, and wastewater were sampled weekly for ESBL- and carbapenemase-producing Enterobacterales (CPE) during nine months starting from October 2024. In parallel, routine patient samples were collected, including clinical samples and rectal screening swabs on admission and weekly thereafter. Whole-genome sequencing and plasmid profiling were performed to assess potential transmission dynamics.
Results:*Citrobacter* spp. were repeatedly isolated from environmental sources and rectal swabs, with *C. freundii* and *C. amalonaticus* as the predominant species. *Citrobacter* strains harbored a wide array of clinically relevant resistance determinants, including $bla_{\text{OXA-181}}$, $bla_{\text{OXA-48}}$, and $bla_{\text{CTX-M-15}}$ genes, among others. Genomic analyses revealed shared plasmid backbones, notably IncM1, IncX3, and ColKP3, and mobile genetic elements between *Citrobacter* and high-priority pathogens, suggesting its role as a genetic bridge facilitating horizontal gene transfer of AMR determinants within the ward.
Conclusion: These findings emphasize the need to broaden AMR surveillance frameworks to include low-virulence, opportunistic bacteria like *Citrobacter*. Its environmental niches and persistence, genomic plasticity, and ability to exchange resistance determinants with pathogenic species position *Citrobacter* as a key hidden vector in AMR dissemination.

Disclosure of Interest
None declared.

P1281

Acquisition of carbapenem-resistant enterobacterales following colistin-meropenem versus colistin monotherapy: a secondary aim of the Aida trial

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Introduction: Combination therapy is frequently used for carbapenem-resistant Gram-negative (CRGN) infections, but its impact on subsequent carbapenem-resistant *Enterobacterales* (CRE) acquisition remains unclear.
Objectives: We assessed the risk of new CRE colonization or infection following treatment with colistin-meropenem vs. colistin monotherapy.
Methods: This was a secondary aim of the AIDA multicenter randomized controlled trial (2013–2017), which compared colistin monotherapy to colistin-meropenem for CRGN infections in six hospitals across Israel, Greece, and Italy. Rectal swabs were obtained at enrollment and weekly until day 28, discharge, or death. Swabs were processed centrally using MacConkey agar supplemented with imipenem. Suspicious colonies were identified by MALDI-TOF MS and meropenem susceptibility was determined by broth microdilution. All CRE isolates underwent whole-genome sequencing using Illumina short reads. Sequence types were determined via pubMLST, and resistance genes identified with ResFinder v4.6.0. Clinical cultures were obtained as clinically indicated and processed at the recruiting sites. Patients with CRE at baseline or without follow-up rectal cultures were excluded.
Results: Of 197 eligible patients (99 colistin, 98 colistin-meropenem), CRE acquisition occurred in 1/99 (1.0%, 95% CI: 0.03%–5.5%) in the monotherapy arm and in 5/98 (5.1%, 95% CI: 1.7%–11.5%) in the combination arm ($p = 0.12$). Among those acquiring CRE, two patients in the colistin-meropenem arm developed clinical infections; none occurred in the monotherapy arm. In the monotherapy arm, 1/1 acquired isolate was carbapenemase-producing (blaVIM), while in the colistin-meropenem arm, 3/5 were carbapenemase-producing (all blaKPC). All isolates carried multiple antibiotic resistance genes.
Conclusion: Patients treated with colistin-meropenem had a higher, though not statistically significant, risk of acquiring CRE compared to those receiving colistin alone. The emergence of high-risk clones and extensive resistance gene content in acquired isolates highlights the need to weigh potential clinical benefits against ecological risks when selecting combination therapy.

Disclosure of Interest
None declared.

P1282

Acinetobacter Baumannii outbreak tracing using the fourier-transform infrared (FT-IR) spectroscopy

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Introduction:*Acinetobacter baumannii* is an opportunistic pathogen responsible for nosocomial infections in Intensive Care Units and its spreading and environmental persistence are cause of outbreaks.
Objectives: This study evaluates the reliability of Fourier Transform-Infrared spectroscopy (FT-IR) as a new typing method by comparing the results with Multiple Locus Variable Number of Tandem Repeat Analysis (MLVA) and the gold standard technique, Pulsed-Field Gel Electrophoresis (PFGE).
Methods: 65 multi-drug resistant *A. baumanni* strains collected in 2022-2023 were analysed. The MLVA analysis was performed using 10 VNTR markers to assess clonality. Strains were also analysed by FT-IR spectroscopy, and the data analysis was conducted focusing on the carbohydrate region (1200-900 cm^{-1}). 8 isolates out of 65 were subjected to PFGE to confirm the results obtained from both techniques.
Results: Eight different patterns were obtained with MLVA, while four different clusters were visualised with FT-IR. The techniques were compared, and the agreement corresponded to 92,6%. The discrepancy of the results, observed in 8 isolates, was justified by evaluating the scatter plot, which demonstrated that strains with a slightly different MLVA pattern were included in the same FT-IR cluster and ranked at the edge. The PFGE analysis performed to evaluate the reliability of both techniques confirmed the results given by the application of the FT-IR spectroscopy, as the electrophoresis data were consistent with those obtained by the latter.
Conclusion: Even though MLVA had excellent discriminatory power, especially for short-repeat VNTR markers, results showed that FT-IR and PFGE tended to be more congruent with each other than MLVA, suggesting that these methods better reflected the global phenotypic and genotypic characteristics of the analysed strains. Consequently, this concordance enhances the reliability of FT-IR in discriminating strains, thus offering a more complete and accurate view of the clonal epidemiology of *A. baumannii* and a valid alternative to quickly identify nosocomial outbreaks.

Disclosure of Interest
None declared.

P1283

Antibacterial effect of probiotics against clinical isolates of pseudomonas aeruginosa producing metallo-β Lactamases

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Introduction: The emergence of multidrug-resistant (MDR) *Pseudomonas aeruginosa* producing metallo-β-lactamase (MβL) represents a significant global health threat. Probiotics, particularly *Lactobacillus* spp., have shown potential alternative therapeutic agents due to their antimicrobial properties.
Objectives:
This work was carried out to evaluate the in vitro antibacterial ability of cell-free supernatant (CFS) of selected Lactobacillus strains with probiotic properties against clinical isolates of P. aeruginosa producing MβLs.
Methods:
Fifty-four MβL-positive *P. aeruginosa* isolates were collected from various clinical samples (sputum, urine, wounds, burns) et al.-Azhar University Hospital, Egypt. Phenotypic detection of MβLs was performed using combined disk tests (CDT) and double-disk synergy tests (DDST). The antimicrobial activity of Lactobacillus CFS was assessed using agar well diffusion and broth microdilution assays. Statistical analysis included inhibition zone diameters and minimum inhibitory concentrations (MICs).
Results: Both probiotics exhibited dose-dependent activity, with mean inhibition zones of 7.27 mm (*L. acidophilus*) and 7.28 mm (*L. plantarum*). Low inhibition (< 10 mm) was observed in 74.1% of isolates, while 25.9% showed intermediate inhibition (10–20 mm). MICs were inversely correlated with inhibition zones ($\chi^2 = 108$, $^*p^* < 0.001$), with the strongest activity observed at 2 × MIC (11–15 mm zones). Notably, all isolates showed 100% resistance to imipenem,underscoring the urgent need for alternative therapeutic strategies.
Conclusion: The CFSs from *L. acidophilus* and *L. plantarum* demonstrated modest yet significant antimicrobial effects against P. aeruginosa producing MβL. Further research should focus on optimizing probiotic formulations and investigating potential synergies with conventional antibiotics to combat MDR pathogens.

Disclosure of Interest
None declared.

P1288

Mapping the hospital-wide burden of staphylococcus aureus infections: a nine-year study in a Swiss tertiary center

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Introduction:*Staphylococcus aureus* infections remain a major public health concern, contributing to patient morbidity and mortality. In the absence of an effective vaccine, there is room for improved surveillance and prevention.
Objectives: To describe the hospital-wide epidemiology and burden of *S. aureus* infections in a Swiss university hospital over nine years.
Methods: We reviewed microbiological samples positive for *S. aureus* at Geneva University Hospitals from January 2016 to December 2024. Infections were identified by 3 criteria: fever of ≥ 38.3 °C (within 48 h of sampling), and C-reactive protein (CRP) level exceeding 5 mg/L (within 96 h), and anti-staphylococcal antibiotic use (within 14 days). All *S.aureus* isolates from sterile sites were classified as infections. Episodes occurring 30 days apart were considered separate events. Hospital-acquired infections were defined as those where positive samples were collected ≥ 5 days after admission. Ward attribution was determined by initial positive sample location.
Results: 2828 patients with 3132 *S. aureus* infection episodes were identified (mean age 60 ± 24 years; 64% male). Diabetes was present in 27.5% of patients. Hospital-acquired infections comprised 24.8% of episodes, with median onset 14 days post-admission (IQR 5–42). Methicillin-resistant *S. aureus* (MRSA) accounted for 282 (9%) episodes, 63.1% being community-acquired. The main infection sites were bloodstream (26.3%), osteoarticular (25.0%), skin and soft tissue (23.9%), and respiratory tract (13.0%). Surgery, Medicine and Rehabilitation & Geriatrics had the highest proportion of hospital-acquired infections (Fig. 1). Infection episodes declined since 2022.
Conclusion: This study shows the important hospital-wide burden of *S.aureus* infections, with marked differences in hospital-acquired infection rates across departments. Intensified prevention efforts with targeted infection control strategies are warranted, beyond MRSA.

Disclosure of Interest
None declared.

Department	Total cases (n)	Nosocomial cases (n)	Nosocomial rate (%)	Diabetes (%)	MRSA (%)
Psychiatry	15	12	80.0%	33.3%	6.7%
Oncology	50	29	58.0%	16.0%	4.0%
Rehabilitation & Geriatrics	236	127	53.8%	37.7%	11.4%
Unknown (n/a)	171	90	52.6%	16.4%	15.2%
Neurosciences	160	52	32.5%	25.6%	7.5%
Medicine	561	172	30.7%	33.9%	10.3%
Radiology	7	2	28.6 %	57.1 %	0
Surgery	729	185	25.4%	34.6%	7.8%
Peds & ObGyn	231	33	14.3%	1.7%	9.1%
ER and ICU	889	73	8.2%	31.5%	8.2%
Primary Care Sector	83	2	2.4%	18.1%	6.0%
TOTAL	3132	777	24.8%	29.3%	9%

Fig. 1 (abstract P1288). See Characteristics of episodes of Staphylococcus aureus infections by department (n=3132). Legend: n/a= Non-attribuable; Peds=Pediatrics; ObGyn=Obstetrics and Gynecology; ER=Emergency Room; ICU=Intersive Care Unit

P1289

Clinical outcomes of CC398 staphylococcus aureus bacteraemia in a Swiss university hospital: a retrospective cohort study

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Introduction: Methicillin-susceptible *Staphylococcus aureus* bacteraemia (MSSAB) remains associated with high mortality rates in recent decades. In Europe, MSSA clonal complex 398 (CC398) infections have been increasingly reported, and have been associated with higher mortality. At HUG, the proportion of CC398 among MSSAB has risen from 5% in 2009 to over 20% in 2020.
Objectives: To understand the epidemiology and impact of CC398, we aimed to compare the mortality of CC398 MSSAB with non-CC398 MSSAB.
Methods: We conducted a retrospective cohort study at Geneva University Hospitals (HUG), which involved all adult inpatients with MSSA detected in a blood culture and admitted from January 2021 to December 2023. MSSAB was defined as CC398 based on a specific PCR performed on the stored MSSA isolate; all other cases were considered as non-CC398 MSSAB. Infections were further categorised as healthcare-associated or community-acquired. We estimated the cumulative incidence of 30- and 90-day all-cause mortality, based also on the cantonal death registry. Adjusted hazard ratios for 30- and 90-day all-cause mortality were then estimated using Cox proportional hazards models.
Results: We included 303 MSSAB, of which 57 (18.8%) were CC398 MSSAB. In both groups, the majority of infections were healthcare-associated (68% CC398 MSSAB, 62% non-CC398 MSSAB). There was no significant difference in the unadjusted cumulative 30- or 90-day mortality between CC398 and non-CC398 patients (log rank test, p = 0.8 and p = 0.7, respectively) (Fig. 1). In further analyses adjusted for age, sex, modified Charlson score and community- versus

healthcare-associated infection, CC398 versus non-CC398 was not associated with increased 30-day (0.87 95%CI: 0.42-1.83) or 90-day mortality (1.14, 95%CI: 0.60-2.20).
Conclusion: While CC398 represented almost 20% of MSSAB cases, frequently linked to healthcare acquisition, we were unable to demonstrate a difference in all-cause mortality as compared to non-CC398 MSSAB.

Disclosure of Interest
None declared.

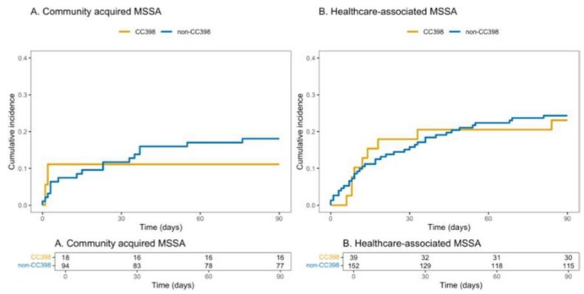

Fig. 1 (abstract P1289). Cumulative incidence of 90-day all-cause mortality in community acquired (A) and healthcare-associated (B) CC398 MSSAB and non-CC398 MSSAB

P1290

Reducing harm from healthcare-associated staphylococcus aureus bacteraemia

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Introduction: The rate of healthcare-associated *Staphylococcus aureus* bacteraemia (HA-SAB) remains high in Aotearoa New Zealand. Previous studies looking at the outcome of all SAB events across hospitals in Australia and New Zealand reported an all-cause mortality at 30 days of 20.6% in adult patients and 4.7% in paediatric patients.
Since 2012 Te Tāhū Hauora Health Quality & Safety Commission (the Commission) has performed continuous surveillance of HA-SAB in patients receiving publicly funded healthcare. From July 2022 onwards patient-specific and source data were collected.
Objectives: To determine the 30-day and 90-day all-cause mortality associated with HA-SAB across all ages and determine risk factors associated with increased mortality.
Methods: HA-SAB events from 1 July 2022—30 June 2024 were included. Patient age, gender, ethnicity and the source of HA-SAB were recorded and submitted via a secure portal.
The national Health Index Number for each patient, a unique identifier that links a person to their health record, was matched to the National Minimum Dataset and 30-day and 90-day all-cause mortality were determined.
The mortality rate was calculated as a percentage of all HA-SAB events and by age, gender and ethnicity.
Results: There were 961 HA-SAB events: a reported rate of 0.15 cases per 1000 inpatient bed days.
The 30-day and 90-day all-cause mortality was 13.8% and 20.7%, respectively. There was no difference in mortality by gender or ethnicity. Mortality increased with age, but the increase was only significant for patients ≥ 75 years of age; odds ratio 9.1 (95%CI 1.2-67.4).
Most events were associated with medical device use, 70%, organ source, 12%, and surgical site infections, 8%. There was no significant difference in mortality by attributable source of HA-SAB.
Conclusion: The 30- and 90-day all-cause mortality associated with HA-SAB is high. Seventy percent of these events are associated with medical device use; predominantly vascular access devices. There are proven interventions to reduce HA-SAB. The use of a 'care bundle' incorporating these interventions, applied using a quality improvement framework, should reduce the risk of these events.

Disclosure of Interest
None declared.

P1293

An overview of CA-MRSA surveillance in geneva

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Introduction: Community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infection is a voluntary notifiable disease in Geneva, where a cantonal surveillance has been implemented by public health authorities for 2 decades, collecting routine laboratory and clinical data.
Objectives: To describe the CA-MRSA epidemiology in Geneva over 2023-2024.
Methods: CA-MRSA patients were included if were age > 1 year old, had at least 1 infection site, were not hospitalized > 24 h in the last 12 months, and were Geneva residents. Since January 2023, data were collected in a more comprehensive approach, including also non-Geneva residents and, if a CA-MRSA infection was highly suspected (presence of exotoxins) despite having been in short contact with health care, patients were included, accordingly.
Results: Between 2014 and 2024, 447 CA-MRSA cases were notified (Figure). 54 and 99 CA-MRSA cases occurred in 2023 and 2024, respectively, of which 15 (27.8%) and 26 (26.3%) had sporadic contact with health care, and 33 (61.1%) and 57 (57.6%) were notified by the HUG, respectively. Among 28 nationalities recorded, about 45% were Swiss, and Mongolia was the second most commonly reported (5.9%).
There were 46/54 (85.2%) and 74/99 (74.7%) superficial skin infections, 12 deep skin, 12 urogenital, 2 bloodstream, 1 pulmonary/bone infections each. Re-infection occurred in 38/153 (24.8%) patients. Hospitalisation occurred in 11.8%. Panton-Valentine leukocidin was detected in 21/54 (38.9%) and 49/99 (49.5%) of cases. TSST was positive in 7/54 (13%) and 17/99 (17.2%) and exfoliatine in 5/54 (9.3%) and 2/99 (2%) of cases, respectively. A cluster of 3 cases was identified among members of a judo club.
Decolonization of the index case was performed in 35/54 (64.8%) and of contacts in 10/54 (18.5%) in 2023, and in 55/99 (55.6%) and 23/99 (23.2%) in 2024, respectively.
Conclusion: This long-lasting mandatory CA-MRSA declaration system proved useful for clinical and epidemiological surveillance purposes. CA-MRSA circulation in the Geneva community is increasing and may be underestimated using a narrow case definition.

Disclosure of Interest
None declared.

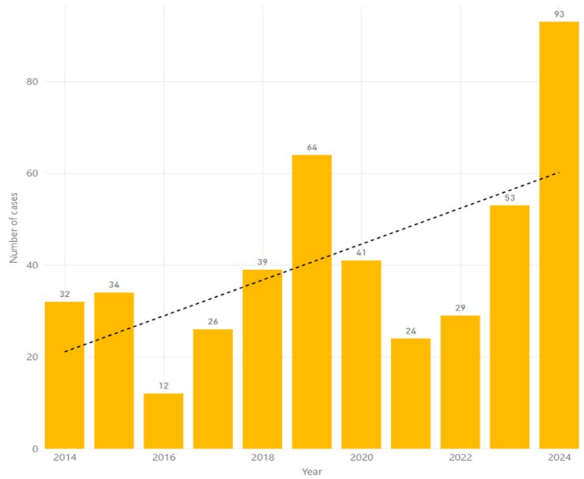

Fig. 1 (abstract P1293). See text for description

P1294

Reducing MRSA incidence in rehabilitation patients: impact of strategic cohorting and mrsa decolonisation therapy at a Singapore Tertiary hospital

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Introduction: Methicillin-resistant *Staphylococcus aureus* (MRSA) colonization is a significant challenge in rehabilitation units, due to its longer average length of stay (ALOS) and shared therapy environments. Traditional isolation measures may impede therapeutic goals whereas patient cohorting offers a practical solution for MRSA control. However, evidence on the effectiveness of combining cohorting with stringent decolonization protocols in these settings remains limited.
Objectives: This study aimed to evaluate the effectiveness of combining cohorting with a biweekly MRSA decolonization therapy in reducing MRSA prevalence in a 32-bedded rehabilitation ward with an ALOS of 33 days.
Methods: A retrospective study was conducted between January 2023 and March 2025 in a 32-bed rehabilitation unit with 5-bedded cubicles. All inpatients with unknown MRSA status underwent biweekly MRSA nasal, axillary, and groin screening to monitor their colonisation status. Intervention comprised of cohorting MRSA patients in designated cubicles, daily bath with antiseptic agent, biweekly 5-day decolonization therapy with oral and throat wash and nasal application of Octenidine, and enhanced infection prevention (IP) measures including modified contact precautions (donning gloves and gowns when contact with patients or their surroundings is anticipated), daily linen changes, weekly UV-C irradiation of equipment, and environmental disinfection with sodium hypochlorite 1000 ppm.
Results: The compliance of biweekly MRSA decolonization therapy improved from 90.1% (Jan-23 to Dec-23) to 96.3% (Jan-24 to Mar-25). The compliance in hand hygiene, environmental and equipment hygiene during this period was 99.6%, 95.6% and 100% respectively. Healthcare-associated MRSA incidence rate decreased from 6.89 to 5.97 per 1,000 patient-days.
Conclusion: Combined interventions of strategic patient cohorting, bi-weekly MRSA decolonization therapy and enhanced IP measures significantly reduced MRSA prevalence among rehabilitation inpatients. This bundled approach effectively reduced bioburden load within patients, minimizing cross transmission in a rehabilitation setting.

Disclosure of Interest
None declared.

P1295

Regional variations in proportion of bloodstream infection due to Methicillin-resistant staphylococcus aureus (MRSA), 2017 to 2022: a global analysis

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Introduction: S. aureus causes third-generation cephalosporins-resistant acute human infections.
Objectives: To evaluate trends in the proportion of MRSA (%) in World Health Organization (WHO) member states.
Methods: A review of the proportion of bloodstream infections due to MRSA from the Global health observatory between 2017 and 2022 by WHO regions (AFRO- Africa, AMRO- the Americas, EURO- Europe, EMRO- Eastern Mediterranean, SEARO- Southeast Asia, WPRO- Western Pacific).
Results: From 2017 to 2022, 44 to 84 of 194 member states including 2 to 16, 0 to 5, 1 to 16, 9 to 30, 1 to 8 and 2 to 9 member states from AFRO, AMRO, EMRO, EURO, SEARO and WPRO, respectively, had partial or complete data. The median (IQR) proportion of bloodstream infection due to MRSA from 2017 to 2022 in AFRO were 23.8 (19.7–30.0), 20.0 (18.8-24.6),15.9 (8.4-24.3), 50.2 (25.0-68.8), 45.5 (32.5-62.1) and 46.0 (21.2-6538), in AMRO were 45.0 (45.0–45.0), 26.8 (19.0-34.7), 31.3 (25.9-36.7), 38.4 (31.4-42.7), 39.8 (27.5-54.3) and 32.8 (31.6-45.2), in EMRO were 33.6 (24.5-39.4), 38.5 (26.2-49.0), 44.23 (35.6-66.8), 44.1 (34.4-69.5), 39.3 (33.5-72.7) and 47.1 (29.9-67.7), in EURO were 9.5 (4.5-21.2), 11.9 (6.3-16.1), 12.4 (6.0-18.5), 12.1 (4.2-21.7), 9.2 (4.2-20.6) and 8.7 (43.9-24.9), in SEARO were 34.6 (25.7-43.6), 55.6 (52.3-63.1), 47.7 (25.6-55.9), 43.6 (19.0-56.2), 42.5 (37.6-53.6) and 53.1 (37.4-70.9), and in WPRO were 41.7 (21.9-53.3), 43.9 (27.5-48.4), 24.1 (16.9-39.5), 29.0 (17.5-46.1), 31.2 (16.7- 37.4) and 44.4 (31.1-55.9).
Among countries with data for each year, the median (IQR) proportions of bloodstream infection due to MRSA from 2017 to 2022 in EMRO ($n=5$) were 33.1 (21.6-34.1), 23.7 (21.1-28.6), 36.2 (25.0-48.9), 42.5 (35.1-49.1), 37.2 (36.7-50.4) and 52.1 (40.0-52.5), in EURO ($n=22$) were 11.2 (5.0-23.5), 1.9 (6.6-16.2), 12.4 (6.4-20.3), 12.9 (4.7-24.4), 10.2 (4.7-20.7) and 8.7 (4.2-24.9), and in WPRO ($n=4$) were 47.5 (33.6-54.5), 43.8 (33.3-49.2), 42.5 (28.2-49.2), 40.8 (32.5-46.2), 39.8 (33.8-44.8) and 45.1 (41.8-48.3). Other regions had ≤ 2 countries with data for each year.
Conclusion: Developing regions have a disproportionate burden of MRSA infections. A general increase in infections was observed during the COVID-19 pandemic, and a decrease over time in WPRO. Efforts should be directed to assessing testing coverage and promoting reporting for effective infection control.

Disclosure of Interest
None declared.

P1296

Neonatal methicillin resistant staphylococcus aureus colonization: risk of clinical infections and effectiveness of decolonization process

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Introduction: Introduction: MRSA colonization increases risk of morbidity and mortality among neonates.
Objectives: To determine the MRSA colonization rate, the frequency of developing clinical infections in NICU, and the effectiveness of decolonization process.
Methods: A descriptive retrospective study based on the electronic medical records including all MRSA colonized neonates admitted to a tertiary NICU between January 2022 to June 2024. Nasal swabs done upon admission to NICU, repeated every three weeks during 2022 then weekly since 2023. Only MRSA clinical infections developed after colonization have been included. Decolonization conducted for eligible neonates according to evidence-based practice and three consecutive negative cultures or PCR are required to consider the patient decolonized from MRSA. Contact isolation precautions were implemented for all MRSA colonized and infected patients.
Results: During the study period, we recorded 68670 patient days and 162 MRSA colonized neonates, among them 10 (6.2%) revealed positive since the first screening done at admission to NICU. The mean incidence rate of MRSA colonization/1000 patient days was 2.5 with significant decrease noticed after implementation of weekly screening reached 0.95 in 2024. The clinical infections with MRSA occurred among 26 (16%) colonized patients within a median period of 1 month dominated by bloodstream and respiratory infections. The decolonization was implemented for 75 (46.3%) and 42 (56%) have been successfully decolonized. However, 7 patients (16.6%) were recolonized within a mean period of 3 months.
Conclusion: Conclusion: Implementing of regular screening, decolonization and proper isolation precautions are important in preventing MRSA spread in NICU.

Disclosure of Interest
None declared.

P1297

Study of STS, SCCMEC elements, antimicrobial resistance and mobile genetic elements of staphylococcus lugdunensis clinical isolates in Taiwan

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1297

Introduction:*Staphylococcus lugdunensis* is a significant pathogen that causes community-acquired and nosocomial infections. The high prevalence of oxacillin-resistant *S. lugdunensis* is of major concern. Resistance to beta-lactams is caused by acquisition of the staphylococcal cassette chromosome mec (SCCmec) element.
Objectives: 1.To understand the genomic architecture of *Staphylococcus lugdunensis* isolates, including the presence of mobile genetic elements and their role in antimicrobial resistance. 2.To provide valuable insights into the evolutionary dynamics of *S. lugdunensis* and its clinical implications in healthcare settings.
Methods: This study conducted whole-genome sequencing on 20 *S. lugdunensis* strains, including 2ST1, 7ST3, 3ST4, 2ST6, 5ST27 and one ST29, to explore their genetic diversity, antimicrobial resistance mechanisms, and mobile genetic elements.
Results: The results demonstrated the relationship between MLST types and SCC*mec* elements in various *S. lugdunensis* strains. Strains belonging to ST1(2), ST4(3) and ST29(1) do not carry any SCC*mec* elements and are susceptible to oxacillin. However, two ST6 strains carry SCC*mec* type II but remain oxacillin susceptible. CRISPR-Cas systems varied across STs, with type III-A predominant in ST1 and ST6, and type IIC in ST4, ST27, and ST29; notably, ST3 lacked CRISPR systems, correlating with a higher diversity of SCC*mec* elements and an increased potential for horizontal gene transfer. Additionally, IS256 insertion elements, ranging from 7 to 17 copies, were identified in four strains and linked to multidrug resistance. Phage analysis revealed stable phage-host associations in ST1, ST6, and ST29, whereas ST4 displayed a varied prophage profile. Phenotypic resistance profiles generally aligned with genomic predictions, although discrepancies were observed for aminoglycosides and clindamycin.
Conclusion: These findings highlight the complex genetic landscape and evolutionary dynamics of *S. lugdunensis*, emphasizing the need for genomic surveillance to inform clinical management and prevent the spread of resistant strains.

Disclosure of Interest
None declared.

P1298

Genomic investigation and successful containment of a Vancomycin-Resistant Enterococcus outbreak (VRE) in an oncology unit in Singapore: a case-control study

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Introduction: VRE outbreaks in healthcare settings pose significant challenges, particularly among immunocompromised patients. Whole Genome Sequencing (WGS) has emerged as a powerful tool for understanding transmission patterns and guiding infection prevention and control measures.
Objectives: The study aims to investigate the molecular epidemiology of a VRE outbreak in an oncology unit and evaluate the effectiveness of targeted infection control interventions.
Methods: A retrospective analysis of a VRE outbreak involving 52 patients from October 2023 to January 2024 was conducted. An unmatched 2 cases: 1 control study examined risk factors for VRE acquisition during the outbreak. Environmental sampling was performed, and isolates underwent WGS analysis. A multi-pronged intervention strategy was implemented, focusing on hand hygiene, enhanced equipment and environment hygiene including decluttering and ultraviolet treatment, PPE compliance, and urinary catheter maintenance care with emphasis on meatal hygiene.
Results: WGS revealed four distinct phylogenomic clusters of *E. faecium*. Male gender and urinary catheterization were identified as significant risk factors in both univariate and multivariate analyses. The hypothesis of heavy environmental contamination, leading to horizontal transmission, was supported by diarrhoea in 80% of cases and confirmed by positive environmental samples (14.8%). Among the 52 cases, two developed infections: one catheter-associated urinary tract infection and one secondary bloodstream infection. Through targeted multimodal strategies, the outbreak was successfully contained within three months.
Conclusion: The combination of molecular epidemiology with traditional epidemiological investigation provided crucial insights into transmission patterns. The implementation of targeted infection control measures successfully contained the outbreak, highlighting the importance of evidence-based, multi-modal intervention strategies in managing healthcare-associated VRE transmission.

Disclosure of Interest
None declared.

P1299

Control of a vancomycin-resistant enterococcus faecium (VRE) ST612 outbreak triggered by a concurrent Norovirus epidemic in a geriatric hospital

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Introduction: VRE is a multiresistant organism of concern in healthcare settings, due to environmental persistence and transmissibility. In early 2025, the first ST612 VRE (vanA) outbreak was identified at a geriatric hospital in Geneva during a norovirus epidemic.
Objectives: To describe the investigation and control of a ST612 VRE outbreak
Methods: The outbreak investigation was conducted in consecutive phases (07.01–29.04.2025), following established VRE control guidelines. Investigations included screening, contact tracing, molecular typing and environmental sampling. A modified screening algorithm (contact screening on days 0–5–10) and weekly hospital-wide screening surveys were implemented. Control measures included case finding, admission stop, transfer restriction, cohorting, environmental hygiene, and behavioral interventions.
Results: A VRE attack rate of 45% (14/29 patients) occurred in the index unit. 28 cases were confirmed over 6 weeks across 7 units. The transmission peak (25.01–12.02.2025) overlapped with norovirus activity (n = 4), suggesting hygiene lapses. The presumed VRE index case with foreign hospital exposure was ruled out by molecular typing. Environmental sampling showed 20% contamination of tested sites. Fluorescent marker audits confirmed insufficient cleaning. cgMLST confirmed clonal dissemination. The outbreak was controlled (Fig. 1) through extensive screening (1816 negative swabs). A single case was detected 4 weeks later, without further transmission. Optimized lab workflow enabled result notification ≤ 36 h.
Conclusion: This ST612 VRE outbreak highlights the amplification potential of co-circulating norovirus. Systematic screening coupled with early and aggressive control measures and interdisciplinary interventions were critical to swift, successful containment.

Disclosure of Interest
None declared.

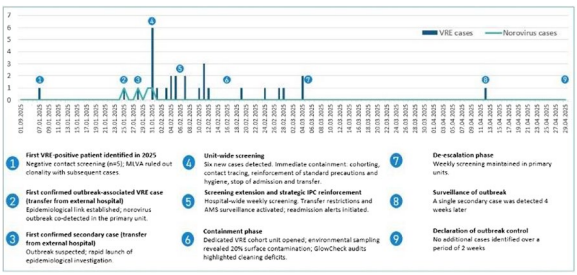

Fig. 1 (abstract P1299). See Epidemic curve of microbiologically onfirmed new VRE cases per day at the outbreak hospital with key control measures

P1300

Let's doff: a gown conservation strategy for multidrug-resistant organism colonization during the Covid-19 pandemic and beyond
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1300

Introduction: During the COVID-19 pandemic, hospitals sought safe gown conservation strategies, including discontinuation of contact precautions (CP) for patients colonized with multidrug-resistant organisms.
Objectives: To examine the impact of a pandemic gown conservation strategy on rates of methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE) infection compared to *Clostridioides difficile* infection rates.
Methods: This study was performed at a 14-site hospital group with more than 3,000 acute care beds. From April 2020 through July 2021, healthcare workers were instructed to use modified CP by wearing only gloves without gowns for MRSA and VRE colonized patients. MRSA and VRE colonized patients were identified by surveillance cultures or past infections. Cases of National Healthcare Safety Network (NHSN) laboratory identification (LabID) MRSA bacteremia and LabID *Clostridioides difficile* were identified. Nosocomial VRE infections were defined as positive cultures more than two days after admission. Rates per 1000-patient days were calculated in three January to August periods: baseline CP in 2019, modified CP in 2021, and return to baseline CP in 2023.
Results: There was no significant difference in rates of MRSA bacteremia or nosocomial VRE bacteremia in any period. There was no significant difference in rates of nosocomial VRE infection when comparing modified CP to baseline CP, however, rates during the post-pandemic period were significantly higher. There was also no difference in rates of *Clostridioides difficile* infection when comparing modified CP to traditional CP, however, the rate was significantly lower in the post-pandemic period (Fig. 1).
Conclusion: Modified CP was not associated with increased rates of MRSA bacteremia, *Clostridioides difficile* infection, or nosocomial VRE infection, congruent with existing literature. This study showed a reduction in *Clostridioides difficile* infections and an increase in nosocomial VRE infections in the post-pandemic period, mirroring national trends. Ultimately, this modified CP strategy represents a promising method for gown conservation.

Disclosure of Interest
K. Rowe Conflict with: K.R. has published a children's book explaining and promoting routine childhood vaccinations, from which she receives a small book royalty., J. Marschall Grant/Research support from: J.M. received financial support from the Centers for Disease Control and Prevention and grant support from the Agency for Healthcare Research and Quality., Speaker bureau of: J.M. received financial support as an invited speaker to The Congress of the European Society of Clinical Microbiology and Infectious Diseases (ESGMID Global), Barcelona 2024., Consultant for: J.M. received consulting fees from the National Center for Infection Control, Switzerland., Conflict with: J.M. received travel compensation by the International Consortium for Prevention and Infection Control Conference, Geneva in 2023., D. Warren Grant/Research support from: D.K.W. has received institutional financial support from the Centers for Disease Control and Prevention as well as the National Institutes of Health., Shareholder of: D.K.W. owns shares of Pfizer, Inc., C. Leone: None declared, J. Fox: None declared, K. Whalen: None declared, L. Grimes: None declared.

Nosocomial Infection	2019		2021		2023		P values			
	Rate	95% CI	Rate	95% CI	Rate	95% CI	Overall	2019 vs 2021	2021 vs 2023	2019 vs 2023
Lab ID MRSA Bacteremia	0.070 (36/516,390)	[0.069-0.070]	0.062 (34/545,086)	[0.062-0.063]	0.069 (40/577,095)	[0.069-0.007]	0.87			
Lab ID *C. difficile*	0.393 (186/473,884)	[0.391-0.394]	0.362 (182/503,327)	[0.360-0.363]	0.297 (159/535,901)	[0.295-0.298]	0.03*	0.43	0.07	0.009*
VRE Bacteremia	0.038 (19/493,794)	[0.038-0.039]	0.047 (24/510,814)	[0.046-0.048]	0.057 (31/547,614)	[0.056-0.057]	0.41			
VRE Bacteriuria	0.059 (29/493,794)	[0.058-0.059]	0.069 (35/510,814)	[0.068-0.069]	0.108 (59/547,614)	[0.107-0.109]	0.01*	0.54	0.03*	0.007*
VRE Overall	0.097 (48/493,794)	[0.096-0.098]	0.116 (59/510,814)	[0.115-0.116]	0.164 (90/547,614)	[0.163-0.165]	0.007*	0.37	0.03*	0.003*

Fig. 1 (abstract P1300). Rates of National Healthcare Safety Network (NHSN) laboratory identification (LabID) methicillin-resistant Staphylococcus aureus (MRSA) bacteremia, Lab ID Clostridioides difficile (C. difficile), and nosocomial vancomycin-resistant enterococci (VRE) infections per 1000 patient-days with 95% Confidence Intervals (CI) and Chi-Square P values. *=statistically significant with P < 0.05

P1301

The importance of whole genome sequencing in evaluating nosocomial transmission post-pandemic in an acute general hospital in Singapore

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Antimicrobial Resistance & Infection Control 2025,**14(1):**P1301

Introduction: The COVID-19 pandemic greatly affected healthcare institutions globally. From January 2020, strict isolation and prevention measures were implemented to avoid hospital-acquired infections. These measures were gradually eased from December 2023, with full PPE requirements reduced to N95 masks for confirmed cases by March 2024. Thorough contact tracing continued until February 2025. Infection Prevention Nurses were notified of positive cases in general wards. Cubicles with non-isolated cases were closed to new admissions and visitors. Patient contacts were screened using rapid antigen tests on days 1 and 5 after exposure, with the process repeating if new positives were found.
Objectives: The aim of this study was to assess the impact of this strategy on prevention of nosocomial transmission.
Methods: Whole genome sequencing (WGS) done by the National Public Health Laboratory (NPHL) was used to analyze all COVID-19 cases identified by contact tracing to confirm the presence of clusters of Covid-19. Samples from all index cases and positive contacts from March to December 2023 were analyzed. NPHL identified cases which could be sequenced based on viral load of available samples while excluding those which were delinked based S-Gene Target failure. Standard phylogenetic analyses were done.
Results: There were 75 patients identified as index – contact groups of which 41 were available for sequencing. For 3 index-contact presumed transmission clusters, WGS showed that the cases were not genetically related. For the remaining 10 transmission clusters, WGS confirmed that the sequenced cases within each cluster were indeed closely related. The largest of these was only six cases.
Conclusion: The WGS analysis confirmed ten transmission clusters over a nine-month period after the pandemic was declared over. It also excluded some presumed clusters suggesting other modes of transmission such as from visitors or staff. In the post-pandemic period, it will be critical to evaluate infection prevention efforts to optimize the use of resources to ensure patient safety.

Disclosure of Interest
None declared.

P1303

Characteristics of patients with secondary lower respiratory tract infections among Covid-19 patients hospitalized in intensive care units in Colombia, 2021

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Introduction: Secondary respiratory infections are a major cause of morbidity and mortality in patients hospitalized for COVID-19.
Objectives: This study describes characteristics of adult patients hospitalized with COVID-19 in intensive care units (ICU) who developed secondary lower respiratory tract infections (LRTIs).
Methods: We used national COVID-19 and device-associated infection surveillance systems data to conduct a retrospective analysis. Included patients were ≥ 18 years old and admitted to ICUs with COVID-19 diagnosed by PCR or antigen test during 2021. Secondary LRTI was defined as a clinical and radiological diagnosis with or without positive culture in a lower respiratory tract specimen after 48 h of ICU admission.
Results: A total of 42,853 COVID-19 admissions in 435 ICUs were reported. Of those, 9.3% (n = 4,003) were identified as having a secondary LRTI; 71.1% (2,847/4,003) had a positive culture. Of those with LRTI, 62.5% were male, median age was 64 years, 42.8% (1,712/4,003) were on mechanical ventilation, and most frequently reported symptoms were cough (70.4%) and shortness of breath (56.2%). Frequently identified organisms among patients with LRTIs were Klebsiella pneumoniae (34.4% [978/2,847]) and Pseudomonas aeruginosa (18.4% [523/2,847]). Patients with LRTI had a higher case fatality rate (61.5% [2,461/4,003]) compared with patients without LRTI (42.3% [16,426/38,850]) ($p < 0.001$). Among patients with LRTI, survivors were less likely to have diabetes, renal disease, and cardiovascular disease: 12.8% vs 22.6%, 2.0% vs 11.0%, and 6.0% vs 9.9%, respectively ($p < 0.001$).
Conclusion: Among COVID-19 patients hospitalized in the ICU, the overall case fatality rate was high, and even higher among those with secondary LRTI compared to those without documented secondary LRTI.

Disclosure of Interest
None declared.

P1304

Post-infection and anti-Covid-19 vaccination antibodies in relation to physical restraints of long-term care facilities residents in Southern Poland

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Introduction: COVID-19 had a particularly severe impact on elderly individuals residing in long-term care facilities (LTCFs). Due to their age, underlying health conditions, and communal living arrangements, residents of these facilities were at a higher risk of contracting the virus and experiencing severe outcomes. The introduction of mRNA COVID-19 vaccines prioritized LTCF residents in vaccination campaigns, aiming to reduce the pandemic's impact on this high-risk population.
Objectives: This non-interventional, prospective, multi-center study, conducted across eight LTCFs in southern Poland, aimed to evaluate the immune response to SARS-CoV-2 vaccination among residents and its correlation with physical dependency. The study assessed vaccination coverage, antibody levels against SARS-CoV-2, and residents' physical dependency using the Barthel Index
Methods: A total of blood samples of 429 residents were collected. Anti-SARS-CoV-2 antibodies IgA, IgM and IgG were determined with commercial ELISA test (Euroimmun, Lubeck, Germany) according to the manufacturer's instructions.
The study was financed from the grant of the National Science Centre (NCN) 2020/39/B/NZ6/01939
Results: The study revealed that vaccination significantly increased antibody levels, with physically dependent residents showing higher levels than independent residents. Interestingly, residents with moderate disability exhibited the highest antibody titers. Additionally, previous COVID-19 infection was linked to increased IgG antibody levels, 157.8 vs. 153.40, for dependent residents and 169.4 vs. 157.5 for independent residents.
Conclusion: These findings suggest that mRNA vaccination induces a strong immune response in LTCF residents, regardless of their degree of physical dependency. The results highlight the critical role of

vaccination strategies in safeguarding vulnerable populations during the COVID-19 pandemic.

Disclosure of Interest
None declared.

P1305

Why do some people not get Covid-19?: qualitative dyadic interviews with household members who have and have not contracted Covid-19 in Singapore

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Introduction: The COVID-19 pandemic spread globally in successive waves, infecting significant proportions of the world's population. However, a few people in many settings have never been infected. Genome-wide association studies have not yielded any concrete genetic predispositions to infection or protection.
Objectives: Very few qualitative studies have examined differences in behaviours between those who have and have not contracted COVID-19 within the same household. Thus, we aimed to explore possible behavioural causes for remaining uninfected throughout the pandemic in Singapore.
Methods: We conducted a descriptive qualitative study, using semi-structured dyadic interviews with household contacts (e.g. partners, siblings, parent, child) in which one was infected with COVID-19 and the other had no prior documented infection. Participants were recruited via purposive sampling and snowballing. Data were analysed thematically.
Results: We included 40 participants (20 dyads). Slightly over 60% were female. All were Asian in origin. Participant occupations ranged, including health-workers, teachers, unemployed, or students. While our exploratory study did not identify definitive protective behaviours, we generated three themes: (i) social othering —identity-based differences influencing health behaviours; (ii) varying compliance with government measures — based on risk perception, trust in the system, perceived threat, and practicality; and (iii) perceived traditional immune strengthening — highlighting the need to understand alternative health practices in public health communications.
Conclusion: While these approaches may not definitively protect against a new respiratory virus, they reflect public perceptions that will likely to be important for public health messaging to support the science as it evolves.

Disclosure of Interest
None declared.

P1308

Seroprevalence of measles IGG and Seroconversion rates after MMR vaccination among healthcare workers

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Introduction: Measles is a highly contagious febrile exanthematous disease caused by the measles virus, with over 90% of individuals without immunity becoming infected upon exposure. Although the World Health Organization (WHO) certified South Korea as a measles-eliminated country in 2014, a nationwide outbreak occurred in 2018–2019, with 38.1% of cases reported in healthcare settings. Healthcare workers (HCWs) are at high risk and may transmit the virus to vulnerable patients, highlighting the need to assess immune status and strengthen preventive measures.
Objectives: This study aimed to evaluate measles immunity among HCWs and prevent nosocomial transmission by enhancing immunity in seronegative individuals through MMR vaccination. We also compared seroconversion rates after the first and second doses of MMR to evaluate the necessity and effectiveness of the second dose.
Methods: From January to December 2019, 1,682 HCWs underwent measles IgG antibody screening, including 666 in high-risk departments and 1,016 newly hired staff. Seronegative individuals received the first MMR dose and underwent follow-up serologic testing after four weeks. Those who did not seroconvert received a second dose and were retested following the same protocol.
Results: Of the 1,682 HCWs tested, 1,579 (93.9%) were seropositive for measles. Among the 103 (6.1%) seronegative individuals, 45 received the first dose, and 35 underwent follow-up testing. Of those, 25 (71.4%) achieved seroconversion. Among the 10 who did not seroconvert, 8 received a second MMR dose, and 6 were retested, with only 1 (16.7%) achieving seroconversion.
Conclusion: The measles IgG seroprevalence rate among HCWs was 93.9%. Following the first MMR vaccination, the overall seropositivity rate increased to 95.4%. However, only 43.7% of seronegative individuals received the first dose, highlighting the need for systematic strategies to improve vaccination uptake. The seroconversion rate after the second dose was low (16.7%). Although the Korea Disease Control and Prevention Agency (KDCA) recommends two doses of MMR for HCWs born after January 1, 1968 without documented immunity, further research is needed to evaluate the clinical effectiveness and policy implications of the second dose.

Disclosure of Interest
None declared.

P1309

Measles contact tracing in two hospitals in Singapore

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Introduction: Measles is a vaccine-preventable disease that is seeing a resurgence due to declining vaccination rates and waning immunity. In Singapore, contact tracing is carried out for each case of measles identified in hospitals.
Objectives: We aim to describe 3 contact tracing exercises in 2 separate hospitals (Hospital A and B) in Singapore.
Methods: Contact tracing was conducted after 3 individuals were clinically diagnosed with measles. All 3 cases occurred separately and reported to the Ministry of Health (MOH). Institutions conduct contact tracing among staff/patients and MOH performs contact tracing in the community. A person is considered at risk if exposed to an indoor space where an index case was present, and up to 2 h after the index has left.
Results: Case 1 occurred in Hospital A and Cases 2/3 in Hospital B. All 3 patients presented with rash, Cases 2/3 also had coryzal symptoms. Case 1 was immunized but had a history of childhood leukemia and was unclear if repeat vaccination had occurred post treatment. Case 2/3 had unknown vaccination status. Only Case 1 reports a history of travel prior to symptom onset. Hospital A performed measles IgG testing for all inpatient contacts and discharged immunocompromised and pregnant patient contacts. Out of the 63 identified patient contacts, 16 underwent measles IgG testing. 2 had equivocal measles IgG tests and were immunocompetent. Exposures for all cases occurred mostly in the emergency department, and Case 3 involved the general

ward. A short duration of exposure generates a long list of contacts. The longer the time before isolation, the larger the number of patient and staff contacts identified. All staff were fully immunized. Overall, there was a low number of immunocompromised and pregnant patients. No secondary cases in patients and staff contacts identified, only 2 visitors were later found to develop measles. The findings are summarized in Fig. 1.

Conclusion: Our findings underscore the importance of early identification, maintaining high population vaccination coverage and rapid response to minimize measles exposure and highlights the importance of working with local ministry to help identify community contacts to reduce further spread.

Disclosure of Interest
None declared.

Patient and exposure characteristics				
		Case 1	Case 2	Case 3
Age/Sex		35 years/Male	51 years/Male	45 years/Male
Nationality		Singaporean	Singaporean	Malaysian
Vaccination status		Vaccinated	Unknown	Unknown
Past medical history		Childhood leukemia	Nil significant	Nil significant
Presenting symptoms		Fever, rash	Cough, sore throat, fever, rash	Cough, rhinorrhea, sore throat, fever, rash
Time before isolation		10 minutes	20 hr 41 minutes	53 hr 11 minutes
Locations involved		Emergency department triage area	Emergency department	Emergency department, General ward
Contacts identified				
Patients	Immunocompromised	4	1	5
	Pregnant	1	0	0
	Immunocompetent	58	84	104
	Total	63	85	109
Staff	Immunocompromised	0	0	0
	Pregnant	0	1	1
	Immunocompetent	7	24	52
	Total	7	25	53
Contacts who were positive		0	0	2 visitors*

Fig. 1 (abstract P1309). Patient, exposure and contact characteristics of 3 measles exposures in 2 hospitals. *Identified by MOH based on community contact tracing

P1310

Outbreaks don't wait: a rapid infection control response to measles in an urban emergency department

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Introduction: In July 2024, two unrecognized cases of measles presented to an inner-city emergency department (ED), resulting in potential airborne exposure to patients and healthcare personnel. This study analyzes the effectiveness of rapid, multidisciplinary infection control interventions, which included immunity verification and post-exposure prophylaxis, in preventing transmission within a high-risk urban acute care setting.

Objectives: This case study is aimed at analyzing the process and outcome of a rapid response to a measles exposure event in a high-risk setting.

Methods: Members of a multidisciplinary team including Infection Prevention and Control (IPC), Emergency Medicine, Occupational Health, and local public health authorities were immediately notified. Interventions included: verification of airborne isolation protocols and personal protective equipment (PPE) use; confirmatory testing; generation of a comprehensive list of exposed individuals; notification and risk assessment outreach via phone and mail; immunity verification through vaccination records, history, or serologic testing; provision of measles-mumps-rubella (MMR) vaccine as post-exposure prophylaxis (PEP) within 72 h, and immunoglobulin administration within 6 days for infants less than 6 months old and immunocompromised individuals.

Results: A total of 225 individuals were identified as potentially exposed: 153 patients, and 72 healthcare workers. Among patients: 56 (36.6%) were immune, 19 (12.4%) were non-immune, 14 (9.2%) were born before 1957 (presumed immune), and 64 (41.8%) had unknown immunity. Of the latter, 4 received MMR PEP, 1 infant and 3 immunocompromised patients received immunoglobulin, and 5 pregnant individuals received MMR. Among the staff, 71/72 (98.6%) were confirmed immune; the one non-immune staff member was placed on temporary leave for 21 days. No secondary cases of measles were identified over a 21-day surveillance period post-exposure.

Conclusion: This incident underscores the critical role of rapid multidisciplinary coordination in averting measles transmission in high-risk urban ED. Key factors included timely identification, rigorous contact tracing, and immediate immunologic risk mitigation through PEP. These findings highlight the ongoing need for preparedness protocols and immunity verification systems in healthcare settings serving vulnerable populations.

Disclosure of Interest
None declared.

P1311

Investigation and infection control of the imported case of measles at a medical center in Taiwan

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Introduction: Measles is a highly contagious disease. Annual incidence rate for non-imported measles cases was 0.4 per million population in Taiwan, but recent outbreaks in communities and hospitals had occurred owing to the imported cases.

Objectives: This report was conducted a strengthening response to the exposure of the measles patient, that stay at general area of emergency room in a medical center more than 24 h.

Methods: Epidemiological investigation for the measles patient was conducted. Infection control response to prevent nosocomial transmission of measles included report notifiable communicable disease and airborne precautions of suspected case; tracing for measles contacts by the exposed definition, check the immunity against measles, daily follow-up and management for exposed inpatients and healthcare workers (HCWs), provision of MMR vaccination if needed, and timely education forum to HCWs.

Results: There was no one being infected requiring subsequent contact tracing of 268 persons (164 patients and 104 HCWs) after exposure the imported measles patient during the incubation period. And, there was no suspected measles report for the notifiable communicable disease during 2 × incubation period in out-patient departments, emergency room, and other inpatient area. There were 108 contacts received the serological test after exposed 3 days, 5(4.6%) contacts were negative of Measles Ab IgG (2 inpatients and 3 HCWs, 24-43 years-old). There were another 3 contacts occurred suspected measles symptoms then excluded by laboratory confirm during the 18-day self-health monitoring period.

Conclusion: In the past 10 years, there have been 13 hospital-acquired measles clusters in Taiwan, with most of the index cases were imported. Although the physician had conducted a measles serological test for the suspected patient, it was recommended that the patient should be airborne precautions before data available to reduce passible transition to other people in the hospital. Vaccination is the most effective way to prevent measles. It is recommended that HCWs who are the high risk groups receive the MMR vaccine after clinical assessment.

Disclosure of Interest
None declared.

P1312

Impact of the Covid-19 pandemic on the evolution of healthcare-associated infections prevalence in a university hospital center

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1312

Introduction: During the COVID-19 pandemic, healthcare professionals experienced high levels of burnout due to the increased workload, which may have affected infection prevention and control programs and, consequently, the rates of healthcare-associated infections (HAIs).
Objectives: The aim of this study was to assess the impact of the COVID-19 pandemic on the prevalence of HAIs in a University Hospital Center during the COVID-19 pandemic, identify the factors associated with HAIs, and compare the results with those from 2017.
Methods: On November 30, 2021, a prevalence survey was carried out in three university hospital facilities, including patients hospitalized for at least 48 h. Data were collected via a questionnaire and analyzed using SPSS (v16) with a 0.05 significance level. Results were compared to a previous pre-COVID-19 survey to assess changes over time.
Results: In 2021, the HAI prevalence among 887 patients was 9.7%, highest in ICUs (44.2%), hematology-oncology (18.3%), and pediatrics (13.7%). Pneumonia, surgical site, and bloodstream infections were most common. Acinetobacter baumannii and E. coli were the main pathogens. HAIs were significantly linked to invasive devices, high ASA scores, and prolonged stays. In comparison, the 2017 survey showed a lower prevalence of 5.4%, with pneumonia, bacteremia, and SSIs as the leading infection sites.
Conclusion: The results of the 2021 survey showed an increase in healthcare-associated infections (HAIs) compared to 2017, rising from 5.4% to 9.7%, thus suggesting a negative impact of the COVID-19 pandemic on the evolution of HAI prevalence in our facility. Corrective actions have been implemented, and an evaluation of the results is scheduled for 2025.

Disclosure of Interest
None declared.

P1315

Outside the biocontainment unit: a mobile specimen collection exercise for suspected viral hemorrhagic fever in Los Angeles

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1315

Introduction: Specimen collection and testing for persons under investigation (PUI) with suspected Viral Hemorrhagic Fever (VHF) currently requires collaboration with public health (PH) for critical care admission to a biocontainment unit (BCU).
Objectives: A protocol was developed with PH to assess the feasibility of deploying a hospital-based Special Pathogens Response Team (SPRT) for mobile specimen collection (MSC). Assessment and laboratory testing of a clinically stable and low risk PUI outside the hospital environment would mitigate healthcare worker (HCW) exposures and facilitate appropriate treatment.
Methods: The MSC protocol was evaluated through an exercise to assess mobilization of a team to conduct specimen collection in a non-healthcare setting. The protocol was structured in three phases: virtual assessment, SPRT mobilization and result notification (see Fig. 1). Once the PUI was eligible for MSC, the SPRT was activated and a virtual assessment was performed, evaluating the clinical status and safety of the physical environment. Three SPRT HCWs deployed to the patient location in a high-risk ambulance. Total patient encounter time for patient assessment and MSC was completed in under 60 min. The final phase included PH specimen handoff, transport, testing, and result notification.
Results: BCU testing for one stable VHF PUI requires a minimum staffing ratio of eight HCWs for a 12-h shift. The MSC exercise demonstrated patient treatment time can be efficiently completed in less than one hour, reducing exposures from eight to three HCWs, while providing an alternative to a critical care hospital admission.
Conclusion: The MSC protocol streamlines workflows between PH and hospital leadership, positively impacting patient and HCW safety. The MSC protocol may serve as a model for institutions looking to collaborate with PH to expedite diagnosis and treatment for clinically stable VHF PUI.

Disclosure of Interest
None declared.

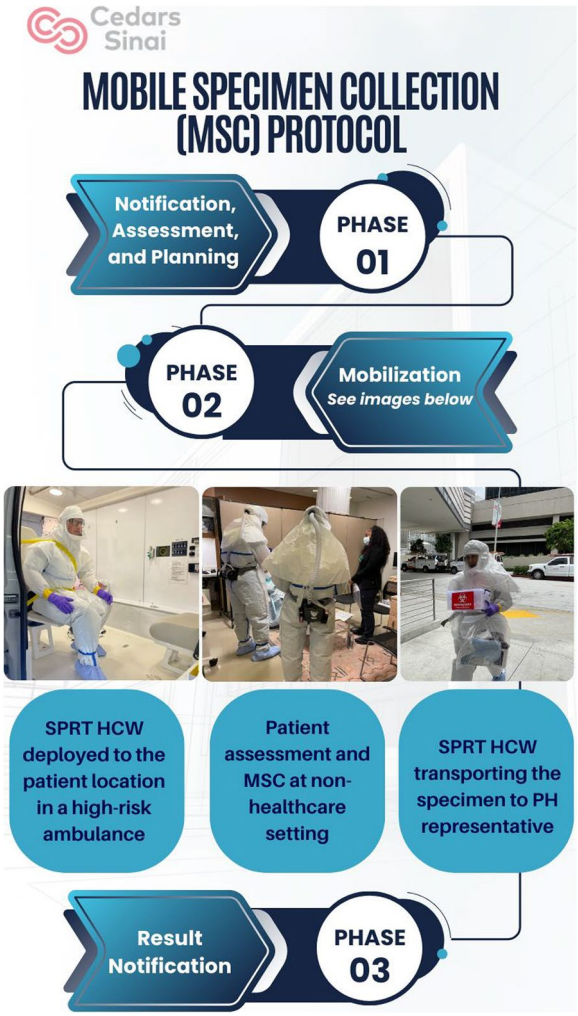

Fig. 1 (abstract P1315). See text for description

P1316

Verification of the global fever special pathogens panel for implementation within a mobile laboratory for rapid and accurate testing of special pathogens

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1316

Introduction: The Ebola virus disease cluster in Dallas, Texas in 2014 was the first imported case of Ebola Virus Disease (EVD) diagnosed in the U.S.leading to the exposure of two healthcare workers due to the delay in diagnosis. These events demonstrated testing gaps related to using advanced diagnostic laboratory assays for the rapid identification of special pathogens such as EVD.
Objectives: The Global Fever Special Pathogens Panel (GFSPP) is a U.S. Food and Drug Administration- approved multiplex molecular diagnostic test for the detection of protozoan, bacterial and viral pathogens of interest including viral hemorrhagic fevers (VHFs). In this study, we verified the GFSPP for rapid diagnosis in a Regional Emerging Special Pathogens Treatment (RESPTC) in Los Angeles.
Methods: The evaluation of the assay used a two-protocol verification approach including 1) direct performance of pooled synthetic controls for varying panel targets & 2) contrived-negative whole blood specimens collected in an EDTA lavender tube (Fig. 1). The procedures were carried out using the NATtrol Global Fever Verification Panel. Both samples were performed on the BioFire FilmArray 2.0 system. Samples from both protocol verifications were included for accuracy, intra- & inter-precision, relative limit of detection and clinical validity.
Results: A total of 32 direct and contrived- whole blood samples were included The GFSPP had a positive percent agreement of 100% (95% CI, 86.3-100) for all analyte verification pools (VPs) and a negative percent agreement of 100% (95% CI, 87.70 −100) for all protozoan, bacterial and viral analytes. Test replicates from each of the VPs both direct and matrix specific were conducted for daily variability. The GFSPP showed 100% reproducibility among clinical laboratory scientists proving it to have decrease variability and high precision.
Conclusion: The GFSPP was found to have excellent positive and negative percent agreement and proved be an instrumental diagnostic tool for the rapid detection of VHFs such as Ebola and could provide rapid diagnosis critical for patient management and limiting disease spread within a healthcare system.

Disclosure of Interest
None declared.

Verification Protocol	Verification Pool (n)	Organism Types
Direct Protocol (DP)	DP 1 (n=6) DP 2 (n=6) DP 3 (n=5) DP 4 (n=5)	**DP1** (Marburg Virus, Ebola Virus, Lassa Virus, Plasmodium ovale, *Yersinia pestis*, Yellow Fever Virus) **DP2** (*Bacillus anthracis*, Chikungunya Virus, Dengue Virus Type 2(Dak Ar and New Guinea C), Ebola Virus Bundibugyo/Sudan, *Leishmania)* **DP3** (CCHF, Dengue type 3 (H87), Ebola Virus Reston, *Francisella tularensis*, West Nile Virus) **DP4** (Dengue Type 1 (Hawaii), Dengue Type 2 (H241), *Leptospira*, Plasmodium falciparum/vivax, West Nile (B-956 Uganda)
Contrived-Whole Blood (Collected in EDTA tube)	DP 1 (n=6) DP 2 (n=6) DP 3 (n=5) DP 4 (n=5)	**DP1** (Marburg Virus, Ebola Virus, Lassa Virus, Plasmodium ovale, *Yersinia pestis*, Yellow Fever Virus) **DP2** (*Bacillus anthracis*, Chikungunya Virus, Dengue Virus Type 2(Dak Ar and New Guinea C), Ebola Virus Bundibugyo/Sudan, *Leishmania)* **DP3** (CCHF, Dengue type 3 (H87), Ebola Virus Reston, *Francisella tularensis*, West Nile Virus) **DP4** (Dengue Type 1 (Hawaii), Dengue Type 2 (H241), *Leptospira*, Plasmodium falciparum/vivax, West Nile (B-956 Uganda)

Fig. 1 (abstract P1316). See text for description

P1317

Effectiveness of deep disinfection following Marburg virus disease patient discharge, monitored through structured device sampling surveillance: an epidemiological evaluation at a Rwanda treatment center

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1317

Introduction: Marburg Virus Disease (MVD) can persist on surfaces, posing a healthcare-associated transmission risk. This study evaluated a single deep disinfection cycle and structured device sampling during an outbreak
Objectives: To evaluate the effectiveness of a single deep disinfection cycle and assess the role of structured medical device surveillance as an IPC strategy during an MVD outbreak
Methods: A cross-sectional study was conducted in four departments. Medical device sampling was done within 12 h of patient discharge and post-disinfection. The 0.5% chlorine solution was applied for 15 min. Samples were tested for MVD RNA using PCR, with proportions compared using Fisher's exact test.
Results: Before disinfection, MVD RNA was detected on 10% (1/10) of sampled devices in the Medical department (95% CI: 0.5–44.5%) and 5.2% (1/19) in the Laboratory (95% CI: 0.9–24.9%). No contamination was detected in the ICU (0/30; 95% CI: 0–11.3%) or Radiology (0/3; 95% CI: 0–56.2%). Following deep disinfection, MVD RNA was undetectable across all 62 devices (0%; 95% CI: 0–5.7%). The overall reduction in device contamination from 3.2% (95% CI: 0.9–11.1%) to 0% (95% CI: 0–5.7%) was statistically significant ($p = 0.044$). These findings are also illustrated in Fig. 1, which presents the device contamination rates before and after disinfection.
Conclusion: This study confirms that a single-round deep disinfection effectively eliminates detectable device-associated MVD RNA, supporting existing IPC recommendations. The findings suggest that routine repeat decontamination may be unnecessary. Furthermore, structured device sampling surveillance proved to be a valuable tool for IPC auditing. Based on these results, we recommend integrating periodic device surveillance during outbreaks to monitor decontamination effectiveness, optimize IPC resources, and reduce healthcare-associated transmission risks in high-consequence viral outbreaks

Disclosure of Interest
None declared.

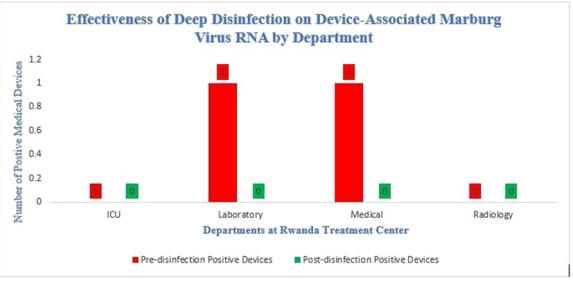

Fig. 1 (abstract P1317). Effectiveness of Deep Disinfection on Device-Associated Margburg Virus RNA by Department. Device contamination by department before and after single-cycle deep disinfection at Baho Treatment Center (N=62). A 100% reduction in detectable MVD RNA contamination was observed post-disinfection across all devices (p=0.044)

P1318

Bridging knowledge and practice gaps in Marburg virus infection prevention: a cross-sectional study of frontline healthcare workers at Rwanda's national treatment center

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1318

Introduction: Rwanda's first outbreak of Marburg Virus Disease (MVD) was declared on 27 September 2024, with 62 cases and 15 deaths reported by 14 October, most involving healthcare workers. In response, treatment centers were established to provide care and prevent community transmission; this study assesses staff knowledge and IPC practices, identifying factors influencing effective adherence.
Objectives: To assess IPC knowledge and practices, and to identify factors associated with safe practices among frontline healthcare workers managing confirmed cases of MVD at the Rwanda National MVD Treatment Center
Methods: A cross-sectional study was conducted from 27 September to 15 November 2024 at the Rwanda National MVD Treatment Center, involving 105 frontline healthcare workers. Data on IPC knowledge, practices, training, drills, and routine procedures were collected using a structured questionnaire, and multivariable logistic regression was used to identify associated factors
Results: Despite high availability of protective equipment (95%) and IPC guidelines (80%), only 52% demonstrated Comprehensive Knowledge of IPC Protocols. IPC training within the past year significantly increased knowledge (AOR: 4.40; 95% CI: 1.90–10.17, $p = 0.001$), with over 5 days of training yielding the strongest impact (AOR: 10.50; $p = 0.003$). IPC officers were notably more knowledgeable (AOR: 5.80; $p = 0.006$). While 93% Recognition of MVD Symptoms and 92% Proper Isolation of Suspected Cases, gaps remained in participation in reparedness drills (only 39%) and Safe Needle Handling (49%). IPC training (AOR: 2.50; $p = 0.013$) and 2–5 days of training (AOR: 2.50; $p = 0.032$) significantly improved safe practices.
Conclusion: This study highlights critical gaps between IPC knowledge and practice among frontline healthcare workers managing Marburg Virus Disease in Rwanda. Targeted IPC training for all cadres, alongside regular outbreak preparedness drills, should be prioritized to strengthen Rwanda's readiness for any potential recurrence of MVD and enhance response capacity for future high-consequence infectious disease outbreaks

Disclosure of Interest
None declared.

P1319

Identifying the causative agents of fungal skin infections and their resistance profiles in Dutch nursing homes

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1319

Introduction: In 2024 the incidence of suspected fungal skin infections among nursing home residents, reported by Surveillance Network for Infectious Diseases in Nursing Homes (SNIV), is 3.2 per 1.000 resident weeks. Diagnosis is mostly based on the physician's clinical judgment of suspicious spots on the skin (e.g. lesions, blemishes), however little is known on the causative agents. Misdiagnosis might instigate inappropriate use of antifungals possibly resulting in resistant fungi.
Objectives: This study aims to identify the causative agent of fungal skin infections and their resistance profiles among nursing home residents in the Netherlands.
Methods: Elderly care physicians were asked to take skin samples (scrapings and/or swabs) in case of a suspected fungal skin infection and fill out a short questionnaire regarding the sampling site and antifungal use. Samples were collected between July 2024 – April 2025 and analyzed using culturing in combination with a molecular diagnostics PCR test. Resistance levels of cultured fungi were measured using standard European antimicrobial susceptibility testing EUCAST.

Results: A total of 54 unique samples obtained from 50 residents were collected from 10 nursing homes. Of these samples 17 (31.5%) were positive for fungal growth; of these 20 fungi isolates could be obtained and these were characterized: 10 (50%) Candida albicans, 4 (20%) Candida parapsilosis, 2 (10%) Candida glabrata, 2 Candida tropicalis, 1 (5%) Candida orthopsilosis and 1 Dermatophyt. In 27 of the 50 sampled residents antifungals were used of which 19 (70%) possibly received antifungals inappropriately as fungal cultures were negative. Resistance profiles of the isolated fungal strains are yet to be determined.
Conclusion: Candida albicans was the most often found probable causative agent of fungal skin infections. More than two-thirds of the suspected skin infections were not caused by fungi but more than half were treated with antifungals. This poses a potential risk for the development of antifungal resistance (yet to be determined).

Disclosure of Interest
None declared.

P1320

Assessing aspergillus airborne risk during hospital renovation work

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1320

Introduction: Construction and renovation activities in healthcare settings are well-known risk factors for the release of fungal spores, particularly *Aspergillus*. Immunocompromised patients are especially vulnerable to invasive aspergillosis, a potentially life-threatening infection.
Objectives: This study assessed air quality in Deventer Hospital during the hospital-wide replacement of lighting fixtures with energy-efficient LED lights. The renovation involved all areas, including patient rooms and corridors. During this process, ceiling panels were removed, potentially releasing *Aspergillus* spores into the air. The goal was to identify areas where patients may have been exposed to elevated spore concentrations and to guide or adjust infection prevention measures accordingly.
Methods: Environmental sampling was performed using a culture-based portable air sampler (ActiveCount 100H Microbiological Airsampler®), drawing air over a 90-mm petri dish with Sabouraud maltose agar supplemented with amoxicillin and gentamicin (Mediaproducts®), at 100 L/min.
Baseline measurements were taken before the renovation began. Sampling continued during the works and after final cleaning. Samples were processed in the hospital's clinical mycology lab, with incubation at 30 °C and examination on days 2 and 3 for *Aspergillus* species by a trained analyst.
Results: A total of 73 samples were collected over nine months from five hospital locations. *Aspergillus* species—mainly *A. fumigatus*—were found in 34% of samples. All concentrations remained under 50 CFU/m^3, indicating minimal risk. No significant differences in *Aspergillus* counts were observed between wards or between sampling periods (pre-, during, and post-renovation).
Conclusion: This study highlights the added value of environmental surveillance as a tool to support infection prevention teams during construction work. By monitoring air quality regularly, healthcare institutions can respond to increased spore levels quickly and adjust preventive strategies as needed.
Our results confirm that in our setting, renovation activities involving ceiling removal and lighting replacement posed a low risk for airborne *Aspergillus* exposure, and that existing infection control measures were sufficient to protect vulnerable patients.

Disclosure of Interest
None declared.

P1321

Monitoring of candida Auris positivities at the Irccs Ospedale policlinico san Martino in Genoa: analysis from april 2020 to september 2024

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1321

Introduction: Since February 2020, the IRCCS Ospedale Policlinico San Martino in Genoa has witnessed an increase in the isolation of *Candida Auris* from biological samples.
Objectives: To analyze the epidemiology of *C. Auris* cases by examining their temporal and spatial distribution from April 2020 to September 2024, and to assess the impact of the "Protocol for the Management of *Candida auris* Colonization and Infection" issued by the Hospital Infections Committee (CIO) on March 26, 2021, and updated on August 2, 2022.
Methods: Three distinct periods were examined: April 2020 – March 2021, April 2021 – July 2022, and August 2022 – September 2024. The analysis of positive cases was performed using cultural methods and molecular swabs (MOLTA). Inpatient wards were classified as high, medium, or low risk. Patients were categorized based on sex, age, ward, presence of candidemia, and the time elapsed between the first positive test and death.
Results: From April 2020 to September 2024, 717 patients tested positive for *C. auris*: 253 females (35.29%) and 464 males (64.71%). The median age was 64 years, while the mean age was 61.42 years. A total of 212 patients (29.57%) died, and 128 patients (17.85%) developed candidemia (Fig. 1:" New Candida Auris cases per 1000 person-days").
Conclusion: Over the three analyzed periods, there was a constant decrease in the incidence of *C. auris* positivity: using only cultural methods, the incidence dropped from 12.56% in the first period to 5.66% in the last period; with the combination of cultural methods and MOLTA, it dropped from 22.47% to 13.62%. These results underscore the importance of the various preventive measures adopted by the IRCCS Ospedale Policlinico San Martino during the three distinct periods examined.

Disclosure of Interest
None declared.

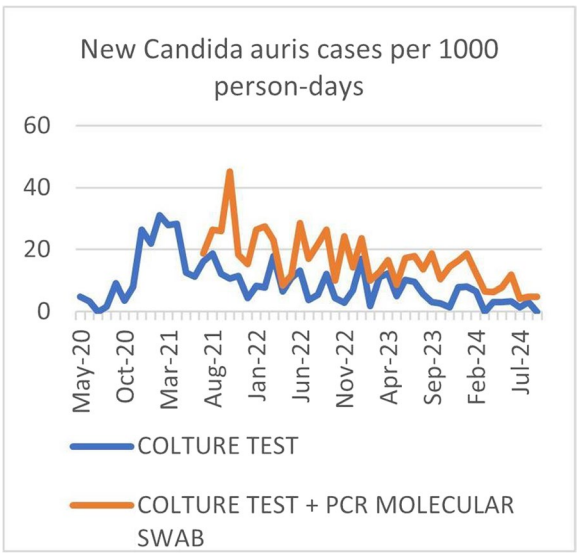

Fig. 1 (abstract P1321). See text for description

P1323

Identification of characteristics of clinical and screening candida Auris in inpatients, Cho ray hospital in 2024

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1323

Abstract video clip description: Background:*Candida auris* is an emerging fungal pathogen with an increasing global incidence. It has been associated with outbreaks in healthcare. In Vietnam, data on clinical and screening fungal infections caused by *Candida auris* remain limitation. Thus, the aim of this study is to determine the incidence, clinical and paraclinical characteristics, and associated risk factors of *Candida auris* in inpatients at Cho Ray hospital.
Materials and Methods: A cross-sectional descriptive study conducted from December 2023 to December 2024 in clinical *Candida auris* patients derived from positive cultures and screening *Candida auris* patients detected from the armpit and groin of close contact with clinical infected patients using CHROMagar Candida Plus and confirmed by the Vitek system. Clinical, laboratory, and treatment data were also collected for both groups.
Results: A total of 41 clinical *Candida auris* cases were identified, accounting for 65.1% (41/63) of all positive cases. The distribution of clinical cases was derived from: blood (22.2%), urine (17.5%), sputum (14.3%), and other specimens (11.1%). Among 185 close-contact patients screened across 15 clinical departments presented 22 positive cases, accounting for 11.9% (22/185). Both clinical and screening *Candida auris* revealed a high prevalence of comorbidities (80.9%), prolonged hospitalization exceeding 14 days (69.8%), and a high mortality rate (41.2%). The study also identified risk factors associated with *Candida auris* infections and screening in inpatients, including nutritional status, underlying comorbidities, clinical symptoms (fever, respiratory failure), respiratory support techniques, antifungal drug use, changes in antifungal therapy, co-infection with other pathogens, and the route of fungal infection origins.
Conclusion: The incidence rate of *Candida auris* is increasing and prolonging hospitalization and multiple comorbidities. Early detection and management strategies are crucial to prevent *Candida auris* outbreaks in healthcare facilities.

Disclosure of Interest
T. Phung Conflict with: I have no financial relationship to disclose, B. Duong: None declared, D. Truong: None declared, P. Truong: None declared.

P1324

Discontinuation of universal candida Auris skin screening for ICU admissions following sustained zero detection: a risk-based strategy in a tertiary care setting

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1324

Introduction:*Candida auris* is an emerging multidrug-resistant yeast associated with high mortality, environmental survival, and the potential for rapid spread in critical care units. In response to a confirmed outbreak in 2021, our medical center implemented universal skin screening for *C. auris* in all ICU admissions. After over 4 years of no new detections, a decision was made to discontinue universal screening and shift to a risk-based targeted approach, triggered only when *C. auris* is clinically isolated.
Objectives: Shift to risk-based or symptom-based testing for new or high-risk patients only
Methods: This quality-based risk reassessment was conducted by the Infection Control (IC) team from 2021 to 2025. Data collected included *C. auris* screening results from all adult ICU admissions, and clinical isolates. Based on risk stratification, a new protocol for targeted screening was established, focusing on patients transferred from other ICUs or those with a documented history of *C. auris* colonization.
Results: Between 2021 and 2025, more than 2,000 new ICU admissions underwent skin screening for *C. auris*, all yielding negative results. During this period, sporadic *C. auris* outbreaks continued to be reported; however, these cases were attributed to patients acquiring *C. auris* during hospitalization, not at the point of ICU admission. Based on the sustained absence of colonization among admitted patients, the IC team discontinued universal screening in April 2025. A targeted screening protocol was implemented for high-risk groups. Universal screening for multidrug-resistant *Acinetobacter baumannii* was maintained due to ongoing colonization pressure and institutional transmission risk.
Conclusion: Discontinuing universal *C. auris* screening after a sustained zero detection was a data-driven decision supported by zero positive cultures. Transitioning to targeted screening allowed for more efficient use of resources while maintaining patient safety. Continuous clinical surveillance remains in place, with a contingency to reinstate universal screening if *C. auris* is detected or new regional alerts arise. This approach demonstrates the importance of adaptive IC strategies responsive to changing risk profiles and institutional data.

Disclosure of Interest
None declared.

P1325

Clinical report on candida Auris infection at the national hospital for tropical diseases, Vietnam

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1325

Introduction:*Candida auris is a global public health threat due to its ability to cause severe invasive infections, multidrug resistance, and rapid spread in healthcare settings. In Vietnam, only one report from the southern region has been published. This study presents the first case series from an ICU in northern Vietnam.*

Objectives: To describe the clinical features, risk factors, antifungal resistance profiles, and outcomes of patients with Candida auris infection at the Intensive Care Unit of the National Hospital for Tropical Diseases in Hanoi, Vietnam.
Methods: We retrospectively analyzed 7 patients admitted to the ICU of the National Hospital for Tropical Diseases in 2024–2025. C. auris was identified by MALDI-TOF MS, and antifungal susceptibility was assessed using broth microdilution. Clinical characteristics, risk factors, and outcomes were reviewed..
Results: All patients had prolonged ICU stays (mean: 68.5 days) and major risk factors, including broad-spectrum antibiotics and mechanical ventilation (100%). C. auris was isolated from tracheal aspirates (71.4%), catheters (28.6%), and one skin sample. Four symptomatic cases were treated with echinocandins (3 with caspofungin, 1 with anidulafungin). All tested isolates were resistant to fluconazole, with 70% also resistant to caspofungin. Partial susceptibility to amphotericin B, micafungin, and posaconazole was observed, as shown in Fig. 1.
Conclusion: The emergence of C. auris in northern Vietnam ICU settings highlights the urgent need for awareness, early detection, infection control, and antifungal stewardship.

Disclosure of Interest
None declared.

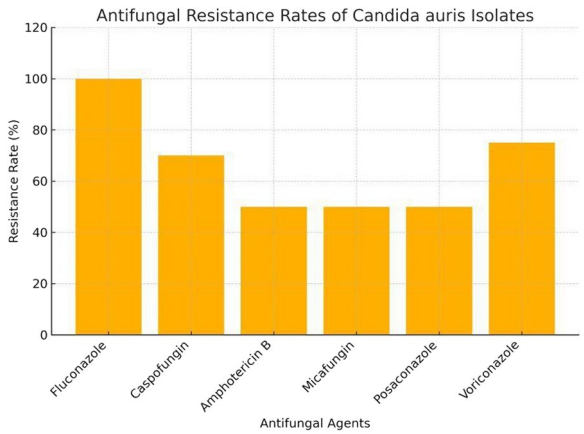

Fig. 1 (abstract P1325). See text for description

P1326

Management of candida Auris using innovated ultraviolet disinfection technology in adult intensive care unit of a tertiary care hospital in Saudi Arabia

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1326

Introduction: Emerging antimicrobial-resistant *Candida auris* (*C auris*) presents a formidable global health challenge, causing severe healthcare-associated infections with high mortality rates. Its ability to colonize surfaces and resist standard disinfectants undermines traditional hygiene practices, prompting an urgent need for new strategies. Ultraviolet C (UV-C) light offers a promising approach with rapid and broad-spectrum germicidal efficacy.
Objectives: This study aimed to evaluate the effectiveness of using UV-C in inactivating *C auris* on hard surfaces and reducing Candida-related central line-associated bloodstream infections among adult ICU population.
Methods: A prospective interventional study conducted over 12 months from September 2023 to 2024 at a tertiary hospital in Saudi Arabia. Adult ICU patients (aged > 18 years) admitted to ICU were included. Portable three-tower UV-C disinfecting devices equipped with high-performance bulbs were implemented for terminal cleaning with 15 min of continuous exposure. For *C. auris* evaluation, high-touch surfaces and medical equipments were selected for environmental sampling after manual cleaning and UV-C disinfection. After overnight incubation, colonies on the plates were counted. The rate of Candida-associated CLABSIs before and after UV-C implementation was compared.
Results: Before UV-C Disinfection, the Colony Forming Units (CFU) per sample exceeded 100,000 in all tested areas. After UV-C Disinfection, the CFU fell to less than 100. The UV-C disinfection led to a greater than 99.9% reduction in *C. auris* CFU ($p < 0.008$) in the ICU environment. Paired t-test: 23,400.23, ($P < 0.05$), it indicates a statistically significant reduction in *C. auris* CFU counts after UV-C disinfection. The significant reduction in contamination levels reflected directly on the Candida associated CLABSIs rate from 11 cases to zero case after UV implementation, t test: 2.991, ($p < 0.008$).
Conclusion: UV-C significantly decreased the contamination level of *C. auris* in ICU which greatly reduced Candida-associated CLABSIs. Therefore, using UV-C Disinfection is an effective solution for reducing the burden of *C. auris* and preventing Candida-associated CLABSIs in hospitals with high Candida prevalence.

Disclosure of Interest
None declared.

P1327

Identification of fungal agents before and after disinfection in the neonatology service of university hospital of Angré, Abidjan(Côte d'ivoire)

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1327

Introduction: Hospitals are representative of complex environment in which different aspects including patients and are interfaced. Maintaining a safe environment reflects a level of competent healthcare that must be fulfilled for patient safety.
Objectives: This study aimed to identify the environmental fungal agents species before and after disinfection in neonatal units of university hospital of Angré, Abidjan.
Methods: This cross-sectional study was carried out from March to April 2025 neonatology units of University hospital of Angré. Sampling sites weré ambient air and all equipment present in the 3 selected neonatology units. Samples weré collected from ambient air and equipment by swabbing and exposing Petri dishes. Direct examination and culture on Sabouraud-Chloramphenicol medium were performed. Filamentous fungi were identified using macroscopic and microscopic aspects, while identification of yeasts was done by chromogenic medium and VITEK 2.
Results: Of 140 samples, 18 yielded positive culture with an overall prevalence rate 12.86%. Before disinfection, the of fungal contamination was 21.42% and 4.29% after disinfection performing. The fungi most frequently isolated were yeasts (55.56%), including *Candida tropicalis* (60%) and *Candida krusei* (40%). Molds species accounted for 44.44%, with *Penicillium* sp, *Aspergillus flavus* and *Fusarium oxysporum*.
Conclusion: The implementation of rigorous hygiene measures and regular decontamination of fungal niches should enhance the control of nosocomial infections.
Key words: Fungal agents, disinfection, service units, University Hospital of Angré.

Disclosure of Interest
None declared.

P1328

Fungal contamination of small surgical instruments at the sterilization unit university hospital of Angre, Abidjan (Côte d'ivoire, West Africa)

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Introduction: Reusable surgical equipment is one of the main sources of healthcare-associated infections. In Côte d'Ivoire, data are limited on fungal contamination of small surgical equipment.
Objectives: To assess the fungal colonization of small surgical instrument at the University Hospital of Angré.
Methods: This cross-sectional study was carried out on small surgical equipment in surgical services from February to July 2024. Samples were collected by swabbing equipment from six services before sterilization and after opening random sterile sets. Culture on Sabouraud-Chloramphenicol medium were performed. Filamentous fungi were identified using macroscopic and microscopic aspects, while identification of yeasts was done by chromogenic medium and VITEK 2
Results: Of 313 samples, 70 yielded positive culture (22.4%). Fungal agents were more observed on surgical instruments those from Ear, nose and throat service with 34.8%, dental service at 30.4% and intensive care unit (28.6%). *Aspergillus niger* was the most isolated (47.2%), followed by *A. flavus* (30.6%), *Mucor sp* (21.3%) and *A. fumigatus* (0.9%). As for yeasts, *Candida albicans* was identified at 50% followed by *C. krusei* (25%) and *C. parapsilosis* (25%). Most of fungal agents (45 cases) were observed before sterilization with colonization rate of 20.7%. After opening random sterile sets, a rate was 26%.
Conclusion: This study shows fungal agents on surgical instrument before sterilization and after opening random sterile sets. Implementing advanced environmental controls, improving sterilization steps and carrying out monitoring, will be able to reduce nosocomial fungal infections associated.
Key words: Fungal contamination, small surgical equipment, *Aspergillus spp.*, *Candida spp, Abidjan.*

Disclosure of Interest
None declared.

P1329

Wastewater-based surveillance of respiratory viruses in a geriatric hospital: a pilot study

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Introduction: While wastewater-based surveillance has informed our understanding of SARS-CoV-2, influenza virus and respiratory syncytial virus (RSV) circulation in the community, its use in hospital settings remains limited.
Objectives: We aimed to use wastewater-based epidemiology to understand the dynamics in SARS-CoV-2, influenza (A/B) and RSV loads in the hospital wastewater and viral respiratory infections among patients in a geriatric hospital in Switzerland
Methods: We conducted a prospective wastewater-based surveillance study which involved the collection of 24-h composite samples 7 days/week from the centralised hospital wastewater. We measured RNA of SARS-CoV-2, influenza A/B and RSV concentrations using digital RT-PCR. We used Kendall's rank correlation (τ) to compare the viral RNA loads (concentration x flow rate) in wastewater to the number of SARS-CoV-2, influenza A/B and RSV infections among patients hospitalised ≥ 24 h detected by the Virology Laboratory.
Results: Between 14 October 2024 and 19 April 2025, we collected 166 samples. The associations between wastewater concentrations and infections among hospitalised patients were significant and positive for SARS-CoV-2 ($\tau = 0.28$, $p < 0.01$), for influenza A ($\tau = 0.35$, $p < 0.01$) and for RSV ($\tau = 0.44$, $p < 0.01$), but not for influenza B due to a low number of infections ($\tau = 0.01$, $p = 0.85$) (Figure).
Figure: Viral RNA loads in wastewater and infections among hospitalised patients. The blue line represents a LOESS-smoothed trend; the shaded area indicates the 95%CI.
Conclusion: Wastewater-based surveillance provides additional epidemiological insights into the circulation of respiratory viruses in hospital settings.

Disclosure of Interest
None declared.

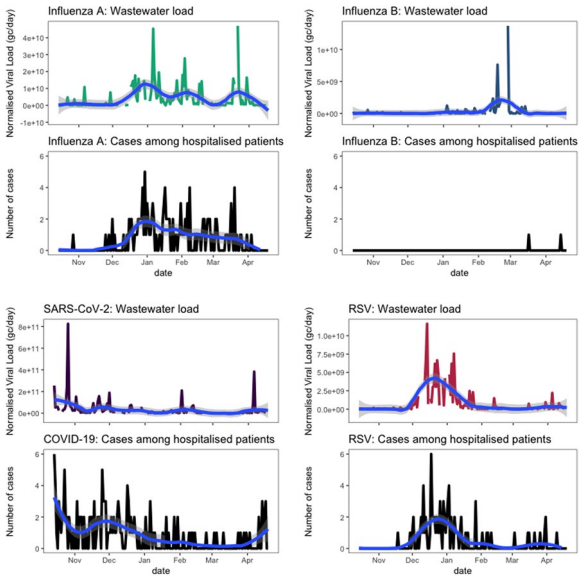

Fig. 1 (abstract P1329). See text for description

P1330

Prevalence and patterns of healthcare-associated infections and antibiotic use among adult inpatients in a Tunisian tertiary university hospital: a cross-sectional study

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Introduction: Healthcare-associated infections (HAIs) represent a major public health problem concern with a high attributable morbidity and mortality. This study aimed to estimate the prevalence of HAIs

among adult patients at the Charles Nicolle Hospital (CNH) of Tunis and to identify the main associated factors as well as to estimate the frequency of antibiotic use.
Objectives: This study aimed to estimate the prevalence of HAIs among adult patients at the Charles Nicolle Hospital (CNH) of Tunis and to identify the main associated factors as well as to estimate the frequency of antibiotic use.
Methods: This was a cross sectional study at the CNH with a unique passage per department (October-December 2018). All patients present at the adult wards (adults above 18 years old) for more than 48 h were included. The site definitions of infections proposed by the Centers for Disease Control and Prevention were used.
Results: A total of 261 patients were included with a mean age of 52.4 years SD (± 16.1) and a sex ratio (Female/Male) of 1.25. Overall, 34 patients having at least one active HAI were identified which represent a prevalence of 13% (95% CI [9.2%–17.0%]). The most common type of reported infections were urinary tract infections (33.3%) followed by surgical site infections (19.4%) and pneumonia (19.4%). Independent risk factors of high prevalence of HAIs among adults were: having hypertension (ORadjusted = 3.3;p = 0.008), alcohol use (ORadjusted = 5.2; p = .01), being infected at admission (ORadjusted = 2.8;p = 0.01), having at least one invasive device inserted during last 7 days prior to the survey date (ORadjusted = 3.5;p = 0.004) and undergoing a surgery 30 days prior to the study date (ORadjusted = 2.6;p = 0.03). The antibiotic use prevalence was 32.2%.
Conclusion: An infection prevention and control committee, as well as the development of an antibiotic stewardship program with continuous monitoring using repeated prevalence surveys, must be implemented to limit the frequency of these infections effectively.

Disclosure of Interest
None declared.

P1331

Cross-unit visual profiling of healthcare-associated clusters and infection control incidents in a tertiary medical center: a 17-year surveillance study

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Introduction: Clusters of Hospital-acquired infections (HAIs), colonization by Multidrug-Resistant Organisms (MDROs), and Infection Control Incidents, collectively termed HAICs, often reflect systemic breaches in infection prevention and control (IPC), including workflows lapses, environmental cleaning failures, or inadequate clinical practices. Existing literature largely focuses on single outbreaks, with limited attention to long-term spatiotemporal trends or comparisons across departments. Visual analytics remain underused for such IPC surveillance.
Objectives: To analyze the 17-year spatiotemporal burden of HAICs events, identify high-risk units and contamination types, and evaluate departmental responses in relation to WHO IPC Core Components, especially training and monitoring.
Methods: We analyzed 1,113 HAICs events (2008–2025) in a 2,600-bed hospital, with > 10,000 environmental samples. Events were categorized by origin, and visualized using time-series, heatmaps, and a 3D matrix. Units with trend slopes ≥ 0.25 were flagged as high-risk.
Results: Events clustered on floors 12 F, 4 F, and 1 F of Buildings C and A, with internal medicine (n = 315) and ICU units (n = 223) most affected. Incidence surged post-2020, peaking in 2022 (~ 655 COVID-19–related cases). Most deviations were process-related (39.1%), followed by equipment (23.5%) and environmental issues (11.5%). Interventions included SOP reinforcement, PPE use, visitor control, cleaning, audits, and retraining. However, responses varied, and some high-risk units did not scale interventions accordingly.
Conclusion: This study confirms HAICs as a practical indicator of IPC resilience, highlighting spatial and procedural vulnerabilities often missed by standard HAI metrics. By integrating infection control surveillance systems and analyzing intervention strategies (see Figure), visual analytics revealed persistent hotspots and uneven responses, emphasizing the need for real-time feedback and standardized dashboards. While partially aligned with WHO IPC Core Components 3 and 4, cross-unit variability suggests implementation gaps. Embedding HAICs data into quality systems may strengthen early warning and support data-driven IPC strategies.

Disclosure of Interest
None declared.

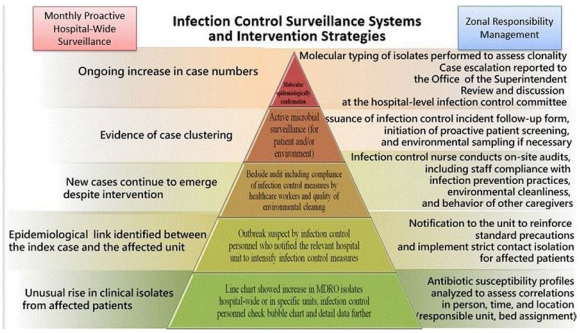

Fig. 1 (abstract P1331). See text for description

P1332

Ten years of point prevalence studies on healthcare-associated infections (HAIS) and antimicrobic use (AMU): the experience of Irccs policlinico San Martino, Liguria, Italy

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Introduction: HAIs is one of the main challenge of public health. The IRCCS Policlinico San Martino in
Genoa conducted a ten-year analysis of HAIs and AMU through point prevalence studies (PPS).
Objectives: The objectives are:
- estimate the overall and annual prevalence,
analyze different trends
- assess risk factors associated
Methods: Cross-sectional study was carried out from 2014 to 2024. Statistical analysis included: univariate
and multivariate logistic regressions to identify key risk factors, linear regression and jointpoint regression to
analyze HAIs and AMU' trends between 2014-19 and 2020-24.
Results: 13 PPS studies were conducted,11,552 patients were enrolled, mean age of 70 years. (median age
70, DS:+19anni), [IQR 58,72]. The overall prevalence of HAIs was 14.35%, showing a decreasing trend
from 15.5% in 2014 to 12.25% in 2024.Linear regression showed an annual percentage decrease during 2014
−19 (β = −8.23 p = 0.033, R^2 = 0.7193). From '20 to '24, the decrease was more pronounced (β = −8.23 p =
0.006, R^2 = 0.939).No joinpoint was observed. The analysis of AMU showed peaks in 2015 and 2018, when
subjects receiving at least 1antibiotic reached 499 and 455/1000 inhabitants, respectively. HAI was strongly

associated with the presence of urinary catheters (aOR 1.49, 95% CI 1.30-1.71) and central venous catheters
(aOR 1.46; 95% CI 1.22-1.76), intensive care unit admission (aOR 2.98; 95% CI 2.82-3.89). Both
minimally invasive (adjusted OR 1.49; 95% CI 1.47-1.95; p = 0.003) and invasive (adjusted OR 1.57; 95% CI
1.09-2.26; p = 0.014) surgical procedures were significantly associated with an increased risk of HAI. (Fig. 1)
Conclusion: The study confirms a general decrease of HAIs and AMU over the decade, with a significant
impact of the COVID-19 pandemic on both rates. The main risk factors remain ICU admission, the use of
invasive devices, and the presence of severe comorbidities. Implementing preventive strategies, as
antimicrobial stewardship programs and epidemiological surveillance, remains essential to contain the spread
of HAIs and antimicrobial resistance.

Disclosure of Interest
None declared.

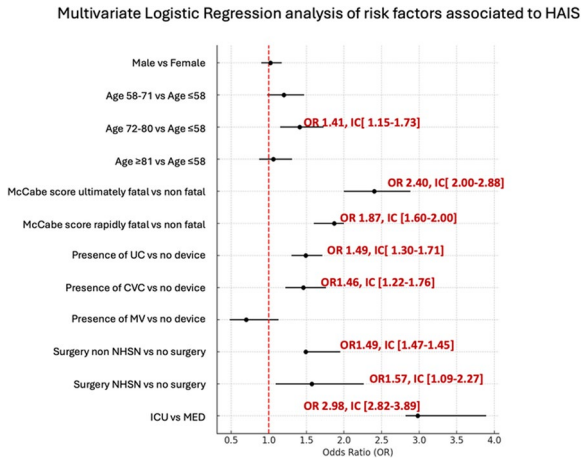

Fig. 1 (abstract P1332). See text for description

P1333

Evaluation of the surveillance system for outbreaks of healthcare-associated infections in Colombia

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1333

Introduction: Since 2017, healthcare-associated infection (HAI) outbreak surveillance has been conducted in Colombia to identify, characterize, prevent and contain outbreaks in medium and high-complexity healthcare facilities (HCF).
Objectives: This evaluation aimed to assess this surveillance system to inform necessary improvements.
Methods: A mixed methods study was conducted. Online surveys were administered to surveillance staff in health departments (HD) from 37 territorial entities and 326 HCF with questions on the structure and attributes (usefulness, acceptability, simplicity, flexibility, timeliness and representativeness) of the system. Focus group discussions (FGD) were conducted in six cities to gain further insight on the survey responses. Outbreak response capacity at the HCF level was assessed through observation and record reviews in 32 HCF across the country. A triangulation process was carried out to integrate and analyze quantitative and qualitative results.
Results: Of 37 HD, 28 (75.7%) reported having a defined team to support HCF for outbreak response. Of the 326 HCF surveyed, 84% (268/326) expressed the surveillance system was useful to identify outbreaks, 84.4% (262/326) felt motivated to carry out surveillance activities, 82.4% (265/326) expressed that the HAI outbreak surveillance protocol was simple and understandable, and 52.1% (154/326) considered that the templates for the outbreak reports were simple. Regarding the attributes, punctuality was rated at 64.1%, representativeness at 76.2%, and flexibility at 70.0%. Identified weaknesses in HCF included the absence of defined outbreak team roles, high staff turnover, and difficulties in outbreak identification due to the lack of early warning alerts. Identified needs included strengthening continuous training for staff on outbreak surveillance, investigation and management, improving communication between HCF staff and territorial entities, and optimizing outbreak identification and notification processes at HCFs.
Conclusion: The evaluation identified areas for improvement in the surveillance system, emphasizing the need to strengthen actions for timely detection and response for HAI outbreaks.

Disclosure of Interest
None declared.

P1335

Impact of including hospital-acquired infections in safety incident reporting

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1335

Introduction: Hospital-acquired infections (HAIs) remain a significant cause of morbidity and mortality affecting 3-5% of hospitalized patients worldwide. Historically HAIs have not been included in our hospital's incident reporting system. In 2023, we introduced an infection-specific framework to report and respond to incidents identified through surveillance by Infection Prevention and Control (IPAC). Using the Canadian Incident Analysis Framework, HAI outcomes were categorized based on severity of harm: no harm, minor harm, moderate harm or severe harm. For the purposes of reporting, only moderate and severe harms were submitted to the hospital's patient safety incident reporting system. Severe harm events prompted a unit-level debrief to identify system-level quality improvement opportunities.
Objectives: This study's objective was to evaluate the impact of submitting HAI-related harms into the hospital's incident reporting system.
Methods: We performed a prospective quality improvement study of HAI safety incident reporting from Nov 2023-Mar 2025. All safety incidents reported were classified by level of harm, and the number of resulting recommendations were categorized based on their level in the hierarchy of controls (e.g., elimination, substitution, engineering, administrative, or personal protective equipment (PPE)). To be considered as complete, recommendations had to be verified as fully implemented by the manager of the area or by the IPAC Practitioner.
Results: During the study period, 63 possible HAI harms were reviewed by IPAC and categorized with the following level of harm: no harm (n = 12), minor (n = 7), moderate (n = 35), severe (n = 9). Among the 44 reported moderate and severe harms, a total of 98 recommendations were made, including 81 administrative controls, 12 engineering controls, 3 PPE, 1 substitution and 1 elimination. Among these, 73/98 (74.5%) were fully implemented within the study period.
Conclusion: Including moderate and severe HAIs in hospital safety incident reporting was feasible and resulted in a manageable number of recommendations, of which the majority were fully implemented. Future work could expand to including minor harms and near-misses to identify additional opportunities.

Disclosure of Interest
None declared.

P1336

The burden of healthcare-associated infections in level 2 and level 3 health facilities in Kenya

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1336

Introduction: Healthcare-associated infections (HAIs) are a significant public health challenge globally, particularly in low- and middle-income countries
Objectives: This study investigated the prevalence and burden of HAIs in Level 2 and Level 3 healthcare facilities in Kenya and their implications for patient safety and quality of care.
Methods: A cross-sectional study was conducted between January and March 2025 across 30 randomly selected Level 2 and Level 3 facilities in five Kenyan counties. Data were collected through structured facility audits, clinical records review, and key informant interviews. Prevalence rates were calculated, and logistic regression was used to identify associated risk factors, with significance set at $p < 0.05$.
Results: The overall prevalence of HAIs across surveyed facilities was 13.8%, with the most common infections being urinary tract infections (36%), surgical site infections (29%), and bloodstream infections (18%). Risk factors significantly associated with HAIs included inadequate hand hygiene infrastructure (OR 2.4, 95% CI: 1.5–3.9) and limited staff training on infection prevention and control (OR 1.9, 95% CI: 1.2–3.1).
Conclusion: The burden of HAIs in Kenya's Level 2 and Level 3 health facilities remains substantial, driven largely by preventable risk factors. Strengthening infection prevention and control measures, including staff training and improving facility infrastructure, is essential to mitigate HAIs and enhance patient safety.

Disclosure of Interest
None declared.

P1337

Economic burden of hospital-acquired infections: a multi-parameter analysis of CLABSI, IVAC, PVAP, VAC, and CAUTI

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1337

Introduction: Hospital-acquired infections (HAIs) contribute significantly to increased healthcare costs and resource utilization. This study evaluates the economic burden associated with five key HAIs—central line-associated bloodstream infection (CLABSI), infection-related ventilator-associated complication (IVAC), possible ventilator-associated pneumonia (PVAP), ventilator-associated condition (VAC), and catheter-associated urinary tract infection (CAUTI)—within inpatient wards.
Objectives: To quantify the economic burden of key hospital-acquired infections—CLABSI, IVAC, PVAP, VAC, and CAUTI—and to identify the primary cost drivers associated with each infection type in inpatient ward settings. This analysis aims to inform targeted prevention strategies for reducing healthcare costs and improving patient outcomes.
Methods: A retrospective cohort study was conducted in secondary care hospitals over a 12-month period, covering eight inpatient units. Patient records were reviewed to identify confirmed cases of CLABSI, SSI, VAE, and CAUTI based on CDC/NHSN criteria. Cost analysis included direct medical costs such as extended length of stay, additional diagnostics, antimicrobial therapy, and intensive care utilization. Matched controls without HAIs were used to estimate attributable costs.
Results: A total of 95 HAI cases were analyzed: CLABSI (4), SSI (964), VAE (589), and CAUTI (413). Mean attributable costs per case were as follows: CLABSI – $45,300; SSI – $21,400; VAE – $34,800; and CAUTI – $13,200. Overall, HAIs accounted for an estimated additional $63.2 million in hospital expenditures over the study period. The length of stay increased by an average of 10.4 days for CLABSI, 6.7 days for SSI, 9.3 days for VAE, and 4.2 days for CAUTI. These findings align with detailed cost and infection burden distributions shown in Fig. 1, which illustrates infection-related costs and LOS across inpatient wards and HAI types.
Conclusion: Hospital-acquired infections, particularly IVAC and CLABSI, pose a significant economic burden due to their associated high costs and extended care requirements. Targeted prevention strategies focusing on these infection types are essential for cost reduction and improving patient outcomes in inpatient settings.

Disclosure of Interest
None declared.

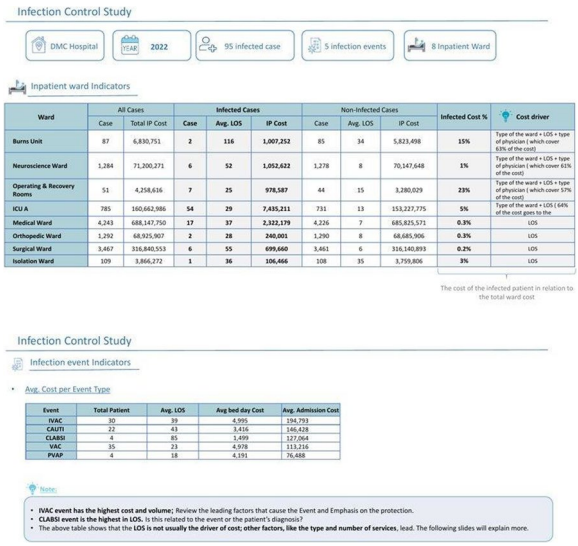

Fig. 1 (abstract P1337). Infection Control Study; inpatient ward indicators and Infection Event Cost Analysis, DMc Hospotal,2022

P1338

Before and after, every step matters:inter-relatability of microbial load and health care associated infections in ICU

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1338

Introduction: Healthcare-associated infections (HAIs) often originate from environmental pathogens or patients'flora. Healthcare workers'(HCWs) hands can spread these microorganisms, contributing to HAIs. This study evaluates the effectiveness of hand hygiene in reducing microbial load on HCWs'hands and compares these findings with clinical specimens.
Objectives:—**PrimaryObjective:**Reduction in colony-forming units (CFU) on HCWs' hands after hand hygiene.

- **Secondary Objective:** Comparison of isolated organisms and their antibiotic sensitivity with clinical specimen isolates, highlighting the effectiveness of different steps in hand hygiene practices.
Methods: Conducted over two months at NIMHANS, this cross-sectional study collected hand impression from ICU and HDU HCWs on 5% sheep blood agar plates before and after hand hygiene. Plates were incubated at 37 °C, identified using MALDI-TOF, and tested for antibiotic sensitivity by VITEK. The study involved healthcare workers (HCWs) from the Intensive Care Unit (ICU) and High Dependency Unit (HDU) at NIMHANS to assess the effectiveness of hand hygiene practices. These HCWs were specifically chosen to determine how omitting each step in the hand-washing process affected microbial load reduction. The study also compared the microbial profiles from hand hygiene practices with clinical specimen isolates.
Results: Significant CFU reductions were observed post-hand hygiene. Step 4 omission showed the highest reduction (96.82% without gloves, 98.03% with gloves), while Step 6 omission showed the lowest (71.23% without gloves, 66.18% with gloves). Overall reduction was 87.67% without gloves and 85.05% with gloves. Hand wash was more effective (90.84%) than hand rub (87.72%) in reducing microbial load.
Conclusion: Effective hand hygiene significantly reduces microbial load on HCWs'hands, lowering HAIs risk. Continuous education and adherence to hand hygiene protocols are vital for patient safety and infection rate reduction. Future research should focus on interventions to enhance hand hygiene compliance and effectiveness.

Disclosure of Interest
None declared.

P1339

A survey on the prevalence of health care–associated infections at the Fann university hospital in Dakar, Senegal

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Introduction: Helthcare associated infections are among the most common adverse events in health care provision and a major public health problem with an impact on morbidity, mortality, and quality of life.
Objectives: Determine the prevalence of health care–associated infections (HAIs) at Fann Hospital, describe the profile of patients with HAI, and identify the causative pathogens
Methods: This was a cross-sectional survey of the records of patients hospitalized in Fann University Hospital for a microbiologically confirmed HAI from January 1, 2024 to March 31, 2024. Data were collected using an HAI surveillance form and analyzed using R software version 4.4.0.
Results: Over a 3-month period, 62 cases of HAI were recorded out of a total of 1725 patients (3.5%). The median age of the patients was 59 years (IQR: 68-47). Males predominated (54.8%). Arterial hypertension (29%) and diabetes mellitus (19.3%) were the main comorbidities. Fever was the most common sign (71%), followed by respiratory symptoms (29%). The medical devices used were venous (100%) and urinary catheters (54.5%). The most frequently isolated bacteria were *Pseudomonas spp* (23.6%), *Staphylococcus aureus* (21.8%) and *Escherichia coli* (21.8%). In terms of the resistance phenotype, 43.6% and 21.8% of patients had extended-spectrum ▫▫-lactamase–producing Enterobacteriaceae and methicillin-resistant *Staphylococcus aureus*, respectively. Death occurred in 11 patients, representing a fatality rate of 17.7%.
Conclusion: The quarterly prevalence of HAIs was high in our hospital. Therefore, it is necessary to investigate the factors associated with their occurrence.

Disclosure of Interest
None declared.

P1340

Bacterial meningitis associated with Ventriculoperitoneal shunting: experience of the university hospital of Tizi-ouzou

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Introduction: Nosocomial bacterial meningitis (NBM) on ventriculoperitoneal shunt (VPS) is one of the infections of concern by its frequency and by the nature of the bacteria involved.
Objectives: Objectives: The aim of our study is to describe the epidemiological, clinical and evolutionary aspects of this meningitis in a neurosurgery department
Methods: This is a prospective observational study over 6 years. We included all patients who presented with meningitis on VPS and whose bacterial nature is documented by CSF culture, VPS or blood culture
Results: We diagnosed 28 episodes of NBM on VPS for 176 implementations of VPS for the same period, an incidence of 15.9%. Eleven patients are male. The age varies from 01 month to 74 years. The time to onset of meningitis in relation to the implantation of the VPS is in average of 34 days (05 to 276 days). Sixteen episodes occurred when the duration of surgery was greater than 90 min. Fever is present in only 13 cases. Three clinical pictures predominate: neuromeningeal signs (17), digestive signs (10), isolated fever (07). The appearance of the CSF is cloudy (20) clear (06) hemorrhagic (02). Thirty bacteria were identified (including two coinfections): Klebsiella (09), Pseudomonas (07), Staphylococcus (05) E.coli (03), others (06). In addition to antibiotic treatment, VPS was replaced by the external ventricular shunt (16), by a VPS (06) or left in place (06). The average duration of delivery of the VPS is 45 days. The average hospital stay is 48 days. Four patients died.
Conclusion: VPS associated meningitis is common. Its diagnosis must be evoked whatever the clinical picture in the carrier of a VPS, and the temporary withdrawal of this one seems essential to us.

Disclosure of Interest
None declared.

P1341

Bacterial meningitis associated with Ventriculoperitoneal shunting: experience of the university hospital of Tizi-ouzou

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Introduction: Nosocomial bacterial meningitis (NBM) on ventriculoperitoneal shunt (VPS) is one of the infections of concern by its frequency and by the nature of the bacteria involved.
Objectives: The aim of our study is to describe the epidemiological, clinical and evolutionary aspects of this meningitis in a neurosurgery department
Methods: This is a prospective observational study over 6 years. We included all patients who presented with meningitis on VPS and whose bacterial nature is documented by CSF culture, VPS or blood culture

Results: We diagnosed 28 episodes of NBM on VPS for 176 implementations of VPS for the same period, an incidence of 15.9%. Eleven patients are male. The age varies from 01 month to 74 years. The time to onset of meningitis in relation to the implantation of the VPS is in average of 34 days (05 to 276 days). Sixteen episodes occurred when the duration of surgery was greater than 90 min. Fever is present in only 13 cases. Three clinical pictures predominate: neuromeningeal signs (17), digestive signs (10), isolated fever (07). The appearance of the CSF is cloudy (20) clear (06) hemorrhagic (02). Thirty bacteria were identified (including two coinfections): Klebsiella (09), Pseudomonas (07), Staphylococcus (05) E.coli (03), others (06). In addition to antibiotic treatment, VPS was replaced by the external ventricular shunt (16), by a VPS (06) or left in place (06). The average duration of delivery of the VPS is 45 days. The average hospital stay is 48 days. Four patients died
Conclusion: VPS associated meningitis is common. Its diagnosis must be evoked whatever the clinical picture in the
carrier of a VPS, and the temporary withdrawal of this one seems essential to us. The germs responsible are MDRBs.

Disclosure of Interest
None declared.

P1343

Redesigning the Ventilator-Associated Pneumonia (VAP) surveillance system: strengthening implementation through Root Cause Analysis (RCA) and Plan-Do-Study-Action (PDSA) at a national referral hospital in Indonesia

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Introduction: At Persahabatan Hospital, VAP surveillance is done by the ICU nurses and confirmed by the IPCN using the hospital Information system. Reporting gaps in the year 2022, along with a sudden case spike in September, raised concerns about the dependability and accuracy of the surveillance system.
Objectives: In order to increase the reliability and responsiveness of Persahabatan Hospital's VAP surveillance system by identifying root causes of reporting deficits and implementing structured quality improvement interventions using the PDSA methodology.
Methods: RCA identified issues such as staff rotation, provided knowledge, reporting apprehensions, and a non-real-time reporting system. These four elements were prioritized using a risk grading matrix. The hospital undertook a quality improvement initiative using the PDSA cycle.
Results: Secondary data analysis combined VAP surveillance education with audit feedback and mentoring to monthly mentorship. VAP reporting bias was addressed with compensation frameworks tailored to reporting. PDSA cycles added emphasis on reporting, improving staff proficiency, implementing standard procedures for VAP reporting, and meeting deadlines for VAP data entry. Preliminary outcomes demonstrated enhanced reporting, improved surveillance knowledge, and reduced data capture delays.
Conclusion: The surveillance system was redesigned using RCA and PDSA, which resulted in improved reporting and resolved human and systemic challenges. Ongoing training and easy-to-use tools coupled with a positive culture are essential in sustaining efforts towards infection control responsiveness.

Disclosure of Interest
None declared.

P1344

Interobserver agreement and root causes of discrepancy in Non-Ventilator Hospital-acquired Pneumonia (NVHAP) surveillance

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Introduction: Non-ventilator hospital-acquired pneumonia (nvHAP) is one of the most common and serious hospital-acquired infections. Surveillance is a cornerstone of Infection Prevention and Control programs, but surveillance of nvHAP was described to be highly subjective.
Objectives: During a pilot study on semi-automated nvHAP surveillance in Swiss acute care hospitals, interobserver agreement between the coordination team and two pilot hospital teams was quantified and reasons for disagreement were identified.
Methods: A random sample of 401 patients from each of two hospitals, identified by a computerized pre-selection algorithm, was included. They were manually reviewed by both the pilot hospital teams and the coordination center team. Simple agreement was calculated and interobserver agreement was quantified using Cohen's kappa statistic. In case of disagreement, root cause analysis identified and quantify underlying reasons. Discrepancies considered potentially avoidable were reclassified. Simple agreement and interobserver agreement were recalculated for this reclassified cohort.
Results: Simple agreement was 85.5% in hospital A and 93.3% in hospital B, and interobserver agreement was moderate in both hospitals (Cohen's kappa 0.51 and 0.54, respectively). Root cause analysis identified 41.4% and 77.1% of descripencies in Hospital A and B as avoidable, respectively, such as overlooking critical signs and symptoms in the electronic medical record or missing relevant time-based criteria. Assuming the eradication of avoidable disagreements, interobserver agreement increased to "substantial", with a Cohen's kappa of 0.72 and 0.79, respectively.
Conclusion: Interobserver agreement in nvHAP surveillance, while inherently imperfect in a surveillance system that includes subjective components in the definition, is estimated to likely improve from "moderate" to"substantial"agreement after comprehensive training and the accumulation of experience by hospital teams.

Disclosure of Interest
None declared.

P1345

Epidemiology of clostridioides difficile infections over ten years in a french university hospital

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Introduction:*Clostridioides difficile* infections (CDI) account for 15–25% of antibiotic-associated diarrhea.
Objectives: We aimed to describe CDI characteristics over a ten-year period in a 1600-beds French university hospital.
Methods: All CDI cases are reported to the Infection Control Team (ICT). Origin of cases was determined (community vs. hospital-acquired). Hospital acquisition was considered in patients hospitalized for more than 72 h or recently discharged (< 7 days). We also investigated recurrences, antibiotic exposure within six weeks, and treatment. Clusters are prospectively identified. Cases in children under 3 years were excluded.

Results: From January 1, 2015 to December 31, 2024, 1,519 stool samples were analyzed from patients over 3 years old. Toxigenic strains were found in 72.0% of cases, and 19.2% were recurrences. After excluding recurrences and duplicates, 875 cases of toxigenic CDI were analyzed for origin: 574 (65.6%) were hospital-acquired, 255 (29.1%) community-acquired, and 46 referred from other facilities.
Hospital-acquired CDI incidence rose from 13.7/100,000 patient-days in 2015 to 17.0 in 2018, then declined to 13–14 from 2019 to 2023, rising again to 16.2 in 2024. In June 2018, bleach cleaning was replaced by a sporicidal detergent/disinfectant.
A total of 45 clusters were identified, most (80%) involving only 2 cases. The largest cluster had 4 cases.
The most frequently associated antibiotics were: amoxicillin-clavulanate (28.1%), third-generation cephalosporins (27.4%), amoxicillin (11.6%), piperacillin-tazobactam (10.2%), and fluoroquinolones (8.2%).
Treatment practices shifted over time from oral metronidazole or vancomycin to fidaxomicin. Among 417 patients with non-toxigenic *C. difficile* strains, 107 (25.7%) were unnecessarily treated.
Conclusion: CDI remains a major concern in healthcare settings, with nearly two-thirds of cases hospital-acquired. Clusters appear rare, though underdiagnosis and early discharge may limit detection. Rapid identification of toxigenic strains is critical for guiding appropriate treatment and avoiding overtreatment.

Disclosure of Interest
None declared.

P1346

Beyond the surface: deepening our understanding of healthcare-associated infections causation through root cause analysis

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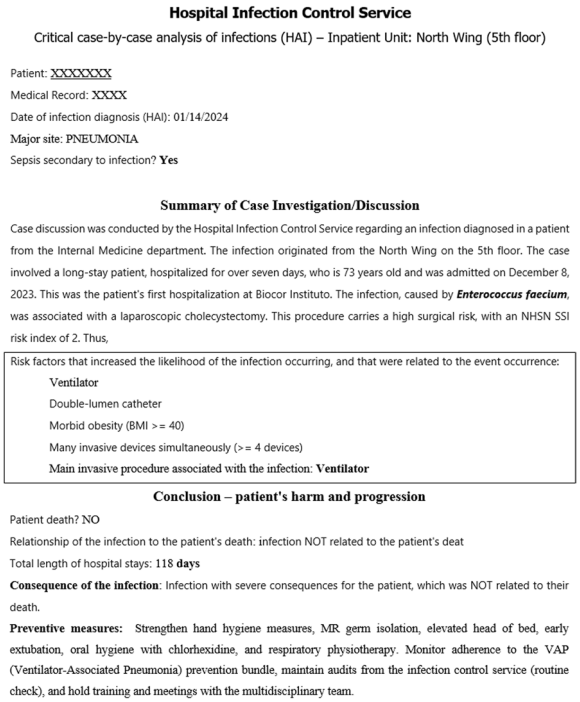
Antimicrobial Resistance & Infection Control 2025, **14(1):**P1346

Introduction: Healthcare-associated infections (HAIs) represent a significant challenge in modern healthcare settings. Effectively understanding these infections **imperatively requires detailed root cause analysis** to uncover their underlying causes.
Objectives: Here we present methodologies, and algorithms employed in the root cause analysis of HAI, highlighting the need for a holistic approach that integrates clinical and epidemiological data.
Methods: This case series study analyzed HAI using detailed root cause analysis. Potential HAI risk factors (63 identified via literature/cases) were categorized into four primary groups (surgical, invasive procedures, care failures, patient characteristics) with specific secondary factors; for instance, intrinsic patient characteristics encompassed 18 factors such as neurogenic bladder, diabetes mellitus, and obesity. Active surveillance systematically recorded these factors per infected patient, correlating them to specific HAIs. Analysis utilized Pareto charts for prioritization; Ishikawa diagrams, constructed from Pareto results, mapped global and topography-specific causes; and Decision trees summarized root causes.
Results: During the active surveillance of 612 HAIs diagnosed in a general hospital in two years (2023-2024): tracheobronchitis and pneumonia (261), surgical site infection (116), urinary tract infection (76), primary bloodstream infection (74), gastrointestinal infection (28), and other infections (57). A total of 2,396 potential risk and causal factors were recorded. The number of factors associated with each infection varied, ranging from zero (indicating no factors were identified with the infection) to 18 factors identified in a single case. The primary factor that predominated was intrinsic patient factors (56%), followed by surgical factors (19%), invasive procedures (13%), and failures in care processes (11%). With the risk factor data recorded during active infection surveillance, we automated case-by-case root cause analysis, as shown in the following image.
Conclusion: This integrated, data-driven approach provides a deeper understanding of causation, enables practical applications like automated analysis, and is crucial for developing targeted prevention strategies.

Disclosure of Interest
None declared.



Hospital Infection Control Service

Critical case-by-case analysis of infections (HAI) – Inpatient Unit: North Wing (5th floor)

Patient: XXXXXXX
Medical Record: XXXX
Date of infection diagnosis (HAI): 01/14/2024
Major site: PNEUMONIA
Sepsis secondary to infection? **Yes**

Summary of Case Investigation/Discussion

Case discussion was conducted by the Hospital Infection Control Service regarding an infection diagnosed in a patient from the Internal Medicine department. The infection originated from the North Wing on the 5th floor. The case involved a long-stay patient, hospitalized for over seven days, who is 73 years old and was admitted on December 8, 2023. This was the patient's first hospitalization at Biocor Instituto. The infection, caused by ***Enterococcus faecium***, was associated with a laparoscopic cholecystectomy. This procedure carries a high surgical risk, with an NHSN SSI risk index of 2. Thus,

Risk factors that increased the likelihood of the infection occurring, and that were related to the event occurrence:
Ventilator
Double-lumen catheter
Morbid obesity (BMI >= 40)
Many invasive devices simultaneously (>= 4 devices)
Main invasive procedure associated with the infection: **Ventilator**

Conclusion – patient's harm and progression

Patient death? NO
Relationship of the infection to the patient's death: infection NOT related to the patient's deat
Total length of hospital stays: 118 **days**
Consequence of the infection: Infection with severe consequences for the patient, which was NOT related to their death.
Preventive measures: Strengthen hand hygiene measures, MR germ isolation, elevated head of bed, early extubation, oral hygiene with chlorhexidine, and respiratory physiotherapy. Monitor adherence to the VAP (Ventilator-Associated Pneumonia) prevention bundle, maintain audits from the infection control service (routine check), and hold training and meetings with the multidisciplinary team.

Fig. 1 (abstract P1346). See text for description

P1349

Impact of the stop infection 2.0 project on the incidence of catheter-associated urinary tract infections in two hospital units

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Introduction: The **STOP Infection 2.0 Project** is a nationwide Portuguese initiative led by the Program for the Prevention and Control of Infections and Antimicrobial Resistance of the Directorate-General of Health (DGS), in collaboration with the Calouste Gulbenkian Foundation and the Institute for Healthcare Improvement. It aims to reduce the incidence of the four most common healthcare-associated infections (HAIs), including catheter-associated urinary tract infections (CAUTIs), while promoting a culture of continuous quality improvement.
Objectives: This study describes the implementation of the STOP Infection 2.0 Project and its impact on CAUTI incidence in two hospital units: Internal Medicine (IM) and the Intensive Care Unit (ICU).
Methods: Implementation followed national DGS guidelines for CAUTI prevention, including adoption or optimization of the recommended prevention bundle. To support continuous improvement,

several strategies were introduced: huddles to reinforce best practices (daily in ICU, twice weekly in IM); application of the Sustaining Improvement Management (SIM) methodology with daily bundle certification and issue analysis; and small-scale Plan-Do-Study-Act (PDSA) cycles to test and evaluate interventions. In the IM unit, additional measures included promoting catheter avoidance, reducing dwell time, and implementing the RITUAR project—a continuous improvement initiative targeting patients with urinary retention to optimize catheter use and minimize exposure.

Results: A reduction in CAUTI incidence was achieved in both units (figure): in IM (a), the average CAUTI rate decreased from 8.62 to 1.93 per 1,000 catheter-days; and in ICU (b), the median rate dropped from 8.6 to 0, with two separate periods exceeding 1,000 catheter-days without infection, meeting a secondary goal of sustained zero incidence.

Conclusion: The STOP Infection 2.0 Project contributed to a significant reduction in CAUTI incidence in both units. These results highlight the effectiveness of structured prevention bundles and continuous quality improvement strategies in reducing healthcare-associated infections.

Disclosure of Interest
None declared.

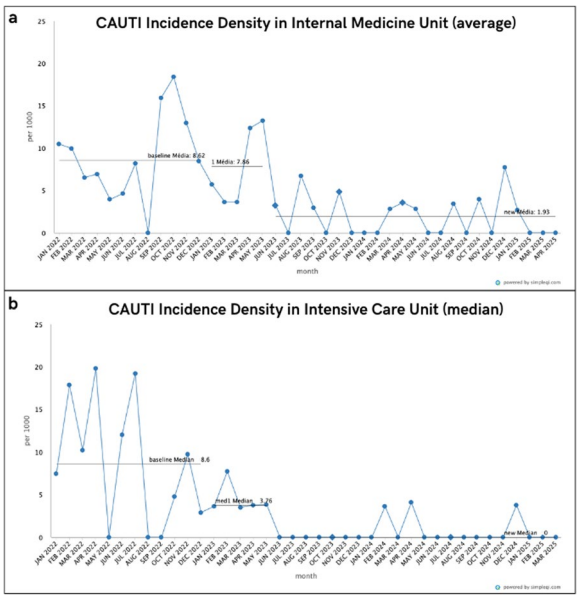

Fig. 1 (abstract P1349). See text for description

P1350

Epidemiological trends and intervention outcomes in healthcare-associated bloodstream infections: focus on secondary UTI-BSI

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Introduction: Healthcare-associated infections (HAIs) present a significant challenge to patient safety. Epidemiological surveillance is essential in evaluating the impact of infection control measures.

Objectives: Evolution of healthcare-associated bloodstream infections (HA-BSI) caused by urinary tract infections (UTI-BSI) in a portuguese hospital.

Methods: Retrospective analysis of BSI cases in 2024. HA-BSI was classified according to national guidelines and were compiled within the National Epidemiological Surveillance Network. Since nosocomial UTI is the most frequent HAI in our hospital, in september 2023, we started the"Urinary Catheter Passport"program, which allows the management of the chronic use of this device and, since 2024, we have been applying bundles for urinary catheter insertion and monitoring in all inpatient departments. The institution's antimicrobial stewardship program was revised in 2024, including validation of empirical therapy and treatment duration.

Results: A total of 249 BSI cases were identified. The majority of patients were male (61.9%). Most infections occurred in patients over 60 years old (70.7%). Hospital's mortality rate associated with HA-BSI was 18.9%. 35.3% were admited in medical wards; 28.1% in general surgery and 15.7% in intermediate/intensive care units. Of all cases, 18.1% were secondary to urinary tract infections. Between the 1 st and 2nd semester of 2024 there was a decrease in the incidence density of BSI secondary to urinary catheter (2.054 *versus* 0.888 infections per 1000 catheter-days). Interestingly, when comparing the same time intervals, only a slight decrease (0.236 *versus* 0.235) in the exposure index was observed (defined as the division between the number of catheter-days and the number of patient-days). The predominant pathogens in UTI-BSI were *Enterobacterales*, especially *Klebsiella pneumoniae* and *Escherichia coli*.

Conclusion: The reduction in urinary catheter-associated BSI can be explained by implementation of strategies, including the"Urinary Catheter Passport"program; prevention bundles and judicious antimicrobial use. These findings underscore the importance of ongoing infection control, antimicrobial stewardship and surveillance system.

Disclosure of Interest
None declared.

P1351

Antibiogram analysis of Enterobacteriaceae strains in Syrian uti patients over an eight-year period: impact of internal displacement due to the Syrian war

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Introduction: This research explores resistance trends in three major Enterobacteriaceae causing urinary tract infections (UTIs) before and after the internal displacement that occurred in 2016 due to the Syrian war.

Objectives: Retrospective Study to Clarify the Resistance Trends in Enterobacteriaceae Causing Urinary Tract Infections Before 2016 and After 2016 (Internal Displacement)

Methods: This retrospective study analyzed urine samples from UTI in/outpatients at the National University Hospital in Damascus (2012–2019). The antibiogram included group A antibiotics (Cefazolin, Tobramycin, Gentamycin), selected group B antibiotics (Trimethoprim-Sulfamethoxazole (TMP-SMX), Ciprofloxacin), and Nitrofurantoin from group U, based on CLSI 2020 classification. Susceptibility was interpreted using CLSI 2020 disk diffusion breakpoints. The chi-square test compared resistance percentages before and after 2016, and Mann-Kendall tests assessed temporal trends.

Results: Of 5,666 strains analyzed, E.*coli* accounted for 79.6% of isolates, with 78.1% resistant to cefazolin, 67.8% to ciprofloxacin, and 71.6% to TMP-SMX. Nitrofurantoin showed a 26.9% resistance rate in E. *coli*. Resistance in *Proteus* to gentamicin and cefazolin increased before and after 2016, without significance (P = 0.06, P = 0.07). However, resistance in *Escherichia*, *Klebsiella*, and *Proteus* to tobramycin significantly decreased post-2016 (P < 0.001, < 0.001, 0.008). Resistance to other antibiotics remained stable or slightly increased without statistical significance.
Conclusion: The study suggests that internal displacement may not significantly impact the susceptibility patterns of studied uropathogens. However, sample bias from complicated infections should be considered. Further research on E. coli genotyping in Syria is needed to establish empirical treatment thresholds for acute cystitis.

Disclosure of Interest
None declared.

P1353

Straight catheterization and cauti risk in patients with indwelling urinary catheters

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Introduction: Catheter-associated urinary tract infections (CAUTIs) are a significant source of morbidity. While strategies to reduce IUC use (e.g., intermittent catheterization) are encouraged, challenges remain. Our institution implemented a"Trial of Void"(TOV) algorithm with intermittent catheterization and bladder scanning to facilitate earlier indwelling urinary catheter (IUC) removal. We observed a potential association between multiple intermittent catheterizations during TOV and subsequent CAUTI development. This study assessed the association between straight catheterization and CAUTI development in patients with IUCs.
Objectives: To evaluate the association between straight catheterization and the development of CAUTIs in patients with IUCs.
Methods: This retrospective study analyzed data from patients with IUCs between January 1, 2023, and March 31, 2025. Patients were divided into two groups: those who developed a CAUTI and those who did not. Data collected included demographics, number of straight catheterizations, number of IUCs, duration of catheterization, present on admission (POA), and IUC insertion timing.
Results: Of the 12,853 patients with IUCs, 27 developed a CAUTI. Patients who developed a CAUTI underwent a significantly higher average number of straight catheterizations (6.6 vs. 0.8) compared to those who did not. 63% of patients who developed a CAUTI had undergone straight catheterization. The average number of IUCs per patient was slightly higher in the CAUTI group (1.8 vs. 1.2). The CAUTI group also had a higher present on admission (POA) rate (26% vs. 7.5%), were older on average (74 years vs. 61 years), and had a greater percentage of males (67% vs. 36%).
Conclusion: A strong association exists between straight catheterization and CAUTI development in patients with IUCs. Frequent straight catheterization may be a key risk factor. While further research is needed, minimizing straight catheterization and adhering to strict sterile techniques are crucial. These findings align with current literature emphasizing the inherent risk of infection associated with any catheter insertion and the importance of exploring alternative strategies to reduce CAUTI incidence.

Disclosure of Interest
None declared.

P1354

Prevalence of hepatitis b virus among sexually active patients at general hospital Minna, Niger state

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Introduction: Hepatitis B virus (HBV) infection remains a pressing public health concern, particularly in developing nations where prevalence rates often exceed those of developed countries. The virus poses significant health risks, including chronic liver disease, cirrhosis, and hepatocellular carcinoma. Understanding the epidemiological factors contributing to HBV transmission is crucial for shaping public health interventions.
Objectives: The primary objective of this study was to assess the **prevalence of Hepatitis B virus (HBV)** among sexually active patients aged 15 to 65 years attending General Hospital Minna, Niger State. The study also aimed to identify **demographic and behavioral risk factors** associated with HBV transmission within this population.
Methods: This study employed a **cross-sectional design**, involving the recruitment of **300 sexually active individuals** aged 15 to 65 years, who were randomly selected from patients attending General Hospital Minna.Data were collected using a **self-administered questionnaire** that captured information on:Socio-demographic characteristics, Clinical symptoms, Behavioral and clinical risk factors for HBV,
Results: Out of the 300 participants:**45% (136)** were aged between **26–35 years**, categorized as young adults.Only **3%** of the participants were above the age of 65.The **overall prevalence** of HBV among the respondents was **12.7%**.A **significant association** was found between HBV prevalence and several demographic variables including **age, sex, marital status, and occupation**.**Risk factors** identified among the participants included:**Mouth-to-mouth kissing** (17%),**Use of sharp instruments** (14%),**Multiple sexual partners** (8%),**Alcoholism** (5%),**Previous blood transfusion** (14%),**Presence of tribal marks** (9%),**Surgical procedures** (6%),**Family history of HBV** (11%),Interestingly, 4**2% of those who reported multiple sexual partners were full-time housewives**, suggesting a notable relationship between **occupation and HBV risk**.
Conclusion: This study provides crucial insights into the **prevalence and associated risk factors of HBV** among sexually active individuals at General Hospital Minna. The documented **12.7% prevalence rate** signals an urgent need for **targeted awareness campaigns** and **preventative strategies**. The significant associations with demographic and behavioral factors emphasize the necessity of **public health interventions** tailored to specific risk groups.

Disclosure of Interest
None declared.

P1355

Identification of resistance genes among bacteria isolated from urinary tract infections in Poland

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Introduction: Enterobacteriaceae, currently constitute a key challenge in the treatment of urinary tract infections (UTI)—especially strains producing extended-spectrum beta-lactamases (ESBL). Due to

the most common empirical UTI treatment, they may be responsible for treatment failure according to the current guidelines.
Objectives: This study aims to identify the most common resistance genes among ESBL + bacilli as a first step to assessing the potential effectiveness of empirical therapy in UTI.
Methods: The prevalence of Enterobacteriaceae ESBL + in UTIs was 32.9%—for K. pneumoniae even 58.9%. Whole genome sequencing was performed for 29 E. coli and 28 K. pneumoniae strains with the ESBL + phenotype, isolated during routine UTI microbiological diagnostics in Poland in 2023-2024. The study was financed from the grant of the National Science Centre (NCN) 2024/08/X/NZ6/01431.
Results: Around 50% of recommended antimicrobials in empiric treatment are penicillins and cephalosporins. The analyzed strains were mainly gathered from men (n = 32, 56.1%) and the average age was 68.2 years. The most frequently isolated genes were CTX-M-15 (n = 43, 75.3%), OXA-1 (n = 29, 50.9%) and TEM-1B (n = 25, 43.9%). Nine K. pneumoniae strains with the NDM-1 gene were also identified in the material.
Conclusion: CTX-M-15 is associated with the most common E. coli UTI, its presence may significantly affect empirical treatment by excluding sensitivity to cephalosporins—mutations described in the latest literature may also affect sensitivity for mecillinam (a new antibiotic on the Polish market). Additionally, OXA-1 co-occurring frequently with CTX-M-15 may generate a problem with sensitivity to piperacillin with an inhibitor or fluoroquinolones.

Disclosure of Interest
None declared.

P1356

Clinical characteristics, microbiological profile, and risk factors for outcomes of catheter-associated urinary tract infections at a national hospital for tropical diseases in Vietnam (2022–2024)

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Introduction: Catheter-associated urinary tract infections (CAUTIs) are among the most common healthcare-associated infections, contributing to significant morbidity and prolonged hospital stays. This study addresses the clinical features of CAUTI cases and identifies factors associated with treatment outcomes in National hospital for Tropical Diseases.
Objectives: To describe the clinical and microbiological characteristics of patients with CAUTIs and to analyze risk factors related to their treatment outcomes.
Methods: A retrospective and prospective study was conducted on 104 CAUTI patients (2022–2024) at the National Hospital for Tropical Diseases, Vietnam. Data included demographics, comorbidities, catheter duration, symptoms, and microbiology. Statistical analyses utilized chi-square tests and logistic regression.
Results: 61.5% of patients were male; 52.9% were aged over 65 years. 91.3% were hospitalized for more than 14 days and 89.4% had catheterization exceeding 14 days. Fever (94.2%) and turbid urine (25%) were common symptoms. *Candida species* (49.2%) and *Pseudomonas aeruginosa* (13.5%) were the predominant pathogens. Gram-negative bacteria showed high antimicrobial resistance.. In particular, comorbid conditions such as diabetes mellitus, kidney stones, and hypertension were significantly associated with unfavorable outcomes ($p < 0.05$).
Conclusion: In this cohort of CAUTI patients, older male patients with extended hospitalizations and catheter durations comprised the majority of cases. Infections were often caused by Candida or drug-resistant Gram-negative bacteria. Comorbidities (notably diabetes and kidney stone disease) emerged as significant risk factors for poor outcomes. These findings underscore the need for strengthened infection control practices – including meticulous catheter care and early catheter removal when feasible – and robust antibiotic stewardship programs. Implementing preventive protocols and monitoring high-risk patients may help reduce the incidence of CAUTIs and improve patient outcomes in our hospital setting.

Disclosure of Interest
None declared.

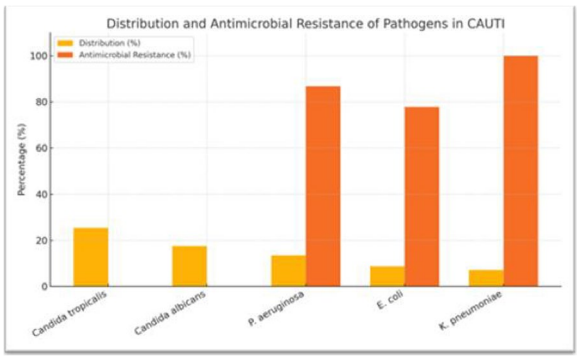

Fig. 1 (abstract P1356). See text for description

P1357

Epidemiology of pathogens causing urinary tract infections in rural communities of Niger state, Nigeria

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Introduction: Urinary tract infections (UTIs) represent a significant global health concern, affecting approximately 150 million individuals annually across the world. These infections can arise from various etiological agents, predominantly bacteria, but they can also originate from fungi and viruses. UTIs are common in both community and hospital settings.
Objectives: This study aimed to investigate the epidemiology of pathogens responsible for urinary tract infections in rural areas of Niger State, Nigeria.
Methods: A total of 835 clean catch mid-stream urine specimens were collected and analyzed for the presence of bacteriuria. Participants were clinically evaluated to confirm their suitability for inclusion in the study, and microbiological assessments were performed on the urine samples to isolate the pathogens responsible for UTI. Identification of the isolated pathogens was carried out through morphological and biochemical techniques.
Results: A total of 835 individuals participated in the urine culture analysis. Of these, 183 (21.9%) were male and 652 (78.1%) female. Most participants were married (610; 74.3%), while 225 (25.7%) were single. Bacterial growth was observed in 749 samples (89.7%). **Escherichia coli** was the most common isolate (416; 49.8%), followed by **Staphylococci** (155; 18.2%), with **Pseudomonas species** being the least (6; 0.7%).Gender-wise, 252 (30.2%) isolates were from males, while 599 (71.7%) were from females. Among those with bacteriuria, 549 (65.8%) were married and 188 (22.5%) were single. The age group 31–40 years recorded the highest UTI incidence (161; 19.3%), followed by 21–30 years (144; 17.3%), while the 10–20 age group had the lowest (38; 4.6%).The prevalence of urinary tract infections identified in this study was markedly high with particular susceptibility observed among females, younger populations & married individuals.The findings indicate a strong correlation between demographic factors and the occurrence of community-acquired urinary tract infections.
Conclusion: Regular screening of rural populations for bacteriuria coupled with attention to clinical symptoms & appropriate clinical management is essential in addressing the critical issue of urinary tract infection in these rural communities.

Disclosure of Interest
None declared.

P1359

Assessment of knowledge, factors to adherence, and barriers to the implementation of the ventilator-acquired pneumonia (VAP) bundles of care of healthcare providers in the intensive care unit (ICU) of a tertiary public hospital in the Philippines

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Introduction: Ventilator-associated pneumonia (VAP) is a common nosocomial infection occurring 48–72 h after endotracheal intubation, significantly increasing ICU mortality, length of stay, and healthcare costs. In the Philippines, VAP incidence ranges from 10–65% with over 20% fatality. The Institute of Health Improvement (IHI) developed Ventilator Care Bundles (VCBs) incorporating evidence-based interventions.
Objectives: This study aims to assess the knowledge of ICU healthcare providers (physicians, nurses, and respiratory therapists) on VAP bundles and identify factors influencing adherence and barriers to implementation.
Methods: A descriptive-correlational cross-sectional design was employed. Participants included ICU-based healthcare providers at BMC. Data were collected using validated questionnaires: a knowledge test (10–15 items) and a 25-item adherence checklist with barrier assessments. Statistical analysis involved descriptive statistics, one-way ANOVA, and t-tests.
Results: The study revealed varying levels of VAP bundle knowledge. Physicians scored highest, influenced by sex and experience (females and > 5 years of service scored better). No significant knowledge associations were found among nurses and respiratory therapists. Knowledge gaps were observed in suctioning procedures and airway humidifier use. Adherence was generally good, but gaps existed in practices like two-nurse suctioning protocols and pre-suctioning analgesia. Common barriers included lack of training, resource inadequacy, and resistance to protocol changes.
Conclusion: Physicians demonstrated superior knowledge and adherence to VAP guidelines. Nurses and respiratory therapists had more implementation barriers, highlighting the need for targeted education. Continuous multidisciplinary training, updated protocols, mentorship from experienced clinicians, and administrative support are recommended to improve VAP prevention and patient outcomes.

Disclosure of Interest
None declared.

P1360

Hospital – acquired pneumonia in the adult intensive care unit in Angre's university hospital: prevalence, bacteriological characteristics, and resistance pattern from 2020 to 2022

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Introduction: Ventilator-associated pneumonia (VAP) are the most common nosocomial infections (NI) and mortality in ICU.
Objectives: The aim of this study was to describe bacteria involved in VAP from inpatients at Angre's University Hospital, and their antibiotic resistance profile.
Methods: A cross-sectional study was conducted in ICU and medical biology department of University Hospital of Angre from January 2020 to December 2022. All patients hospitalized for at least 48 h, with pneumonia after mechanical ventilation were included. Bacteria isolated from cultures of protected tracheal aspirates were identified by standard bacteriological methods. Antibiotic susceptibility was assessed by an automated system (Vitek 2 MD Compact®). Data were analyzed using Epi info version 7 software.
Results: Among 1000 inpatients, 128 contracted an IN (12.80%). Prevalence of VAP was 35.93% (46/128). The mean age was 39.93 years, and female predominated (54.35%, 25/46). The most common pathogens were Enterobacteriaceae (36.97% 17/46). Klebsiella pneumoniae (26.08%) was the mainly specy followed by coagulase-negative Staphylococcus (SCN) (21.73%), and Pseudomonas aeruginosa (17.39%). Multidrug-resistant bacteria (MDRB) accounted for 65.21% (30/46) of isolates. Meticillin-resistant SCN represented 30% (9/30), Extended-Spectrum Beta-lactamase-producing Enterobacteriaceae 26.67% (8/30), and methicillin-resistant Staphylococcus aureus 10% (3/30). Carbapenem-resistant Enterobacteriaceae (CRE) accounted for 6.67% (2/30). mortality was observed in 60% of MDRB-associated VAPs.
Conclusion: The increase of MDRB in VAPs represents one of the main challenges for clinicians in the intensive care unit. Also, it calls for strenghtening infection control and microbiological surveillance.

Disclosure of Interest
None declared.

P1363

Monitoring and improving semi-critical endoscope reprocessing: a 10-year experience in a Korean tertiary care hospital

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Introduction: The ESGE-ESGENA guidelines recommend microbiological surveillance as part of quality management in endoscope reprocessing, and the Joint Commission recommends checklist-based observation to ensure adherence to reprocessing procedures.
Objectives: This study aimed to assess the reprocessing practices and improvement outcomes of semi-critical medical device endoscopes through long-term monitoring in a 784-bed tertiary hospital in Seoul, South Korea.
Methods: From 2015 to 2024, endoscope reprocessing was evaluated biannually by microbiological culturing and checklist-based observation.
Fluid sample criteria(< 10 CFU/mL) referenced ESGE-ESGENA guidelines; swab sample criteria(< 10 CFU/plate) followed institutional standards.
The checklist covered reprocessing, environmental management, and staff education. Results were compared between Period 1(2015–2019) and Period 2(2020–2024).
Results: A total of 805 microbiological tests showed a 13.3% contamination rate(12.0% in Period 1, 15.9% in Period 2). Contamination rates by endoscope type were highest in duodenoscopes(20.8%), followed by TEE probes(18.6%), gastrointestinal endoscopes(14.8%, including gastroscopes, colonoscopes, and rectoscopes), cystoscopes(14.6%), nasopharyngoscopes(10.1%), and bronchoscopes(6.3%).
Twenty audits identified 98 inappropriate cases in Period 1 and 47 in Period 2. Inappropriate cleaning practices included improper brushing, poor brush care, no enzymatic detergent use, short soaking time, and delayed cleaning(24 in Period 1, 9 in Period 2). Inappropriate storage practices included lack of cabinets, storage in original packaging, floor contact, co-storage with used scopes, and storage contamination(12 in Period 1, 2 in Period 2). Inappropriate disinfection practices included poor temperature or concentration control, short contact time, and accessory disinfection failures(18 in Period 1, 15 in Period 2). Inappropriate environmental management(8 in Period 1, 1 in Period 2) and lack of staff education(12 in Period 1, 1 in Period 2) were also noted.
Conclusion: Although the microbiological contamination rate increased, system-level improvements were observed in endoscope storage, environmental management, and staff education. While disinfection and cleaning have improved, frequent staff turnover and

persistent inappropriate practices highlight the need for continuous monitoring and staff training.

Disclosure of Interest
None declared.

P1364

Strategies for reducing endoscope contamination rates in a Singapore academic medical centre

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Introduction: Effective endoscope reprocessing is essential for preventing healthcare-associated infections and ensuring patient safety. In Singapore General Hospital (SGH), microbiological surveillance (MS) of endoscopes and automated endoscope reprocessors (AERs) forms a key component of quality assurance. Since the Endoscopy Centre's establishment in 2016, contamination incidents had been minimal. However, from April 2023, a rise in contamination rates was observed following a filtration culture method.
Objectives: This study outlines multi-pronged strategies implemented between April 2023 and March 2025 to mitigate endoscope contamination in the context of aging AER infrastructure at a large academic medical centre.
Methods: Between April 2023 and March 2025, MS was performed on 177 endoscopes and 14 AERs.Contaminants were classified as environmental flora (6.2%), skin flora (3.8%), and oral/gut flora (3.4%), with an overall contamination rate of 12.5% in FY2023. To address these issues, the following strategies were implemented: Surgical hand rub training initiative; Sterilization of high-risk endoscopes; Enhanced maintenance of AERs and their accessories; Increased frequency of AER waterline disinfection and recovery cycles; Replacement of disinfection blocks; and Shortened filter replacement intervals from six to three months.
Results: Environmental sampling conducted in May 2023 across AERs and accessories revealed a 35.4% (34/96) positivity rate, primarily for environmental organisms and Candida *orthopsilosis*, implicating biofilm accumulation in AERs.Despite persistent AER contamination, endoscope contamination declined modestly from 12.5% (FY2023) to 11% (FY2024).
Conclusion: Sterilization is recommended for high-risk scopes to further mitigate contamination risks. While short-term measures have slightly improved outcomes, sustained progress will require investment in new AER infrastructure to maintain safety and service quality.

Disclosure of Interest
None declared.

P1365

How to ensuring the quality of high-risk endoscopes reprocessing and monitoring the related cases

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Introduction: The use of High-risk endoscopes such us duodenoscopy and Linear ultrasound endoscopes for diagnostics or therapeutics has increased. Outbreaks related to these procedures have been reported and highlighting the importance of ensuring the quality of endoscope cleaning and disinfection.
Objectives: To evaluate the outcome of High-risk endoscopes reprocessing.
Methods: We retrospective analyzed the results, from 2019 through 2024 at an Endoscpopy Center for Diagnosis and Treatment at a 2600-bed teaching hospital. This hospital improves quality of endoscope reprocessing through policy-do-check-act (PDCA) cycle including policy, education/training, periodical internal and external audits.
Results: External audit which included 28 items show the overall compliance rate was 100%. Surveillance cultures showed only 1.6% of 252 post-reprocessing High-risk endoscope samples. When we get the unqualified date. The endoscopy will be immediately deactivate use. And will be keep monitoring the patient who have be used these endoscopy. The monitoring period between 2 weeks before the deactivate time to one month later. Totally we have more than 100 patient list. And there are no patient acquire the health care–associated infection (HAI).
Conclusion: This study showed that periodical external audits which include surveillance cultures combined with internal audit and PDCA cycle support quality assurance or improvement.

Disclosure of Interest
None declared.

P1367

Enhancing safety in electroencephalogram (EEG) reprocessing: transitioning from manual to mechanical washing and disinfection

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Introduction: Reprocessing of electroencephalogram (EEG) electrodes is a vital procedure in healthcare, especially in specialized areas like Sleep Centers. Traditionally, these semi-critical devices were manually cleaned and disinfected with diluted sodium hypochlorite in poorly ventilated rooms, raising concerns over microbial contamination and harmful chemical exposure. This quality improvement (QI) initiative highlights the need for a standardized, safer, and more efficient reprocessing approach. Addressing these issues enhances patient and staff safety while ensuring effective hygiene and operational efficiency.
Objectives: The QI aims to improve EEG electrode reprocessing by enhancing safety, increasing efficiency through workflow centralization, introducing mechanical washing for consistency, and optimizing containment solutions to reduce damage. These goals collectively support a safer, more reliable reprocessing system.
Methods: A structured PDCA methodology was used. This cyclical approach allows for continuous evaluation and refinement of the reprocessing workflow by planning changes, implementing them, checking outcomes, and acting on findings.
Results: The QI successfully implemented a new workflow on 3 Mar 2023, significantly improving efficiency. The number of electrode sets reprocessed increased from 1716 in 2023 to 2793 in 2024. The switch from sodium hypochlorite to a biodegradable, pH-neutral detergent in mechanical washers supports the hospital's sustainability goals by lowering environmental impact. The standardization of procedures has improved safety and reduced chemical and microbial risks. These improvements have been shared with the SingHealth Sterile Supplies Workgroup for potential wider adoption across the cluster.
Conclusion: Centralized and mechanical disinfection of EEG electrodes effectively maintains high standards in medical device

reprocessing. This QI demonstrates enhanced safety, efficiency, and adherence to best practices, reducing risks to patients and healthcare staff.

Disclosure of Interest
None declared.

P1368

Laryngoscope reprocessing strategies: integrative literature review

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Introduction: Traditional criteria for acquiring medical devices include effectiveness and safety, ease of use and handling, and acquisition costs. However, information is sparse on safety, environmental impacts, and infection control efficacy in pre-hospital settings.
Objectives: To identify technical-scientific knowledge to guarantee evidence-based decisions, minimizing risks and guiding qualified strategies regarding laryngoscopes reprocess.
Methods: 13 healthcare professionals reviewed 34 decontamination guidelines available as free full text in Q3 2024. The critical analysis of the results led to a framework of recommendations to be applied at the National Institute of Medical Emergency in Portugal.
Results: The evidence highlights that laryngoscope blades are medium risk devices, or semi-critical, according to the Spaulding classification, as they come into contact with mucous membranes or non-intact skin. Therefore, in pre-hospital context, this material, when reused, needs at least high-level cleaning and disinfection using heat or chemicals (category IA recommendation). Handling processes should adhere to similar guidelines due to the frequent presence of visible and occult blood. Thus, multiple use devices appear economically and environmentally advantageous, but safety depends on rigorous decontamination processes, such as sterilization at 134ºC for 4000 cycles. When high-level disinfection is not viable, single-use devices or reusable cover layers are recommended in specific scenarios to reduce risks. The risk of contamination and the need to comply with safety guidelines of infrastructures and procedures remain unchanged. Implementing these measures can enhance safety and cost-efficiency while addressing environmental considerations.
Conclusion: The importance of time-needs and cost-benefit analysis must prevent health associated infections whenever both device options are compared. In Portuguese pre-hospital setting, single use laryngoscopes were recommended while high-level disinfection is unavailable.

Disclosure of Interest
None declared.

P1369

Right approach: improvement in cleaning and disinfection of medical equipment in use: Sheikh Shakhbout Medical City (SSMC) experience

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Introduction: Hospital-onset *Candida auris* rates surged at Sheikh Shakhbout Medical City (SSMC) in early 2021, prompting urgent infection control interventions. Cleaning and disinfection of patient-connected medical equipment in critical care areas were identified as critical gaps, with initial compliance at only 49%. This initiative aimed to improve compliance to over 85%.
Objectives: To enhance compliance with cleaning and disinfection of medical equipment within patient rooms in critical care areas to more than 85%, reduce hospital-onset multidrug-resistant organisms, particularly *Candida auris*, and streamline responsibilities of the cleaning and disinfection of medical equipment through risk-based equipment categorization.
Methods: A multidisciplinary task force was formed and launched five Plan-Do-Check-Act (PDCA) cycles. Interventions included staff education, daily huddles, audit feedback, risk-based categorization of equipment, transferring cleaning duties from nurses to trained environmental service staff, and introducing a tagging system with QR codes for user manual access. Monthly audits using UV-light and fluorescent powder tracked adherence.
Results: Compliance improved from 49% in May 2021 to 100% in late 2022 following pilot implementation in the MICU. Despite challenges from staff turnover in early 2023, including a temporary drop to 78%, the tagging system helped restore compliance above 90%. Overall, hospital-onset *Candida auris* rates dropped from 1.4 to 0.5 per 1000 patient days between 2021 and 2024.
Conclusion: SSMC's structured, multidisciplinary approach significantly improved cleaning and disinfection practices, enhanced staff accountability, and reduced nosocomial *Candida auris* infections. Sustainability will rely on ongoing training, policy adaptation, and resource investment to maintain high infection control standards.
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Disclosure of Interest
None declared.

P1370

Experience sharing: utilizing the UVC-LED tool to reduce airborne microbiomes in the emergency room of a medical center in Northern Taiwan

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Introduction: Air quality is a critical factor in infection control within hospitals. Most patients initially become infected by viruses, which can lead to upper respiratory tract infection syndromes. Subsequently, bacteria may have the opportunity to infect these patients, as their immune systems may not be robust enough to defend against bacterial invasion. Therefore, reducing the bacterial count in the air can lower the risk of bacterial infections for patients. Recent studies have identified several methods to decrease bacterial counts in the air, including filtration techniques, plasma methods and UVC methods. Each of these methods has its own advantages and limitations.
Objectives: In this study, we aimed to utilize the UCV-LED method to assess its effectiveness in eliminating airborne bacteria. We selected the emergency room for our research due to its unique challenges. For this experiment, we chose two areas for analysis: the council hall and the internal medicine emergency observation area.
Methods: In these two areas, we examined the bacterial count before and after the installation of UVC-LEDs. We employed the active airborne collection method to measure the bacterial count in the air. We collected 1,000 L of air and allowed it to impact the agar. Once the air contained bacteria, the bacteria grew on the medium after being incubated for 48 h at 37 °C.
Results: Before the installation of the UVC-LED, the results from the first area indicated that the average bacteria count over different time intervals ranged from 361 to 443. After the UVC-LED was installed, the average bacteria count in the same area decreased to a range of 214 to 300. In the second area, the initial average bacteria count over different time intervals was between 583 and 1,127. Following the addition of the UVC-LED, the average bacteria count decreased to a range of 299 to 713.

Conclusion: Due to this study, we believe that UVC-LED could play an important role in reducing bacterial counts in the air and decreasing the likelihood of infections. Additionally, this technology does not require much space, which is beneficial given environmental constraints.

Disclosure of Interest
None declared.

P1371

From surface to standard: microbiological validation and feasibility assessment of UVC disinfection as an adjunct to manual terminal cleaning in Slovenian acute care hospital

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Introduction: Environmental surfaces are a recognized reservoir for healthcare-associated pathogens, contributing to patient-to-patient transmission. Otter et al. (2011) highlighted the role of contaminated surfaces in nosocomial infections, shaping the foundation for frameworks such as the Healthcare Environmental Hygiene Self-Assessment Framework (HEHSAF). Yet, within Europe, there is limited microbiological evidence evaluating the additive value of no-touch technologies like UVC disinfection post-cleaning.
Objectives: This Slovenian-based study aims to quantify total aerobic colony-forming units (CFUs) remaining on high-touch surfaces after terminal cleaning and after UVC disinfection, while aligning outcomes with the BS 8628:2022 efficacy framework and evaluating implementation feasibility.
Methods: This prospective study is being conducted at University Medical Centre Maribor. Environmental surface samples are collected from high-touch points in patient rooms at three stages: (1) before cleaning, (2) after manual terminal cleaning, and (3) after UVC disinfection using a smart, portable, high-output UVC device. Standardised neutralising contact plates are used for aerobic CFU quantification. No microbial species identification is performed. Log reductions are calculated across sampling timepoints and correlated with BS 8628:2022-certified performance data. Operational feasibility is evaluated through timing, ease of use, and workflow integration metrics.
Results: Sampling is ongoing. Preliminary observations indicate visible reductions in total aerobic CFUs following UVC disinfection, beyond those achieved by manual cleaning alone. Final data, including surface-specific CFU counts and average log reductions, will be presented. Implementation feasibility of the UVC system will also be reported, including deployment times and practical fit within terminal cleaning workflows.
Conclusion: This study provides one of the first EU-based assessments combining real-world CFU quantification with certified UVC efficacy data and implementation feasibility. By aligning with HEHSAF hygiene improvement goals and BS 8628:2022 standards, the findings aim to inform practical, evidence-based strategies for enhanced terminal room decontamination in acute care environments.

Disclosure of Interest
None declared.

P1372

Ultraviolet sterilizer for books to reduce the fomite transmission risk of paper documents in SARS- COV2 pandemic

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Introduction: The transmission of SARS-CoV2 can occur via surfaces. Previous research indicates that the virus can survive on paper for up to 5 days. As paper remains essential in daily situations and cannot always be substituted in procedures, it represents a potential risk of contamination. Common disinfection methods, such as chlorine containing disinfectants, alcohol and hydrogen peroxide are not suitable for paper surfaces.
Objectives: This study aimed to investigate whether UVC radiation could serve as an effective method to disinfect paper.
Methods: For this study we tested 120 paper samples that were assessed the adenosine triphosphate (ATP) bioluminescence reads by swabbing the surface with an area10 cm by 10 cm in one direction and then in the opposite direction. The ATP assay (3 M Clean-Trace System; 3 M, St. Paul, MN, USA) was used to evaluate the cumulative bioburden of surfaces by first activating the swabs following the manufacturer's instructions and then recording the reading (in relative light units, RLUs). Except for a swab for the ATP assay, a premoistened sterile culture swab for environmental bacterial sampling was applied.
Results: The mean ATP value before and after UVC irradiation was 144.53 ± 15.73 RLU and 69.69 ± 8.43 RLU, respectively (p value < 0.001). The bacterial isolate counts by swab from paper surface before and after UVC irradiation were 49 (40.8%) and 18 (15.0%), respectively (p value < 0.001). The clinically significant bacterial isolate counts before and after UVC irradiation were 14 (11.7%) and 3 (2.5%), respectively (p value $= 0.01$).
Conclusion: This research indicates the potential of UVC radiation as an effective method for disinfecting paper. Especially since other disinfection techniques are unsuitable. Our findings show that the bacterial loads on paper could be significantly reduced by UVC radiation.

Disclosure of Interest
None declared.

P1373

A multi-modal intervention to enhance environmental cleaning in a Nigerian tertiary hospital

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Introduction: Environmental surfaces in healthcare settings can harbor germs and spread infections to patients. To prevent this, regular cleaning is crucial**.**
This study aimed to demonstrate the effectiveness of a comprehensive intervention in enhancing environmental hygiene and to identify key factors influencing sustainable improvements in resource-limited settings, ultimately contributing to reduced healthcare-associated infections (HAIs).
Objectives: To assess the effect of a multi-modal cleaning program on the cleaning practices of health care providers and level of cleanliness in public tertiary hospitals in Enugu State, Nigeria.
Methods: This quasi-experimental mixed-method study evaluated a three-month multi-modal intervention to improve environmental cleaning in a public tertiary hospital in Enugu State, Nigeria. The intervention included policy adaptation, training, supplies, Standard operating procedures (SOPs), checklists, job aids, cleaning logs, and supervision. A second hospital served as the control, maintaining regular practices.
Results: At the intervention site, policy adaptation was done with the IPC team. Modular training improved health workers 'practice of environmental cleaning from 33 to 83%, compared to 25% to 65% at the control site. Cleaning adequacy of high-touch surfaces was higher at the intervention site (58.03%) than the control (20.50%), using UV fluorescent gel. The research team provided Personal Protective Equipment and cleaning materials per WHO standards. SOPs and checklists were adapted from Nigerian Control for Disease

Control guidelines. Three job aids were developed on surface types, cleaning principles, and handling blood/body fluids. Cleaning logs with checklists and schedules were introduced, and supportive supervision was maintained throughout the study.
Conclusion: Implementing a multi-modal program improved cleaning practices and cleanliness, suggesting that addressing identified gaps can reduce HAIs. Prioritizing environmental cleaning is crucial policy action.
Implication
This study highlights a practical, adaptable intervention to improve environmental cleaning and reduce HAIs, particularly in resource-limited settings, with implications for global healthcare quality and patient safety.

Disclosure of Interest
None declared.

P1374

Utilizing fluorescent markers for improved environmental surveillance during a Vancomycin-Resistant Enterococcus faecium (VRE) St612 outbreak in a geriatric hospital

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Introduction: Environmental contamination significantly contributes to VRE spread. In early 2025, during a ST612 (vanA) VRE outbreak at a geriatric hospital in Geneva, preventive measures including systematic surface monitoring and improved environmental cleaning were implemented.
Objectives: To assess cleaning effectiveness to support VRE outbreak control.
Methods: Environmental audits using fluorescent markers were conducted in six units during February-March 2025: three with outbreaks, three without. Markers were placed on frequently touched surfaces and assessed after 24 h (D1) and 96 h (D4). 644 markers were used in February and 660 in March. In February, 597 (93%) D1 and 520 (81%) D4 markers were assessed, with losses due to patient discharge. In March, 656 (99%) D1 and 624 (95%) D4 markers were assessed. Cleaning effectiveness was classified as complete, partial, or not done. During feedback sessions we discussed results, stratified by type of healthcare staff. For educational purposes, environmental cultures were performed to identify VRE-positive locations.
Results: In February, of 597 surfaces, 261 (44%) were fully cleaned, 45 (7%) partially cleaned, and 291 (49%) uncleaned at D1. By D4, for 520 markers: 391 (75%) fully cleaned, 34 (7%) partially cleaned, and 95 (18%) uncleaned. In March, of 656 surfaces, 393 (60%) were fully cleaned, 64 (10%) partially, and 199 (30%) uncleaned at D1. By D4, for 624 markers: 532 (85%) fully cleaned, 41 (7%) partially, and 51 (8%) uncleaned (Fig. 1). In February, 9 of 47 samples (19%) from outbreak units were tested VRE-positive, mainly on toilets and beds. March samples were negative, matching improved marker results. The outbreak ended after 11 weeks.
Conclusion: Fluorescent markers on surfaces enabled real-time cleaning assessment. Combined with environmental sampling, they helped to achieve successful outbreak control.

Disclosure of Interest
None declared.

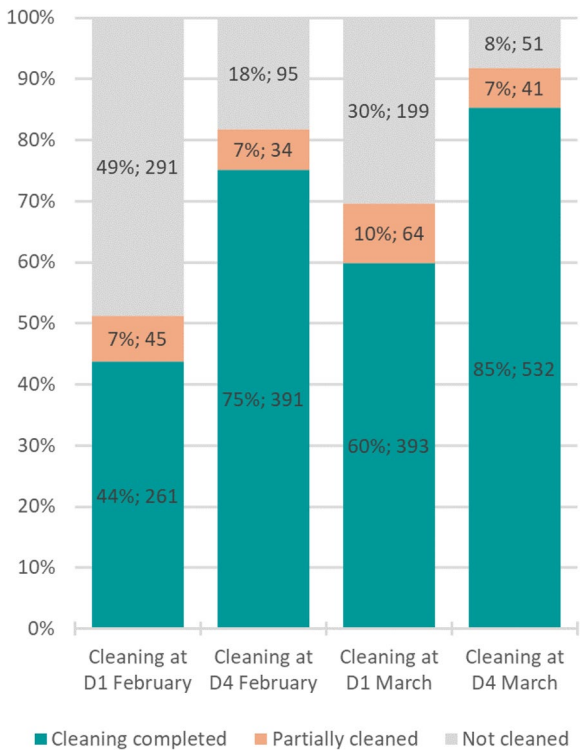

Fig. 1 (abstract P1374). Results of fluorescent marker surveillance conducted across six units, encompassing all professional categories, obtained in two phases during February and March. Indicatords were placed and subsequently reassessed on Day 1 (D1) and Day 4 (D4)

P1375

Impact of training and monitoring of environmental cleaning on ICU-acquired infections and antibiotic use

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Introduction: To evaluate the effects of environmental cleaning (EC) training and monitoring on cleaning effectiveness,intensive care unit (ICU)-acquired infection rates and antibiotic usage.
Objectives: Effective cleaning and monitoring are essential for reducing HAIs and eliminating MDR microorganisms from the environment.
Methods: A prospective intervention study was carried out in the Medical ICU and Anesthesia ICU to enhance EC practices between October 2023 and December 2024.EC was conducted twice daily using hydrogen peroxide with monitoring performed via fluorescent labeling.During the initial two months,EC monitoring was conducted without prior notice or feedback.The intervention period began in January 2024,during which staff received monitoring results and attended weekly training sessions with feedback.

Results: During the intervention period,a significant improvement in EC was observed in both ICUs.However,a decline in EC rates occurred between April and June 2024,coinciding with changes in cleaning staff.While ICU-acquired infection rates declined during the intervention,a subsequent increase in infection rates was noted when EC rates dropped.The rates of CAUTI and CLABSI increased during periods of reduced EC but declined again when EC rates improved. The rates of A. baumannii,E. coli,P. aeruginosa, and Enterococcus decreased during the intervention phase with enhanced cleaning control.During periods of reduced EC rates, there was a notable increase in the usage of carbapenem, colistin, vancomycin, and ceftazidime-avibactam, which subsequently declined as EC rates improved. Additionally,hand hygiene compliance,particularly after patient contact,improved in both ICUs during the intervention period.No significant differences were observed in APACHE II scores, comorbidity rates, or mortality rates across the study period.
Conclusion: This study highlights the critical role of consistent EC in reducing ICU-acquired infections and MDR microorganisms.Sustained training,feedback, and standardized protocols are essential for maintaining effective EC and reducing HAIs in ICUs.

Disclosure of Interest
None declared.

P1377
Audit of medical device sterilization protocols in tunisian dental healthcare facilities
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1377

Introduction: Infection prevention and control in dental settings carried heightened significance given the invasive nature of dental procedures, which routinely expose oral mucosa, utilize penetrating instruments, and require close practitioner-patient contact. Rigorous sterilization of heat-resistant medical devices served as a critical barrier against healthcare-associated infections.
Objectives: To evaluate the resources and processing practices for heat-resistant medical devices in public primary-care dental units of the Kairouan region, Tunisia, during 2023.
Methods: This descriptive audit study evaluated medical device processing resources and practices through direct observation across 16 public primary-care dental units in Kairouan during December 2023. The 39-criteria assessment tool was inspired both from the dental unit evaluation checklist of the French Dental Association and the 2015 central sterilization unit evaluation form developed by the National Agency for Sanitary and Environmental Control of Products (ANCSEP). The tool comprehensively assessed four domains: human resources (2 criteria), material resources (4), facility organization (4), and medical device processing (29 criteria).
Results: The audit revealed an overall sterilization compliance rate of 67%, with significant variability across both assessment domains and individual units. Material resources showed the highest adherence (compliance rate = 87.5%), followed by human resources (75%), medical device processing (66.4%), and facility organization demonstrating the lowest compliance (62.6%), indicating a 24.9 percentage-point performance gap between the strongest and weakest domains. The compliance rates varied substantially across units, ranging from 36.8% to 84.2%.
Conclusion: While material resources showed relatively high compliance, significant gaps persist in facility organization and medical device processing with a wide disparity across units. These findings underscored the urgent need for targeted interventions to improve infrastructure and adherence to sterilization standards in primary dental care settings.

Disclosure of Interest
None declared.

P1379
Evaluation of environmental management through monitoring of room cleanliness and surface contamination after patient discharge
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Introduction: In healthcare settings, patients and caregivers are at increased risk of acquiring pathogens from contaminated surfaces. In countries like South Korea, where caregivers are closely involved in patient care, continuous monitoring of room cleanliness after discharge is essential to prevent cross-contamination and the spread of multidrug-resistant organisms (MDROs).
Objectives: This study aims to evaluate the effectiveness of environmental management by assessing environmental service workers' compliance with cleaning protocols and measuring surface contamination in randomly selected patient rooms after discharge.
Methods: This study was conducted from March 2023 to February 2025 at a tertiary hospital, focusing on randomly selected discharged patient rooms. Rooms vacated due to the transfer of isolated patients were prioritized for inspection. Trained infection control nurses directly observed compliance with cleaning guidelines based on an environmental cleaning checklist and visually assessed the cleanliness of the rooms. After cleaning, surface contamination on frequently touched surfaces was measured using an ATP (Adenosine Triphosphate) luminometer. ATP levels were expressed in Relative Light Units (RLU), with the environmental management standard set at 250 RLU or lower according to the manufacturer's guidelines.
Results: The appropriate cleaning performance rate for discharged patient rooms was calculated as 'the number of cleaning tasks meeting ATP standards/the number of required cleaning items for discharged patient rooms * 100'. This rate increased from 95% in 2023 to 99% in 2024. The incidence rate of Carbapenemase-Producing Enterobacteriaceae (CPE) at our hospital (per 1000 patient days) decreased from 0.46 in 2023 to 0.16 in 2024.
Conclusion: Healthcare institutions should conduct regular environmental monitoring to identify issues early on-site and ensure compliance with guidelines. While accompanying cleaning staff during monitoring can be useful for assessing accuracy, it has limitations such as observer effect and time consumption. In contrast, contamination assessment using ATP testing provides real-time feedback, making it an effective environmental evaluation tool. Continuous monitoring and evaluation are expected to contribute to the prevention of cross-infection caused by environmental surfaces.

Disclosure of Interest
None declared.

P1380
When absenteeism undermines progress: lessons from a hospital cleaning intervention
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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1380

Introduction: Environmental cleaning is a major component of healthcare-associated infections prevention. It relies on hospital cleaning staff (HCS), who often lack adequate training, supervision, and recognition.
Objectives: In this study, we aimed to evaluate the impact of a monitoring and improvement program on cleaning quality. We also assessed the effect of training on HCS knowledge through pre- and post-training questionnaires.
Methods: This prospective interventional study spanned 15 months (6 months pre-intervention and 9 months post-initial intervention) in

a university hospital building with two HCS teams. It included continuous fluorescent marking audits and one joint training module for both teams. After this initial module, the teams were split: one became the intervention group (12 HCS), the other the control (12 HCS). The intervention group received three additional training modules and monthly feedback on audit results for three months. Three periods were defined: P1 (pre-intervention, April – October 2023), P2 (during training, November 2023 to mid-March 2024), and P3 (post-training, mid-March to June 2024).
Results: A total of 227 rooms were audited, with 1,687 points marked with fluorescent dye. In P1, cleaning compliance was 50.0% in the intervention group and 49.3% in the control group. Compliance improved following the initial training in both groups, reaching over 70% in the 8 weeks after the first session in both groups. Despite enhanced support for the intervention group, no significant difference was observed between groups in P2 (56.6% vs. 55.1%). By P3, compliance declined below P2 and P1 levels, reaching 41.6% in the intervention group and 39.6% in the control group. This drop coincided with a rise in absenteeism, more pronounced in the intervention group.
ASH knowledge improved post-training.
Conclusion: Training has a clear positive impact on cleaning quality, but this effect diminishes in the short term. Sustained support, regular evaluations, and feedback mechanisms should be considered to maintain compliance. Reasons for absenteeism in HCS should be explored to improve this critical task.

Disclosure of Interest
None declared.

P1381

Cleaning efficacy of contaminated mobile nursing carts

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Introduction: Mobile nursing cart is a trend for modern nursing practice which can enhance the working efficiency and reduce the processing mistakes. But the mobile devices might become the media for transmission of multi-drug resistant organisms.
Objectives: This study aims to investigate the adequacy and accessibility of surface disinfection process for nursing cart which can provide the experience for establishing standard operation processes of environmental cleanliness and disinfection.
Methods:
1. We performed surface culture of every mobile nursing cart from 10 highly freqeunt touched points.
2. We tested the disinfective efficacy of different agents (alcohol or quaternary ammonium based spray or tissue) which determined by surface ATP bioluminescence.
3. We conducted questionaire from healthcare workers for the convenience and accessibility of different disinfective agents.
Results: We yielded 180 microorganisms from total 320 points (56.3%) and there are 62 clinically significant bacteria (19.4%), which followed by the frequency was 14 *Enterococcus faecium*, 14 *Stenotrophomonas maltophilia*, 10 *Enterobacter cloacae*, 7 *Enterococcus faecalis* and 7 *Acinetobacter baumannii*. The efficacy of different disinfective agents are well which determined by significant decline of ATP value after surface cleaniness. The healthcare workers reported similar convenience and accessibility of diffecent disinfective agents.
Conclusion: The mobile medical devices are widely used in modern healthcare service. We demonstrated the devices could be the media of bacterial transmission and result in healthcare associated infection. Alcohol or quaternary ammonium based agent is a suitable agent for this purpose.

Disclosure of Interest
None declared.

P1382

Safety first: standardized environmental cart set up

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Introduction: This project implemented standardized procedures and visual aids(flyer) to enhance consistency, efficiency and compliance in Environmental Services (EVS)/Housekeeping workflows. By promoting uniform practices and minimizing cross-contamination risks, support sustainable infection prevention through continuous evaluation and optimized cart/workstation organization.
Objectives:—Establish uniformity and efficiency in EVS operations.
- Implement strategies to minimize the risk of cross-contamination.
- Develop visual aids to demonstrate proper cart setup, to enhance understanding and compliance. (Toolkit with training materials will be provided)
- Establish ongoing assessment of cart setup to ensure effectiveness and sustainability.
Methods: An audit tool was created to assess adherence, with data analyzed using descriptive statistics to evaluate peformance, identify gaps, and continuous process improvement. This quality improvement initiative standardized EVS cart setups to enhance efficiency and reduce cross-contamination. Visual aids were affixed to carts to reinforce correct setup and promote compliance. Interventions included segregated storage of clean and dirty items, properly labeling disinfectant bottles, and excluding personal items.
Results: Between March and May 2025, 78 EVS carts were audited by Infection Preventionists and EVS Operations Managers (OPs), generating 654 compliance points across eight uniform criteria. Overall compliance was 92%, with individual rates ranging from 76 to 99%. Top adherence was noted for the presence of the EVS cart flyer (99%), while separation of clean and dirty items showed the lowest (76%). Strong compliance was observed in container labeling (95%) and absence of personal items (94%). Active involvement of OPs Managers in audits supported sustained compliance and accountability. (Fig. 1)
Conclusion: The standardized EVS cart setup shows the value of planning, execution, and evaluation in advancing EVS excellence. Adherence to uniform practices fosters a safer, more hygienic environment for patients and staff, aligning with infection prevention and patient safety goals. Findings suggest that structured protocols and leadership engagement effectively promote consistent, safe EVS practices. Ongoing monitoring and targeted improvements, especially in lower-performing areas, will enhance sustainability and further reduce cross-contamination risks.

Disclosure of Interest
None declared.

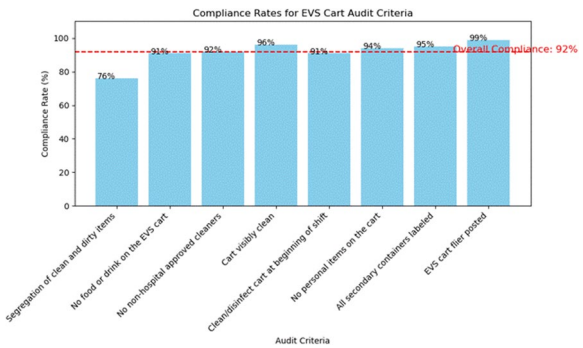

Fig. 1 (abstract P1382). See text for description

P1383

The Environmental Services Optimization Playbook (EVSOP) project is multi-faceted. It provides programs designed to support reliable standardization of evidence-based practices for environmental cleaning and disinfection to help save lives!

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Abstract video clip description: All videos included in toolkit
Introduction: The Environmental Services Optimization Playbook (EvSOP) Program is multi-faceted. It provides programs designed to support reliable standardization of evidence-based practices for environmental cleaning and disinfection to improve the lives and work environments of people.
Objectives: Overview: This project involved the testing and enhancement of a Playbook designed to serve as a guide to improvement/enhancement of ***EVS processes and outcomes***. After an initial self-assessment to identify facility specific opportunity areas, the Playbook was used by each of the selected hospital/study sites over the course of 3 to 6 months for each.
Methods: The Playbook is a 4-step improvement plan which begins with a self-assessment, and a Kickoff meeting to engage all stakeholders, followed by regular team meetings to facilitate complete implementation of the Playbook tailored according to the specific self-assessment/gap analysis at each study site/hospital. At the end of the project for study site, an exit conference was scheduled to review progress and plan for sustaining gains. A 53 member Advisor Panel was provided to support each hospital/study site and provide input on the Playbook. Where permitted, press releases were planned in collaboration with the study sites.
Results:—98.78% of attendees are Very Satisfied with training and support.
- IMPROVED patient experience and HCAHPS Scores by 10% points
- REDUCED infection rates across the board, including cutting C. Diff. infection rates in HALF
- REDUCED Frontline Turnover Rate by a THIRD
- INCREASED frequency of interaction between EVS staff and clinical staf

Conclusion: The EvSOP project/playbook was implemented worldwide across a variety of healthcare organizations with improved outcomes (Infection Rate Reduction, Patient and Staff Satisfaction/experience, Reduced Turnover, Cost Savings, Better Collaboration, Value Analysis and Responsibility Matrix supported by Service Level Agreement between EVS and other departments. https://joom.ag/FSBe/p26

Disclosure of Interest
None declared.

P1384

Quantitative assessment of environmental hygiene in healthcare facilities in Croatia

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Introduction: Healthcare-associated infections (HAIs) are a significant global health problem and contribute to high patient morbidity and mortality rates. Hospital environmental hygiene is considered an important preventive measure, especially during the COVID-19 pandemic, the importance of this measure was emphasized even more, making it the subject of numerous scientific studies at a global level. Today, hand and environmental hygiene in healthcare facilities are two fundamental preventive strategies in the fight against HAIs, provided they are carried out according to established protocols and staff are adequately trained. However, the impact of hospital hygiene on the transmission of microorganisms and the resulting patient safety has not yet been sufficiently studied.
Objectives: The aim of the study was to evaluate the level of hygiene in healthcare facilities based on the assessment of staff in the infection prevention and control departments.
Methods: Between April and November 2024, a quantitative survey was conducted in Croatian hospitals to assess the level of healthcare environmental hygiene based on a Healthcare Environmental Hygiene Self-Assessment Framework (HEHSAF) which was translated from English into Croatian. Of the 35 healthcare facilities invited, 29 consented and 27 completed the questionnaire. The data collected was analyzed using descriptive statistics and the preliminary results will be presented.
Results: The results show inconsistent standards in terms of environmental hygiene, work procedures, equipment and staff training, indicating the need for further improvement and standardization of these processes.
Conclusion: The data obtained indicates an average level of environmental hygiene in the healthcare facilities, which leaves room for active work and raises the level at all parts of the multimodal strategy, especially education and training

Disclosure of Interest
None declared.

P1385

Dice seeing the unseen

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Introduction: Antibiotic resistance is a major global threat, identified by the World Health Organization as one of the top ten public health risks. To combat this, reducing healthcare-associated infections (HAIs) is crucial, with effective environmental hygiene being essential to slow resistance and protect patients. The DICE system—Detect, Identify, Correct, Educate—offers a technology-enabled approach to prevention infection, designed for both routine management and crisis situations like pandemics. DICE's constant monitoring enables rapid interventions and evidence-based reporting for regulatory compliance and patient safety.
Objectives:
1. Show Environmental Services staff how to use the BioTorch to detect hidden hot spots.
2. Use microfiber materials and site-made disinfectants to clean patient rooms based on BioTorch data.
3. Create an ongoing education program to improve cleaning techniques

Methods: Quantitative ATP testing, protein swabbing, and qualitative forensic light detection were used to identify contmaination in pateints rooms. Studies show forensic light detection consistently identifies residual contamination, especially in high-risk clinical areas.

Studies are underway in Orlando, Florida and Kansas City, Kansas using a BioTorch to validate patient room cleaning and disinfection.
Results: Through the DICE framework:
DETECT uses BioTorch forensic illumination along with ATP and protein measurements to target contamination sites.
IDENTIFY deploys molecular diagnostics like lateral flow and LAMP devices for detecting infectious agents.
CORRECT directs decontamination efforts based on data from DETECT and IDENTIFY. Corrected actions are Health Care Grade Ultra Microfiber (HGUM) wipes and mops, ergonomically designed cleaning devices, and a site manufactured disinfectant and cleaner.
EDUCATE involves using Biotorch, ATP, and protein testing to teach identification of hot spots, validation of cleaning practices and reinforcement of wiping and moping techniques.
Conclusion: This system sets a new standard for prevention of infection, balancing routine operations and preparedness for future health challenges.

Disclosure of Interest
D. Koenig Grant/Research support from: Cintas and Concept Manufacturing, M. Parker Employee of: Orlando Regional Health, Study Site, A. Jett Employee of: Cintas: Provided funding, J. Milnes Employee of: K-769: BioTorch, J. Feeny Employee of: Concept Manufacturing: provide financial support, R. Morin Employee of: Concept Manufacturing: provide financial support, J. Powell Employee of: University of Kansas Health: study site, S. Ford Employee of: University of Kansas Health: study site.

P1386

Predicting VRE acquisition risk with staff-patient interactions

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Introduction: Vancomycin-resistant Enterococcus (VRE) causes nosocomial infection leading to increased morbidity and mortality. Staff-patient interactions (SPI) can contribute to transmission of VRE.
Objectives: We explored the feasibility of creating a risk prediction for VRE acquisition in an acute hospital in Singapore through features extracted from electronic health records (EHR).
Methods: This was a secondary analysis of an existing dataset across 1 month (July 2024) which included SPI, room type, speciality code and deidentified patient ID, microbiology data and patient location. Utilising the SPI, we calculated the degree of separation (DOS) from VRE patient, average number of SPI per day and days that the patient was hospitalised prior to VRE acquisition. The DOS refers to the number of intermediary individuals between a primary and secondary patient. Hospital-onset VRE acquisition was defined as a positive screen/culture on or after the third day of admission. A Random Forest Classifier was developed using Python 3.11.0.
Results: The original model has a precision of 1.0 and 0.67 and recall of 1.0 and 0.04 for the train and test dataset respectively. While the optimised model has a precision 0.47 and 0.17 of and recall 0.75 and 0.31 of for the train and test dataset respectively. The top 5 features in predicting VRE acquisition is average number of SPI per day, number of VRE patients at 2nd/4th DOS, hospitalization prior to VRE acquisition (Active Days) and total number of 2nd degree interactions (Fig. 1). The new model has a precision 0.46 and 0.16 of and recall of 0.80 and 0.27 for the train and test dataset respectively.
Conclusion: The results demonstrate that the features used for VRE risk prediction are inadequate even after optimization, highlighting gaps in existing models. This underscores the need to incorporate diverse data, such as temporal trends, clinical results, and environmental exposures. By expanding these features, we can build more reliable models to guide prediction.

Disclosure of Interest
None declared.

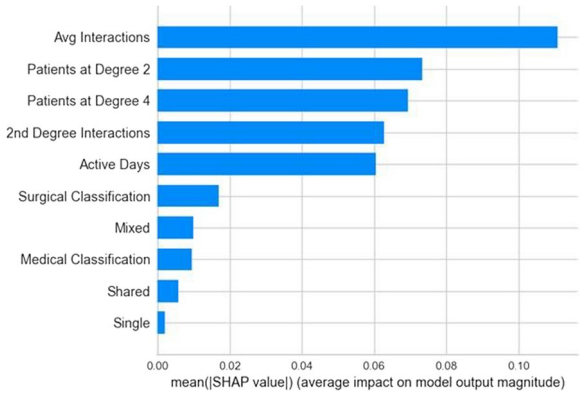

Fig. 1 (abstract P1386). Feature Selection using SHAP for the Random Forest Classifier Model to predict VRE acquisition

P1387

Revolutionizing healthcare-associated infection surveillance through automation and digitalization across 17 UAE governmental hospitals

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Introduction: Healthcare-associated infection (HAI) surveillance is a cornerstone of effective infection prevention and control (IPC). Traditional manual surveillance is time-consuming, resource-intensive, and prone to errors or underreporting. To address these limitations, Emirates Health Services (EHS) implemented a fully automated, digital HAI surveillance system across 17 governmental hospitals to improve accuracy, efficiency, and standardization.
Objectives: This study evaluates the effectiveness, accuracy, and usability of the automated surveillance system in identifying and managing HAIs across the EHS network.
Methods: The system uses machine learning algorithms based on standardized definitions from the Centers for Disease Control and Prevention (CDC) and the National Healthcare Safety Network (NHSN). It integrates with electronic health records (EHR) to provide real-time alerts. Triggering data include laboratory results, vital signs, clinical symptoms, device use, and post-operative readmissions. The system categorizes potential HAIs such as CLABSI, CAUTI, VAE, SSI, and MRSA, and supports Infection Preventionists (IPs) with an integrated Infection Confirmation Advisor. Compliance is monitored through monthly reports measuring timely event completion (within 5 days). Confirmed HAIs undergo dual validation at the facility level and periodic audits by the central IPC committee.
Results: In 2024, the system generated 53,954 events across all EHS hospitals. Of these, 39,392 (73%) were completed within the 5-day compliance window. Delays in the remaining events were primarily

due to case complexity, requiring thorough investigation, as well as repeat infection timeframe (RIT) rules and duplicate cultures. A total of 497 events were confirmed as HAIs: 130 CLABSI, 96 CAUTI, 76 VAE, 142 SSI, and 53 MRSA infections. The multi-tiered validation process ensured data accuracy and consistency across hospitals.
Conclusion: This study demonstrates the transformative role of automation in modern HAI surveillance. Beyond reducing manual burden, the system eliminated paper-based processes, supporting more sustainable and eco-friendly healthcare operations. It enhances objectivity, timeliness, data-driven decision-making, and enables national benchmarking, offering a scalable, future-ready model for improving patient safety and public health.

Disclosure of Interest
None declared.

P1388

Predictive ecological risk modeling of built-environment microbiomes for amr surveillance: a genome-resolved machine learning framework

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1388

Introduction: Urban infrastructures serve as critical microbial reservoirs facilitating AMR transmission, yet traditional biosurveillance frameworks largely overlook these built environments.
Objectives: In this study, we introduce a novel genome-resolved (Fig. 1), machine-learning-guided framework to predict microbial identity transitions and stratify contamination risk across clinical and urban infrastructures.
Methods: We integrated genome-resolved metagenomics (> 2,400 MAGs), AMR and virulence gene profiling, and ecological simulation across four infrastructure types (ambulances, hospital interiors, sewage, public transport). A regularized Random Forest model classified pathogen-associated species profiles with 100% predictive accuracy across 100 Monte Carlo simulations. Synthetic microbial blending experiments modeled contamination trajectories and ecological fragility.
Results: Species profiles yielded perfect environment classification (F1 macro = 1.000, Kappa = 1.000). Built environments showed strong ecological structuring (PERMANOVA $R^2 = 0.81$). Microbial blending revealed asymmetric transitions: hospital interiors and sewage acted as stable microbial sources; ambulances and public transport emerged as ecological sinks with rapid identity loss and high prediction entropy. A composite contamination risk score ranked ambulances and public transport as highest-risk infrastructures.
Conclusion: This scalable framework transforms microbial biosurveillance from passive observation to predictive action. By modeling ecological resilience and contamination susceptibility at genome scale, our system enables outcome-oriented AMR monitoring aligned with WHO and Global Leaders Group priorities. This advance supports hygiene prioritization and infrastructure risk mapping for next-generation infection prevention.
Link to the Framework: https://github.com/SuleimanAminu/genome-resolved-urban-microbiome-biosurveillance

Disclosure of Interest
None declared.

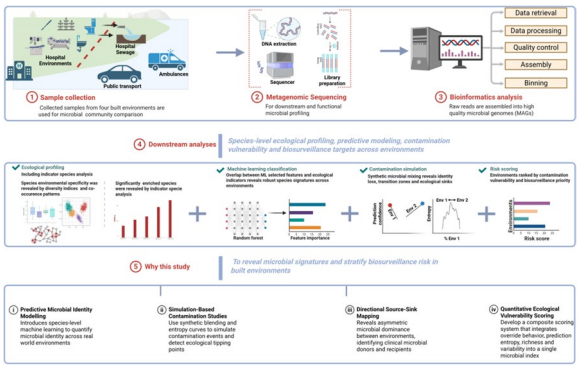

Fig. 1 (abstract P1388). See text for description

P1389

An agent-based model of the impact of adding non-high-risk patients to screening for antibiotic-resistant bacteria on the acquisition and prevalence of carriage in hospitals

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1389

Introduction: Screening for carriage of antibiotic-resistant bacteria (ARB) upon hospital admission and isolating carriers can prevent nosocomial spread of ARB. Screening typically targets patients at high risk of ARB carriage because of recent healthcare system exposure or travel. When ARB expand into the community and among populations without known risk factors for ARB carriage ("non-high-risk patients"), screening only high-risk patients may be insufficient to control nosocomial transmission.
Objectives: We used an agent-based model to examine the impact of screening non-high-risk patients on the acquisition and prevalence of ARB carriage in hospitals.
Methods: The agents in our model of an 800-bed hospital were patients and healthcare workers (HCW). Contacts between HCW and patients or between patients may result in ARB transmission. We modelled scenarios of ARB carriage prevalence upon admission among high-risk patients of 1%, 5% and 20% and ARB carriage prevalence ratios between high-risk and non-high-risk patients of 1.11, 2, 5 and 10. At baseline, screening test sensitivity was 85%, compliance with screening of high-risk patients was 80%, and isolation effectiveness was 70%.
Results: Expanding screening to non-high-risk patients decreased the incidence of nosocomial ARB acquisitions. The impact of this screening on nosocomial acquisitions increased as greater community spread occurred. Expanded screening increased the load of patients requiring isolation. Expanding screening had little impact on carriage prevalence in the hospital, which was mainly influenced by imported cases; nosocomial transmission accounted for a minority of prevalent cases. In the scenario of 20% carriage prevalence among high-risk patients, improving isolation effectiveness to 95% had a greater impact on ARB acquisitions than expanded screening when carriage prevalence among non-high-risk patients was low (Figure).

Conclusion: The impact of screening non-high-risk patients is small when carriage prevalence among high-risk patients is low or when carriage prevalence among non-high-risk patients is much lower than among high-risk patients; in these conditions, improving isolation effectiveness prevents more acquisitions than expanded screening.

Disclosure of Interest
E. Temkin: None declared, L. Wulffhart: None declared, Y. Carmeli Consultant for: Yehuda Carmeli has received grants and personal fees from Basilea, Enlivex Therapeutics, Omnix Medical, Pfizer, and Roche.

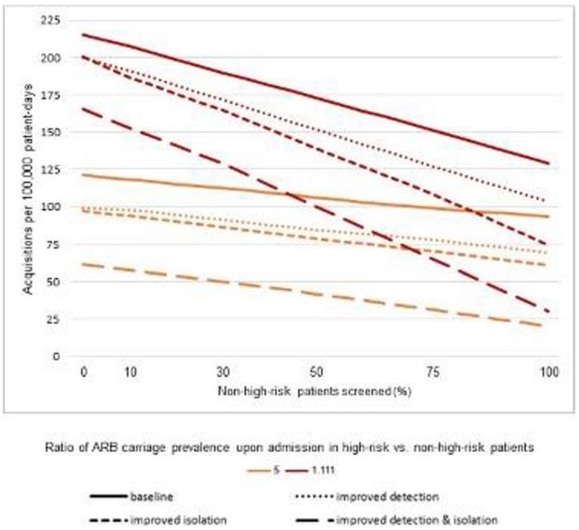

Fig. 1 (abstract P1389) See Incidence of ARB acquisitions in the scenario of 20% prevalence of antibiotic-resistant bacteria carriage among high-risk patients, at baseline (85% text sensitivity, 80% compliance with screening of high-risk patients upon admission, 70% effectiveness of isolation), with improved detection (95% sensitivity, 98% screening of high-risk patients), improved isolation (95%), or both

P1391

Ralstonia mannitolilytica outbreak in a swiss hospital: exposing an unexpected device of contamination

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Introduction:*Ralstonia mannitolilytica* is an emerging opportunistic pathogen known for its resistance to multiple antibiotics and its potential to cause nosocomial outbreaks linked to contaminated water sources or medical devices. In June 2024, the microbiology laboratory of Lausanne University Hospital alerted following the detection of *R. mannitolylitica* in clinical samples from two patients in an intensive care unit (ICU).
Objectives: We describe a nosocomial outbreak of *R. mannitolylitica* in the ICU of a Swiss tertiary hospital.
Methods: Epidemiological investigation included large environmental sampling and whole genome sequencing of strains.
Results: Between May and June 2024, three ICU patients were identified with positive *R. mannitolylitica* samples, with isolates detected in respiratory, blood and rectal samples. Environmental investigations revealed the presence of *R. mannitolylitica* in water sprays used for patient wellness. Whole-genome sequencing confirmed genetic similarity between patient and environmental isolates, confirming the water sprays as the contamination source. Despite no clinical infections, the potential risk of transmission leaded to the withdrawal of these products.
Conclusion: This *R. mannitolylitica* outbreak revealed an unexpected and seemingly innocuous source of contamination, such as cosmetic water sprays. This highlights the importance of surveillance also of non-medical products used in patient care.

Disclosure of Interest
None declared.

P1394

Outbreak of burkholderia cepacia complex infection associated with intrinsically contaminated commercial 0.5% chlorhexidine solution

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1394

Introduction:*Burkholderia cepacia* complex (BCC) is an aerobic Gram-negative bacillus commonly isolated from aqueous environments. In May 2024, we identified two patients who developed BCC infections within one month following fronto-orbital advancement procedures.
Objectives: To identify the source of the BCC outbreak and implement control measures.
Methods: We defined case patients as individuals with laboratory-confirmed BCC isolated from clinical specimens within the six months prior to the outbreak. We visited the operating unit, interviewed the medical and nursing staff, and observed any changes in surgical practices. Additionally, we aseptically collected environmental samples for microbiological analysis.
Results: BCC was isolated from twenty-three patients. Of these, three cases exhibited similar antimicrobial susceptibility patterns and were linked to the use of 0.5% aqueous chlorhexidine gluconate (CHG) solution. Of the twenty-three environmental samples tested, BCC was detected in ten samples of the 0.5% aqueous CHG solution. The investigation concluded that the BCC infections were associated with the contaminated 0.5% aqueous CHG solution. The outbreak was successfully contained following the withdrawal of the product and re-education of staff.
Conclusion: The monitoring of hospital-acquired infections by a multidisciplinary team played a critical role in the prevention and rapid control of the outbreaks. Additionally, stricter government regulations are needed to prevent the contamination of disinfectants during manufacturing.

Disclosure of Interest
None declared.

P1395

Bronchoscopy associated outbreak of pseudomonas aeruginosa o:16 in multiple intensive care units

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1395

Introduction: Bronchoscopes have been linked to outbreaks or pseudo-outbreaks in intensive care units (ICU). The source of contamination can be the use of contaminated water, dysfunction of the bronchoscope, automated endosope reprocessors (AER) failure or inadequate disinfection of the device. *Pseudomonas aeruginosa* (PA) is one of the most frequently involved pathogens.
Objectives: Here, we report an outbreak and pseudo-outbreak of *Pseudomonas aeruginosa* O:16 infections/colonizations across several ICUs associated with 3 bronchoscopes.
Methods: The investigations were initiated in February 2024 after 5 cases of PA O:16 infection in a medical ICU.
Cases were defined as ICU patients (medical—MICU or surgical—SICU) with clinical or screening samples positive for PA O:16. Asymptomatic carriers were not actively screened.
All bronchoscopes and AER were sampled to detect the presence of PA.
We also sampled the water used for first rinsing of endoscopes immediately after procedures in the 2 ICUs involved in the outbreak.
PA O:16 isolates were compared using pulse-field gel electrophoresis (PFGE).
Results: Following the five reported cases (Jan–Feb 2024), a retrospective review identified five additional cases dating back to September 2023. Seven of the 10 patients had been exposed to the same bronchoscope. PFGE showed 8 genetically related PA O:16 isolates (first case: Dec 5, 2023). This PA was not considered multi-resistant to antibiotics.
Cases occurred in three units of the medical ICUs (4 in unit 2, 1 in unit 1, 1 in unit 3) and 2 in SICU. Five patients had only pulmonary sample positives, considered contaminants in 3 cases. Two patients developed bloodstream infections and one a central venous catheter colonization. One patient died of a polymicrobial (including PA) septic shock.
All AER and water samples were sterile. PA O:16 was found on 3 of 6 bronchoscopes. The infection control and prevention (ICP) team identified bronchoscopes obsolescence and delay in endoscope processing as main factors contributing to these contaminations.
Conclusion: Bronchoscope reprocessing is complex and time-sensitive. Delayed handling may promote biofilm formation. The 3 contaminated bronchoscopes were withdrawn and single-use devices were introduced for procedures outside reprocessing hours (nights, weekends). No other cases were detected following these actions.

Disclosure of Interest
None declared.

P1396

Foodborne outbreak investigation caused by salmonella in Muscat, Oman, January 2024. A retrospective cohort study

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1396

Abstract video clip description: On January 7-8, 2024, Muscat's food safety program reported an unexpected number of gastrointestinal illnesses had presented to a specific Hospital. A team from the Saudi Field Epidemiology Training Program was dispatched to confirm the existence of the outbreak, confirm the diagnosis, define and identify the cases, identify the source of the outbreak, determine the causative agent or organism, if possible, and the mode of transmission, and recommend preventive measures to be applied to prevent similar outbreaks in the future.
Methods: A retrospective cohort study was conducted. A case was defined as any person suffering from symptoms of foodborne illness (e.g. diarrhea and/or abdominal cramps, vomiting, fever) after eating from the plated meal menu served at the specific club restaurant in Muscat on January 7 and 8, 2024. We collected information on demographics, symptoms, and food history using a semi-structured questionnaire. Risk ratios (RR) and 95% confidence intervals (CI) were calculated. An environmental risk assessment was conducted to determine the source of the food contamination. Data was analyzed using Microsoft Excel and SPSS.
Results: A cohort study was conducted. We identified 68 cases with an overall attack rate of 53% (68/128). The minimum incubation period was 10 h, and the maximum was 72 h, with a mean of 24 h. The total number who sought medical advice was 18 (26%). Among those, 15 (22%) were admitted, with no death. Cases ranged in age between 9–69 years (mean = 41 SD ± 10). The most reported symptoms were diarrhea (91%) and abdominal pain (65%). Illness was significantly associated with the consumption of chicken food items (RR = 3.9, CI = 2.4-6.5, $p < 0.0001$). Nine samples from patients were positive for *Salmonella entrica*. Stool cultures were negative for food handlers. Food and water samples sent for microbial analysis were also negative.
Conclusion: Based on symptoms, incubation period, epidemiological investigation, and laboratory results, this outbreak was most likely caused by Salmonella enterica contamination of chicken. We recommend increased supervision and periodic examinations for food handlers. Additionally, food handlers must be trained in food safety.
Keywords: foodborne disease, outbreak, Oman, restaurant, retrospective cohort study, salmonella, food-specific attack rates.

Disclosure of Interest
None declared.

P1397

Infectious disease surveillance among urban pregnant women in Bangladesh: an 8-month prospective study

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Introduction: Urban areas in Bangladesh face increasing vulnerability to infectious diseases due to rapid urbanization, high population density, and mobility. Primary healthcare centers providing antenatal care offer a crucial entry point for disease surveillance but often lack structured systems.
Objectives: This aim of this study was to implement selected infectious disease surveillance among pregnant mother seeking ante-natal care in urban primary health centers with a focus on timely case detection and reporting.
Methods: This 8-month surveillance study was conducted for six priority infections: Hepatitis B (Hep-B), sexually transmitted diseases (STDs), dengue, urinary tract infections (UTIs), influenza-like illness (ILI), and severe acute respiratory illness (SARI) in six randomly selected metropolitan cities across Bangladesh. In each city, four primary healthcare centers were randomly selected, totaling 24 study sites, all providing antenatal care with diagnostic facilities. Screening for six infectious diseases followed Bangladesh's national guidelines for maternal health investigations. Hep-B, STD, Dengue & UTI were screened by Lab test where ILI and SARI were identified by history taking and clinical examination. Data collection included interviews-based questionnaire at antenatal visits and digital documentation of lab results.
Results: A total of 2,613 pregnant women were enrolled during their antenatal care visits, among them 946 (36%) respondents were below 20 yrs of age. Among 1,939 HBsAg tests, 15 (0.77%) were positive. No positive cases were identified among 1,880 VDRL tests, 638 Dengue NS1 tests, or 635 Dengue IgG/IgM tests. Routine urine analysis revealed 573 cases (28.37%) with pus cell counts > 5, indicating potential
Conclusion: Findings suggest that early detection and systematic reporting may contribute to reducing Hep-B and STD transmission rates. The high prevalence of UTIs highlights the need for targeted interventions in antenatal care, emphasizing policy adaptations for improved maternal infection management. These results offer actionable insights for policymakers for enhanced infectious disease surveillance and prevention strategies in urban healthcare settings.

Disclosure of Interest
None declared.

Name of test		Sylhet City (n=307)	Chottogram (n=163)	Rajshahi (n=718)	Narayanganj (n=446)	Khulna (n=503)	Cumilla (n=476)	Total
HBcAg	Test performed	194	140	700	433	366	106	1939
	Test positive	-	-	**4 (0.6%)**	**5 (1%)**	**6 (1.7%)**		**15 (0.8%)**
VDRL	Test performed	197	96	683	427	369	108	1880
	Test positive	**1**	-	-	-	-	-	**1 (0.05%)**
Dengue NS1 antigen	Test performed	-	04	629	01	04	-	638
	Test positive	-	-	-	-	-	-	-
Dengue IgG or IgM	Test performed	-	01	629	02	03	-	635
	Test positive	-	-	-	-	-	-	-
Urine routine examination	Test performed	285	85	643	427	433	147	2020
	Test positive	**19 (7%)**	**8 (9%)**	**271 (42%)**	**53 (12%)**	**200 (46%)**	**22 (15%)**	**573 (28%)**

Fig. 1 (abstract P1397). Summary of ID Surveillance in 06 City Corporations. Total respondent (n) in all 06 Metropolitan Cities: 2613

P1398

Spatial-temporal distribution of incidence and mortality of neonatal-tetanus and its epidemiological determinants in southern Pakistan: November 2024

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1398

Introduction: Neonatal-tetanus remains a public health threat in many low-middle-income countries including Pakistan.Sindh-Pakistan reported third highest number of NNT cases and deaths in 2022. Administration of tetanus-toxoid vaccine to pregnant women can reduce the neonatal deaths by up to 94%. In Pakistan, little attention given to its spatial-temporal dynamics.
Objectives: The objective of this study is to identify geographic hotspots, temporal trends, epidemiological determinants and to inform targeted interventions
Methods: A spatiotemporal analysis of neonatal-tetanus cases and deaths was conducted in Sindh Province from January 1 st 2022 to November 30th 2024. All cases and deaths were identified through integrated Disease Surveillance and ResponseSystem. Parents/Guardian were approached. In-personal interviews conducted to collect informationregarding maternal TT vaccination, safe delivery practices, delivery site and cord cutting practices.Spatial autocorrelation and hot spot analysis were used to detect spatial dependency and spatialclustering of the neonatal-tetanus cases and deaths. Adjusted odd ration (AOR) and 95% confidence-interval with p-value < 0.05 were calculated.
Results: A total of 127 cases (median age: 08 days range03-25 days) and 93 deaths (case-fatality-rate 73%) were reported. The overall incidence-rate was 16/100,000. The highest incidence rate was reported in year 2022 (n = 86: AR: 11/100,000). Maleaccounted AR = 17/100,000. The peak of the cases found in January(n = 23). On hot spot analysis twomajor clusters were identified: Malir (n = 25: attack-rate = 75/100,000) and Thatta (n = 16: attack-rate106/100,000). Spatial autocorrelation analysis detected negative spatial dependency in the distribution of cases and deaths. The risk of NNT was high with mother un-vaccination against tetanus(AOR: 21.7, C.I: 6.5-72.1), delivery conducted at home (AOR: 6.6, C.I: 1.2-36-1), and Surma (leadsulphide) application on umbilicus (AOR: 8.3, C.I: 1.7-39)
Conclusion: Current study revealed that theSindh faced significant health challenges to support global strategy of elimination of the NNT. There isurgent need for Strengthening TT vaccination programs and awareness among mothers regarding safedelivery practices. The clustering of cases highlights the importance of geographically tailored strategies.

Disclosure of Interest
None declared.

P1401

Implementing infection prevention and control guidelines in Nepal: status, lessons learnt and challenges

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1401

Introduction: Infection prevention and control (IPC) is an essential, evidence-based approach that safeguards patients and health workers from preventable infections. IPC requires coordinated action across all levels of the health system and is fundamental to patient safety and quality care.
Objectives: To explore and discuss the status, lessons learnt and challenges of implementing IPC guidelines in Nepal.
Methods: Desk review was conducted. Various literatures, reports and policy documents related to IPC in Nepal were reviewed and descriptive analysis was conducted.
Results: Nepal launched the National Guideline on Infection Prevention and Control in May 2023. The guideline was prepared by National IPC technical working committee and endorsed by the Ministry of Health and Population (MoHP). The guideline aims to support and promote uniform implementation of IPC practices at healthcare facilities across Nepal with the following objectives:
- To implement IPC activities at all level of health facilities to reduce the risk of infection
- To protect patients, visitors, health workers and community peoples from health care associated infections (HCAIs)
- To ensure uniformity in practices on IPC
- To strengthen health systems to combat AMR by improving quality of health services at all level of health facilities.
Nepal has also prepared IPC implementation manual:
- To implement IPC guidelines and ensure uniformity in IPC practices to reduce HCAIs and provide quality health services
- To ensure appropriate practices of standard precautions for effective IPC program
- To strengthen the practices of IPC in health facilities
- To conduct surveillance on HCAIs
- To support in implementation of antimicrobial stewardship program
The implementation manual also identifies core components of IPC: IPC guidelines and availability of work plan, education and training, surveillance, multimodal strategies, monitoring, audit and feedback, workload, staffing and bed occupancy, and environment, materials and equipment. However, there has been delay in implementation of the manual and the guideline across the nation.
Conclusion: Nepal needs to scale up and expand implementation of IPC throughout the nation. Formation of focal units and technical committees, enhancing capacity building activities, strengthening monitoring and feedback, management of infrastructures and allocation of resources should be initiated instantly to implement the IPC program.

Disclosure of Interest
None declared.

P1402

AMR: a comic strip for a community-led school intervention

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Introduction: Combating AMR is a public health priority in Geneva, as outlined in the Canton's 2024-2028 Health Prevention and Promotion Plan. Using extracurricular educational tools to raise children AMR awareness promotes long-term knowledge retention and allows shaping the behavior of future adults for a responsible use of antibiotics. We elaborated a comic strip on AMR for primary school pupils.
Objectives: To enhance pupils'AMR knowledge and awareness and help them understand its implications.
Methods: L'Agora d'Hypatie created the AMR-themed comic strip, whose key messages were defined by a scientific committee. 2,500 copies were distributed upon registration through newsletters from the Cantonal Department of Public Instruction and professional associations, reaching primary school teachers and healthcare professionals. A free e-version is available (Ebook antibio). An optional expert-led classroom intervention further enhanced the educational impact, and teachers completed a satisfaction survey (9 items) to assess its relevance.
Results: At the time of the submission, ~2,000 copies were distributed and 60 teachers applied to expert-led classroom interventions for the 2024-2025 academic year. Preliminary findings from the satisfaction survey (30% of planned interventions, 100% response rate) reveal high levels of approval from both pupils and teachers. On average, students rated the comic strip 8 out of 10 (median 8), and teachers rated it 8.8 out of 10 (median 10). Most of teachers estimate that AMR is a suitable topic for primary school teaching.
Conclusion: Despite broad impact, AMR remains abstract for many, underscoring the need for effective, innovative communication. This project has successfully demystified the microbial world, emphasizing both the risks and the essential role of bacteria in human health. It has also gained national attention, with plans to transform it into a sustainable program.

Disclosure of Interest
None declared.

P1403

Application of mathematical modelling to assess the impact of intervention mixes for malaria control in Kogi State, Nigeria

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Introduction: Malaria continues to be one of the most devastating health burden in Nigeria. Kogi State in Nigeria has a profound share in the Malaria burden due to its peculiarity such as limited access to healthcare services, inconsistent use of interventions and weather conditions. However, mathematical Modelling as a tool, will be applied at the subnational level with emphasis on Kogi State
Objectives: The study aimed to assess the current Malaria Transmission Dynamics in Kogi State,Evaluate the effectiveness of selected interventions like Insecticide Treated Nets (ITNs), Indoor Residual Spray (IRS), Seasonal Malaria Chemoprevention (SMC) and Artemisinin Combination Therapy (ACT), individually and in combination and Conduct cost-effectiveness analysis.
Methods: A novel deterministic compartmental human-vector model was developed.The novel compartmental model was parameterised using real life and literature-driven data. The parameterised model was simulated using the R programming language. The simulations focused on comparing various intervention scenarios.
Results: The model simulations showed that Malaria infections among children declined significantly when SMC and ITNs were combined. In adults, ITNs and ACTs contributed substantially to reducing transmission. IRS had a greater effect on reducing the mosquito population, when coupled with ITNs. ITNs alone, reduced childhood infection by over 50%.SMC lowered infection rates particularly during high transmission seasons. Combining ITNs, IRS and ACTs was most effective in adults (shown in Fig. 1). Cost effectiveness analysis revealed that ITNs coupled with SMC yielded the best results in under-five children per dollar spent. Combining IRS and ACTs was costlier but valuable in selected high transmission local government hotspots within Kogi State.
Conclusion:
Taloring intervention mixes will help in achieving optimal resource allocation towards advancing Malaria elimination efforts.

Disclosure of Interest
None declared.

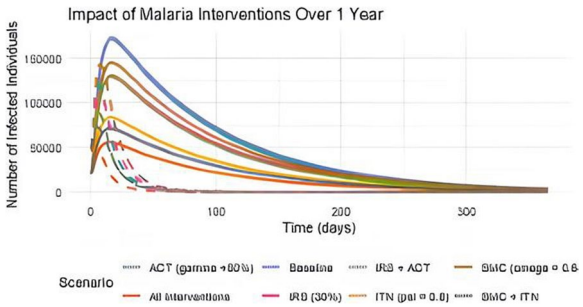

Fig. 1 (abstract P1403). See text for description

P1406

Prevalence of hiv history and associated factors in people affected by mpox in Colombia, 2022

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Introduction: In 2022 an unprecedented outbreak of mpox hit 110 countries, mainly affecting men who have sex with men and people with HIV.
Objectives: This study aims to determine the prevalence of HIV infection and associated factors in those affected by mpox in Colombia between June 25 and December 31, 2022.
Methods: Analytical cross-sectional study based on confirmed cases of mpox reported to the Public Health Surveillance System. Using the mpox and HIV databases, the cases were characterized, the prevalence of a history of HIV in those affected by mpox and the associated factors were estimated using bivariate analysis and multiple logistic regression.
Results: 4046 patients with mpox, of which 4,023 were aged 16 years or older; 97% (3,904) in men, the median age was 31 years (IQR 27-37), the most affected groups were 25 to 34 years old with 52% (2,093) and men who have sexual relations with men (MSM) 83.7% (3,366). The prevalence of HIV history was 60% (2,408/4,046) in confirmed mpox cases, the highest prevalences were observed in Manizales, Medellín and Itagüí (Fig. 1). The most frequent signs and symptoms were genital lesions in 59.6% (2,410) and fever in 67.6% (2,735). The multivariate model for those affected by mpox and a history of HIV indicated associated factors such as being a man OR:9.6; 95%CI:4.35-21.31), having sexually transmitted infections such as hepatitis B (OR:2.9; 95%CI:1.91-4.40), hepatitis C (OR:7.0; 95%CI:3.50-13.97) and syphilis (OR:2.1; 95%

CI:1.46-3.12), being hospitalized (OR:2.2; 95% CI:1.65-2.93), Colombian nationality (OR 2.5; 95% CI: 1.86-3.48) and being homosexual (OR: 2.5; 95% CI: 2.09-3.06)
Conclusion: A prevalence of 60% was determined in mpox patients with a history of HIV. Manizales, Medellín and Itagüí had the highest prevalence. Associated risk factors were identified as being a man, having STIs, being hospitalized, and being MSM. It is necessary to provide differential and priority care for the population with HIV, monitor, provide participatory education for timely diagnosis and avoid complications.

Disclosure of Interest
None declared.

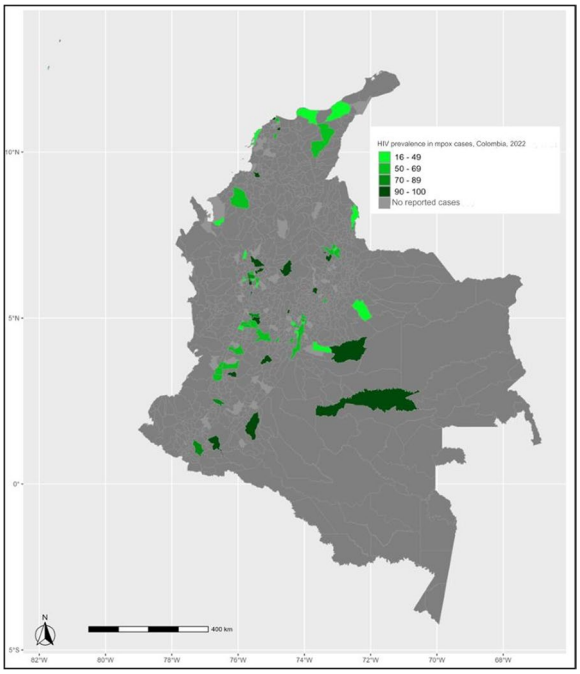

Fig. 1 (abstract P1406). See text for description

P1408

Cost-effectiveness of hepatitis a vaccination using a simple example for low- and middle-income countries

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Introduction: Hepatitis A remains a significant public health threat in low- and middle-income countries (LMICs). Despite the availability of an effective vaccine, limited coverage persists due to perceived cost barriers.
Objectives: This study aims to formally model the cost-effectiveness of hepatitis A vaccination among preschool-aged children in LMICs, using a discounted 10-year horizon and incorporating direct and indirect costs, in accordance with WHO guidelines.
Methods: We constructed a simplified decision-analytic model comparing vaccination versus no vaccination. Costs included vaccine procurement, administration, treatment of hepatitis A cases, and indirect costs such as lost productivity. The primary outcome was cost per disability-adjusted life year (DALY) averted, discounted at 3% annually. Sensitivity analyses assessed the impact of varying vaccine costs and effectiveness.
Results: Vaccination of a cohort of 2 million children at $60 per child would cost $120 million. Accounting for discounted direct and indirect savings over 10 years ($19.96 million), the net program cost was $100.04 million. Averted DALYs totaled 6,264.6 after discounting, resulting in a cost per DALY averted of $15,969. Lowering the vaccine cost to $10 per dose reduced this to $7,661.
Conclusion: Routine hepatitis A vaccination for preschool-aged children in low- and middle-income countries (LMICs) is a cost-effective public health intervention that can significantly reduce disease incidence and improve population health. While initial program costs may be substantial, the long-term health and economic benefits—especially when societal costs are fully considered—justify the investment. Policymakers should prioritize integrating hepatitis A vaccination into national immunization schedules and leverage international support to maximize both health outcomes and economic returns.

Disclosure of Interest
None declared.

P1409

Managing community Infection Prevention Control (IPC) following the first High Consequence Infectious Disease (HCID) mpox clade 1b in the UK

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Introduction: In 2024 the UK reported its first case of mpox clade 1b, a strain designated as a High Consequence Infectious Disease (HCID). This presented significant challenges for infection prevention and control (IPC) within the community. The index case recently returned from affected West African countries. Evidence indicates mpox virus can persist on surfaces, including bedding and clothing for weeks. Subsequent cases identified in household contacts raised the risk of wider community transmission. In the absence of HCID IPC guidance for community settings, several unique IPC challenges emerged.
Objectives: To describe the novel community IPC strategies developed in addressing IPC challenges.
Methods: This case study describes two key IPC challenges: 1) Arranging the safe transfer of community close contacts for PEP vaccination and the case for HCID clinical assessment and 2) Ensuring effective cleaning and decontamination of the index case's private home and vehicle. For safe transfer, transport route options were evaluated and the decision made for an adult contact to drive their private car, necessitating a cleaning and decontamination protocol. The Health Protection Team (HPT) developed an IPC toolkit including a competency assessment and IPC checklist to address the challenges. Close collaboration between NHS services, the HCID network, UKHSA guidance cell, and local stakeholders facilitated the development of pragmatic and timely solutions.
Results: The community IPC challenges were successfully managed through the implementation of the IPC toolkit and checklist. This resulted in the effective cleaning and decontamination of a private vehicle and home, and the safe transfer of contacts for PEP vaccination and HCID clinical assessment and testing. The IPC toolkit proved valuable in ensuring adherence to safety protocols in a stressful and unique situation
Conclusion: The rapid development and implementation of an IPC toolkit and checklist were crucial in effectively managing the first UK case of mpox clade 1b in the community. These measures are believed to have prevented wider community transmission while prioritizing patient-centered care. This case highlights the importance of technical IPC expertise and strong interagency collaboration in responding to

HCID incidents in community settings to safeguard public health and patient safety

Disclosure of Interest
None declared.

P1411

Deciphering the epigenomic signatures of Female Genital Tuberculosis (FGTB): discovery of novel genetic regulators and potential therapeutic targets

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Introduction: Female genital tuberculosis (FGTB) extra-pulmonary tuberculosis can lead to infertility in the long term. Numerous tests have attempted to elute diagnostic modality, but no single test has been developed so far. Hence, there is an urgent need to develop a single diagnostic modality for this enigmatic disease.
Objectives: To develop a diagnostic modality in Female Genital Tuberculosis
Methods: It is a prospective diagnostic cohort study; 500 patients with infertility were screened, and 30 patients with FGTB were recruited. Investigations include Acid-Fast Bacilli (AFB), microscopy/culture, BACTEC, laparoscopy/hysteroscopic findings and demonstration of epithelioid granuloma on histopathology. Epigenetic marks followed by transcriptomic analyses were executed on positive FGTB blood samples.
Results: From 30 FGTB patients, AFB on microscopy was seen in 1 (3.1%), positive Gene Xpert in 5 (15.6%), positive PCR in 14(43.7%), positive LAMP findings in 3(9.3%), Urine LAM findings in 5(15.6%) cases. Definite findings of granulomatous endometritis on histopathology were seen in 5(15.6%) cases. Epigenetic marks followed by transcriptomic studies revealed a new gene POMC gene Homo sapiens proopiomelanocortin (POMC) (Fig. 1, A), commonly found both in TB and in many other diseases. Seventeen differentially expressed genes (DEGs) (Fig. 1, B) namely DCBLD2, OCLNP1, FILIP1L, PLPP3, TM4SF1, MET, DMKN, STARD13, MPZL2, OCLN, MGST1, TSPAN13, SLC6A14, CXCL17, GNG12, KDERL3, ASPH were identified and are expressed in reproductive organs.
Conclusion: The study concludes that 17 DEGs, the FIRST EVER NOVEL GENES, have been postulated in FGTB, which possess its role in the disease. Hence, we can postulate that these FGTB genes have a major role to play in diagnosing and used as biomarkers for this enigmatic disease.

Disclosure of Interest
None declared.

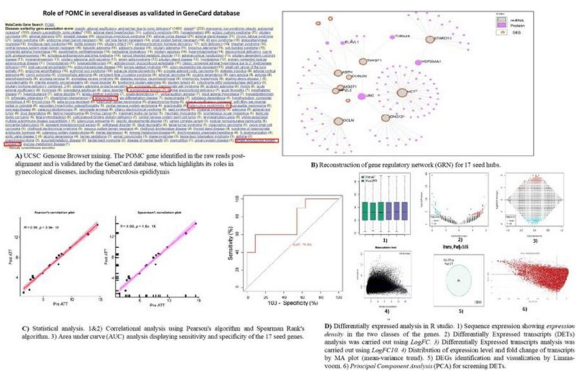

Fig. 1 (abstract P1411). See text for description

P1412

Burden of hepatitis B in drug-resistant tuberculosis in India: a call for integrated screening and management

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Introduction: Co-infection with hepatitis B virus (HBV) among patients with drug-resistant tuberculosis (DR-TB) presents a significant clinical challenge due to the hepatotoxic potential of second-line anti-tuberculosis therapies. In India, where the burden of both TB and HBV is substantial, data on the prevalence of HBV among DR-TB patients remain limited, impeding the development of integrated management strategies.
Objectives: To estimate the prevalence and co-relates of Hepatitis B among individuals with drug-resistant tuberculosis in India
Methods: This systematic review and meta-analysis, registered with PROSPERO (CRD42024595951), was conducted in accordance with PRISMA guidelines. A comprehensive literature search of PubMed, Embase, Web of Science, and CINAHL was undertaken to identify observational studies reporting the prevalence of HBV among drug resitant TB patients in India. Methodological quality was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools. A random-effects model was employed to estimate pooled prevalence, and heterogeneity was assessed using the I^2 statistic.
Results: Fourteen studies met the inclusion criteria. The pooled prevalence of HBV among DR-TB patients was estimated at **11% (95% CI: 6%–16%)**, substantially higher than the general population prevalence of 3.7%, and with no observed heterogeneity ($I^2 = 0\%$). Comparative analysis also revealed a higher pooled prevalence of HBV in TB-HIV co-infected patients (17%), underscoring increased vulnerability in immunocompromised populations. Despite this burden, routine HBV screening in DR-TB management remains inconsistent, raising concerns about potential hepatotoxicity and treatment interruptions. The prevalence varied regionally, with higher rates in Western and Southern India.
Conclusion: Findings suggest that Hepatitis B co-infection rates among TB patients in India is significantly higher implying the importance of routine screening, and integrated management of this co-infections among TB patients to further strengthen the TB elimination efforts.

Disclosure of Interest
None declared.

P1413

High burden of drug-resistant TB in a low resource setting: a case from Nepal

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Introduction: Drug-Resistant Tuberculosis (DR-TB) remains a major public health threat worldwide. In Nepal, DR-TB is a major public health problem with the increasing burden posing a serious concern for TB program. Since 2021, Nepal was listed as a high burden country for DR-TB.
Objectives: To review and assess the burden of DR-TB in Nepal.
Methods: Desk review was conducted. Different literatures, reports and policy documents related to DR-TB in Nepal were reviewed and descriptive analysis was conducted.
Results: The annual burden of DR-TB in Nepal for 2024 was estimated to be 3,000. However, in 2023/24, Nepal identified only 756 cases of which 633 were enrolled in treatment with case notification gap of 75% (2,244) and treatment gap of 16.3% (123). The treatment success

rate was 78% which was higher than the global average success rate for DR-TB and the death rate was 12%. In 2022/23, the estimated cases were 2,900 of which 693 were notified with gap of 76% and among the notified cases, only 546 cases were enrolled in treatment with a gap of 21%.
As of 2023/24, DR-TB services in Nepal were provided through 29 treatment centers, 98 treatment sub-centers, 1 DR home, 6 DR hostel, 3 DR referral centers, 117 Xpert MTB/RIF and 21 Xpert MTB/XDR sites. Similarly, there are 2 sites for culture and DST (Drug Susceptibility Testing), Line Probe Assay (LPA) and solid culture.
Nepal conducted Anti-Tuberculosis Drug Resistance Survey in 2024 among 1,768 (1,592 new and 176 previously treated) patients. The survey showed the prevalence of rifampicin resistance was 2.2% among new patients and 10.1% among previously treated patients. Similarly, the prevalence of multi-drug resistant TB (MDR-TB) was 2.1% among new and 10.1% among previously treated patients. The overall prevalence of pre-extensively drug-resistant tuberculosis (pre-XDR TB) was 1.3% among new patients and 3.4% among previously treated patients.
Conclusion: There exists a huge gap between estimated, notified and treated cases of DR-TB and substantial efforts are required to fill the gap. Decentralization of diagnosis and treatment services, expansion of services, and access to high quality services, patient centered care, increasing awareness, and ensuring sufficient resources are crucial to reduce burden of DR-TB in the country. Additionally, there is an urgent need to address the irrational use of antibiotics through the implementation of strict regulations and policies.

Disclosure of Interest
None declared.

P1415

Antimicrobial prescribing in a rural zambian hospital: findings from a point prevalence survey and implications for stewardship

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Introduction: Antimicrobial resistance (AMR) is a global health concern, driven largely by inappropriate and excessive antimicrobial use. In resource-limited settings, data on antimicrobial prescribing practices are often scarce limiting efforts to inform and implement antimicrobial stewardship (AMS) interventions.
Objectives: Assess the prevalence and patterns of antimicrobial use at St. Francis Hospital, a third-level facility, to inform targeted AMS strategies.
Methods: A cross-sectional Point Prevalence Survey was conducted on December 14, 2023, involving a random selection of 222 inpatients across pediatric, neonatal, medical, surgical, and intensive care wards. The sample size was calculated based on the hospitals inpatient census. Data on prescribing patterns, antimicrobial classes (using WHO AWaRe classification) and indication was collected using the Research Electronic Data Capture system.
Results: A total of 195 out of 222 inpatients were receiving at least one antimicrobial on the day of the survey. Among pediatric wards and neonatal intensive care unit inpatients, antimicrobial prevalence was 66.7% and 33.3%, respectively. In adult wards, the prevalence was highest in the medical wards (41%) and surgical wards (18.9%). Antimicrobials from the WHO AWaRe Access group accounted for 61.4% of all prescriptions, comprising beta-lactamase-sensitive penicillins (22.9%), penicillins with extended spectrum (19.0%), imidazole derivatives (10.5%), and aminoglycosides (8.6%). Watch group antimicrobials represented 21.9% of prescriptions, with third-generation cephalosporins as the only class identified. Therapeutic use was exclusively empiric for both community-acquired infections (88.5%) and healthcare-associated infections (11.5%), with no documented targeted therapy.
Conclusion: The survey identified a reliance on empiric antimicrobial therapy and the use of broad-spectrum antibiotics, which indicates significant gaps in diagnostic capacity and antimicrobial stewardship. Notably, most prescriptions were from the Access group of the WHO AWaRe classification, which aligns with recommended prescribing patterns. The substantial use of antimicrobials from the Watch group raises concerns regarding the potential acceleration of antimicrobial resistance. These findings highlight an urgent need for AMS interventions, including enhanced diagnostic capacity to support evidence-based therapy.

Disclosure of Interest
None declared.

P1417

High and rising: a decade of antifungal use in Belgium (2014-2023)

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1417

Introduction: According to European Surveillance of Antimicrobial Consumption Network (ESAC-Net) 2023 report, Belgium ranked second in systemic antimycotic and antifungal use in Europe, reaching nearly triple the European average.
Objectives: This study examines national consumption trends between 2014 and 2023 across care settings.
Methods: Data from ESAC-Net were used to assess reimbursed consumption of systemic antimycotics (ATC group J02A) and antifungals (ATC D01BA). Defined daily doses (DDDs) per 1000 inhabithants/day (DID) were calculated using the WHO ATC/DDD Index 2023 and Eurostat population data. Relative change and temporal trends were assessed using percentage variation and Spearman's rank correlation.
Results: In 2023, 96.2% of antifungals/antimycotics DDDs were dispensed in the community, where use was exclusively oral. Hospital use represented 3.8% of total consumption, with 60.2% oral and 39.8% parenteral formulations. In the community, terbinafine (D01BA02), fluconazole (J02AC01), and itraconazole (J02AC02) accounted for most use. Terbinafine increased (+17.9%, $p=0.29$), while fluconazole (−9.9%, $p<0.01$) and itraconazole (−24.1%, $p<0.01$) declined significantly. In hospitals, fluconazole remained dominant, followed by isavuconazole, voriconazole, and posaconazole. Hospital consumption declined (−27.3%, $p<0.01$), notabily fluconazole (37.1%, $p<0.01$) and itraconazole (−61.3%, $p<0.01$). Isavuconazole use began in 2019 and surge considerably since 2020 (+13422.0%, $p=0.0167$). Amphotericin B decreased (−41.0%, $p=0.03$) to reached its lowest levels in 2023. Posaconazole (−11.8%, $p=0.55$) and voriconazole (–46.0%, $p=0.70$) showed no significant trends. Between 2014 and 2023, overall consumption declined modestly but significantly (−3.4%, $p=0.04$). A sharp drop in community use occurred in 2020 – likely due to COVID-19 – but returned to near-2016 levels by 2023.
Conclusion: Despite a temporary drop during the COVID-19 pandemic, antifungal consumption in Belgium remains high, especially in outpatient care. The increasing post-2020 trend and continued reliance on azoles and terbinafine— particularly in a context of emerging resistance in *Candida*, *Aspergillus*, and dermatophytes—highlight the need for reinforced antifungal stewardship.

Disclosure of Interest
None declared.

P1418

Prevalence and patterns of antibiotic misuse in primary healthcare facilities of Plateau State, Nigeria: a mixed-methods study

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Introduction: Antibiotic misuse is a growing concern globally contributing to the problem of emergence of antimicrobial-resistance. This resistance is spreading in various environments, making even minor infections difficult to treat, particularly in developing countries where affordable, broad-spectrum antibiotics are losing effectiveness. Inappropriate antibiotics use, including self-medication and poor adherence, is exacerbated by factors like inadequate prescriber knowledge and patient awareness. Primary healthcare facilities in Nigeria are often the first point of contact for patients, making these centers important in the appropriate use of antibiotics.
Objectives: This study aims to assess antibiotic misuse in Primary Healthcare (PHC) facilities in Plateau state, Nigeria. and to determine the prevalence of antibiotic misuse, identify the most commonly prescribed antibiotics, assess healthcare providers' perceptions and attitudes towards antibiotics prescribing practices and challenges faced by these providers in adhering to appropriate antibiotic prescribing guidelines.
Methods: A cross-sectional study among 120 healthcare Providers and 302 patients across the three Senatorial Zones of Plateau state using mixed-method.Semi-structured quesionnaires was used for participants for the quantitative study to assess reasons for antibiotic misuse,while the qualitative component was made up of open responses questions only and observation study of visible information about antibiotic use in the facility.
Results: The result revealed a high prevalence of antibiotic misuse with 77.2% of patients indulging in self-medication. The commonly misused antibiotics were amoxicillin, ciprofloxacin and metronidazole. Healthcare providers cited patient demand, poverty, inadequate training as major contributing factors to antibiotic misuse.
Conclusion: The study underscores the urgent need for **multifaceted interventions**, including enhanced provider education, antimicrobial stewardship programs, and stricter enforcement of prescription policies in PHCs. These findings contribute to evidence-based strategies to mitigate AMR in Nigeria and similar settings, aligning with global health priorities

Disclosure of Interest
None declared.

P1419

Analysis of antibiotic prescribing in Bamako's teaching hospitals: case of Chu Hôpital Du Mali

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1419

Introduction: Approximately 4.95 million deaths worldwide were associated with antimicrobial resistance in 2019, 1.27 million of which were directly attributable to antibiotic-resistant bacteria. Numerous studies have reported that antibiotic prescriptions are inappropriate in 20-50% of cases, both in the community and in hospitals. This inappropriate use has led to an increase in¡ antimicrobial resistance.
Objectives: To analyze antibiotic prescribing in inpatients and outpatients at the Centre Hospitalier et Universitaire de l'Hôpital du Mal according to the WHO AWaRe classification.
Methods: This was a cross-sectional study with retrospective data collection from January to December 2023 on the prescription of inpatients and outpatients at the CHU de l'Hôpital du Mali. Data collection took place from January to June 2024. Our analysis focused on the adequacy between the results of the antibiogram and the actual antibiotic prescription per patient. Antibiotics prescribed were evaluated according to the WHO AWaRe classification.
Results: Results: In our study, we analyzed 1,373 prescriptions, including 977 for outpatients and 396 for inpatients. Of the 396 inpatient cases, only 179 received an antibiotic susceptibility test, and of the 179 inpatients who received an antibiotic susceptibility test, 45.3% underwent therapeutic adaptation. Approximately 58.5% of antibiotics prescribed fell into the access category. To promote responsible antibiotic use and slow the spread of antibiotic resistance, the World Health Organization (WHO) has set a target that at least 60% of global antibiotic consumption at national level should come from the Access group.
Conclusion: Conclusion: This study has highlighted the need to control prescribing in order to reduce the risk of antimicrobial resistance, which is a global threat to human health. The creation and implementation of a therapeutic protocol seems to be one of the possible solutions.
Key words: therapeutic adaptation, antibiotics, AWaRe categorization.

Disclosure of Interest
None declared.

P1420

Efforts and initiations for combating antimicrobial resistance in Nepal

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1420

Introduction: Antimicrobial Resistance (AMR) is a significant public health threat globally and in Nepal, where its burden is increasing due to the improper use of antimicrobials in humans, animals, and the environment. AMR has severe economic and developmental consequences for the country.
Objectives: To assess and discuss the problem of AMR and efforts made for combating AMR in Nepal.
Methods: Desk review was conducted. Different literatures, reports and policy documents related to AMR in Nepal were reviewed and descriptive analysis was conducted.
Results: AMR is a priority public health issue and Government of Nepal (GoN) has undertaken various measures for containing AMR. The Public Health Service Act 2018 restricts antibiotic sales without prescriptions and enforces quality standards. The National Health Policy 2019 calls for a national action plan to curb AMR and regulate antibiotic misuse. Additionally, the Nepal Health Sector Strategy recognizes AMR as a challenge and promotes the One Health approach for effective management.
In 2024, the Government of Nepal updated the National Action Plan on Antimicrobial Resistance (2024–2028) to promote rational antimicrobial use and contain AMR. The plan focuses on awareness, infection prevention, patient management, and reducing morbidity and mortality. It supports Sustainable Development Goals (SDGs) and Universal Health Coverage through a comprehensive, multi-sectoral approach across all governance levels, engaging stakeholders within the "One Health" framework.

The National Action Plan (NAP) for AMR containment in Nepal focuses on five key priorities: raising awareness through education and communication, enhancing surveillance and research, reducing infections via improved infection prevention and control (IPC), optimizing antimicrobial use across various sectors, and securing sustainable resources while promoting research and innovation. Each priorities has its own objectives, strategic interventions, key activities and outputs along with the timeline for completion. The plan establishes various committees for implementation and a monitoring and evaluation (M&E) plan is included to assess activity quality and track progress.
Conclusion: Nepal needs to ensure effective implementation of the action plan through coordinated efforts, capacity development and resource mobilization. Information and awareness activities, surveillance, enhancing IPC and integrating one health approach is necessary.

Disclosure of Interest
None declared.

P1421

Persistent knowledge gaps in antibiotic use in Belgium: evidence from eurobarometer (2009–2022)

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Introduction: Accurate public knowledge about antibiotics is key for fighting resistance and guiding health interventions.
Objectives: This study assessed sociodemographic variations in knowledge about correct antibiotic use (KCAU) among the general population in Belgium.
Methods: Data from four waves of the Eurobarometer (2009, 2013, 2018, and 2022) were used. This survey employed multi-stage random sampling to ensure representativeness of the general population. The study sample comprised 3,535 Belgian respondents (aged 15 or older). KCAU was measured using four true/false statements: 1. Antibiotics kill viruses (false), 2. Antibiotics are effective against colds (false), 3. Unnecessary use of antibiotics makes them become ineffective (true), 4. Taking antibiotics often has side effects such as diarrhea (true). A knowledge score ranging from 0 (no correct answers) to 4 (all correct answers) was calculated. A pooled cross-sectional Poisson regression assessed the association between sociodemographic factors, antibiotic use in the past year and the antibiotic knowledge score.
Results: The proportion of individuals with high KCAU scores (3 or 4 out of 4) remained stable between 2009 (67%) and 2022 (68%), with no significant association between survey year and knowledge level. Lower knowledge was significantly associated with being male (Risk ratio (RR): 0.91, $p < 0.01$), working in other white-collar occupations (RR: 0.92, $p < 0.05$), performing manual labor (RR: 0.92, $p < 0.05$), being a student (RR: 0.88, $p < 0.05$), being unemployed (RR: 0.89, $p < 0.05$; compared with those in managerial occupations), and residing in Brussels (RR: 0.88, $p < 0.01$; compared with Flanders). A higher number of years of full-time education (RR: 1.02, $p < 0.01$) and recent antibiotic use were significantly associated with higher knowledge. No significant associations were found with age, civil status, or financial hardship.
Conclusion: Persistent sociodemographic disparities in antibiotic knowledge were observed in Belgium from 2009 to 2022, with no overall improvement. Public health campaigns should target groups with lower knowledge — like those with lower socioeconomic status — to improve understanding and promote appropriate antibiotic use.

Disclosure of Interest
None declared.

P1423

Can social media be an effective strategy for disseminating knowledge about Antimicrobial Resistance (AMR)?

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Introduction: The Brazilian Nurses Network Tackling the Antimicrobial Resistance (REBRAN) was established in 2022 to promote scientific discussions, research, and nurse engagement to fight AMR in Brazil. Social media could help to disseminate knowledge to a wider nurses' audience countrywide.
Objectives: To assess diffusion and engagement related to content on AMR disseminated via Instagram.
Methods: A prospective study conducted in Brazil (Oct/2023–Oct/2024). A narrative review was conducted to identify the effective social media dissemination strategies. Following, the intervention included: a survey among REBRAN members to ask on relevant AMR topics; the development of a content calendar for social media based on their suggestions; and interactions with followers through educational and motivational drops. Interactions were adjusted dynamically throughout the year according to the results of performance analysis. Performance analysis was carried out every two weeks using social media metrics: followers, impressions, reach, interactions, and number of members. Pearson's correlation test was used to identify a potential association between factors. Ethics approval: N. 5.953.109.
Results: Overall, the social media demonstrates increasing engagement in the subject. The number of REBRAN members showed an increase over the 12 months, growing from 206 to 436. There was a strong correlation ($r = 0.98$) between the number of media followers and REBRAN's members. There was a relevant increase in followers, from 507 to 1,500. The number of impressions increased from 1,600 to 5,400; views have risen from 52.2 to 80.7, and reach has grown from 701 to 3,100 accounts.
Conclusion: Results demonstrate that social media influenced positively the diffusion of AMR content and helped to increase REBRAN's membership. Social media can be an accessible tool for disseminating knowledge about AMR, fostering the engagement of professionals to fight it.

Disclosure of Interest
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P1424

Antimicrobial stewardship in a tertiary care hospital: ten years of antibiotic use patterns and the effects of Covid-19

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Introduction: Antimicrobial resistance is a growing concern in hospital settings, requiring effective stewardship interventions particularly in a country with high antibiotic consumption.
Objectives: We aim to evaluate longitudinal trends in antibiotic use, and to assess the impact of the antimicorbial stewardship program (ASP) and the COVID-19 pandemic on antibiotic consumption patterns in a tertiary care hospital between 2014 and 2024
Methods: In 2017 we implemented a hospital wide ASP which aimed to restrict the use of meropenem, quinolones and to improve surgical antimicrobial propylaxis. We retrospectively reviewed annual hospital-wide antibiotic consumption data from 2014 to 2024. Overall and restricted antibiotic (extended spectrum antibiotics) use rates were calculated. Consumption of key antibiotics were measured in defined daily doses (DDD/1000 patient-day).
Results: Following the initiation of the ASP in 2017, ciprofloxacin use decreased by 53.8% (from 39 to 18 DDD/1000 patient-days) and levofloxacin by 15.6% (from 32 to 27). Meropenem use showed a modest reduction (121 to 108), but increased during the early COVID-19 period (peaking at 125 in 2020). Piperacillin-tazobactam consumption more than tripled (15 to 48), while cefazolin use for surgical prophylaxis rose by 24.4% (90 to 112). The overall antibiotic use rate remained relatively stable (48.5% in 2017 vs. 49.0% in 2024). However, the restricted antibiotic use rate increased substantially after 2020 (from 15.3% in 2020 to 66.0% in 2024). Introduction of ceftazidime-avibactam and a reduction in colistin use were also observed (Fig. 1).
Conclusion: Implementation of the ASP in our hospital led to a sustained reduction in quinolone use and improved surgical prophylaxis. However, controlling meropenem and other broad-spectrum antibiotic use proved challenging, particularly during the COVID-19 pandemic, which was associated with a marked increase in restricted antibiotic consumption. These findings underscore the importance of ongoing ASP efforts and adaptive strategies to mitigate emerging resistance threats at the hospital-wide level.

Disclosure of Interest
None declared.

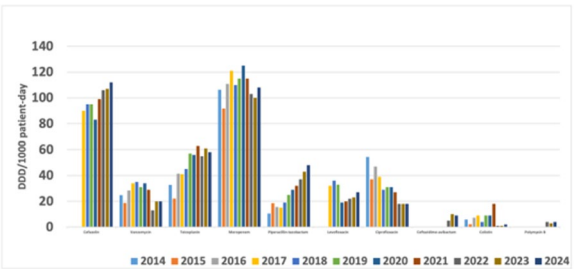

Fig. 1 (abstract P1424). Antimicrobial Use between 2014 and 2024

P1425

Antimicrobial stewardship and nurses: what's missing?

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1425

Introduction: With the emergence of new antimicrobial resistances, it becomes necessary to understand whether the procedures adopted in the preparation and administration of antimicrobials can be improved. If nurses apply good practices in the preparation and administration of these medications, the development of resistance can be minimized.
Objectives: To understand the practices adopted by nurses in the preparation and administration of antimicrobials at the Matosinhos Local Health Unit.
Methods: Application of anonymized questionnaire for data collection and statistical analysis in EXCEL. The 7 most used antimicrobials in the hospital were selected: Amoxicillin-Clavulanic Acid 2.2 g, Meropenem 1000 mg, Clindamycin 600 mg, Vancomycin 1000 mg, Piperacillin/Tazobactan 4.5 g, Ceftriaxone, 2000 mg and Ampicillin 1000 mg. The answers given regarding the solvent used in the reconstitution, dilution and perfusion time were analyzed. Subsequently, the answers obtained in the questionnaire were compared with the bibliographic recommendations.
Results: Of a total of 94 completed questionnaires, 5 were excluded due to lack of full responses. 89 questionnaires were considered in a total of 205 nurses at clinical units. The rate of correct compliance regarding the reconstitution of antimicrobials varies between 57.3 and 89.0%, regarding dilution between 5.6 and 97.8% and regarding perfusion time the variation is between 71.9 and 98.9%.
Conclusion: There is significant variability in the correct preparation and perfusion time of the most commonly used antibiotics. There is a clear need to standardize the practices applied, which is why a protocol will be proposed. If it is accepted by the decision-making bodies and after it's implemented, we will verify whether it had an impact on the antimicrobial resistance rates produced by the institution's microbiology laboratory.

Disclosure of Interest
None declared.

P1426

Antibiotic use without prescription or medical supervision in Belgium: trends and sociodemographic determinants (2009–2022)

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1426

Introduction: Unsupervised use of antibiotics, such as obtaining antibiotics without a medical prescription or using leftover medication, can contribute to antimicrobial resistance.
Objectives: This study examines trends in antibiotic use without a prescription in Belgium between 2009 and 2022 and explores the associated sociodemographic determinants.
Methods: Data were drawn from four waves of the Eurobarometer (2009, 2013, 2018, 2022), which uses multi-stage random sampling to ensure representativeness of the general population. The study sample comprised 1,304 Belgian respondents aged 15 or older who reported antibiotic use in the previous year. A pooled cross-sectional logistic regression assessed the association between sociodemographic factors and unsupervised antibiotic use, defined as obtaining antibiotics without a prescription (from a pharmacy, from elsewhere, or from leftover medication).

Results: Self-reported antibiotic use in the past year decreased from 36.2% in 2009 to 25.4% in 2022. However, among users, unsupervised antibiotic use increased from 4.3% in 2009 to 16.4% in 2022, positioning Belgium second only to Romania among 29 European countries surveyed in 2022. Men were less likely to report unsupervised use, with an odds ratio (OR) of 0.93 ($p < 0.01$). In contrast, self-employed individuals (OR: 2.10, $p < 0.01$), students (OR: 1.35, $p < 0.05$; compared with those in managerial occupations), and residents of Brussels (compared with those living in Flanders) had significantly higher odds. Respondents with a higher level of knowledge about appropriate antibiotic use were less likely to engage in unsupervised use (OR: 0.52, $p < 0.01$). No significant associations were found between unsupervised use and age, civil status, education, or financial hardship.
Conclusion: While overall antibiotic use in Belgium continues to decline, the proportion of users engaging in unsupervised use has increased substantially. These findings highlight the need for continued and targeted public health strategies to raise awareness and encourage appropriate antibiotic practices.

Disclosure of Interest
None declared.

P1427

Exploring the challenges and opportunities for implementing antimicrobial stewardship programs in low-resource healthcare settings

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1427

Introduction: The inappropriate and irrational use of antibiotics has significantly contributed to the development of drug-resistant microbes, leading to millions of deaths and substantial economic burdens globally. Antimicrobial stewardship program (ASP) are crucial to combat the growing problem of antimicrobial resistance (AMR) in healthcare settings
Objectives: This study explores the key challenges and opportunities for implementing an ASP in a low-resource healthcare settings
Methods: A mixed-method study was conducted from August 2020 to July 2021 across eight hospitals in Bangladesh. We interviewed 517 physicians on antibiotic prescriptions, the causes of AMR, and challenges to implementing ASP. We also conducted 16 focus group discussions and 24 in-depth interviews to explore the prospects and challenges of implementing the ASP
Results: According to physicians, (figure) easy access to antibiotics without a prescription 400,(77%), over prescription of broad-spectrum antibiotics 334,(65%), and lack of adequate diagnostic tests 218,(42.2%) were the most reported causes of AMR. When prescribing antibiotics, 68% of physicians routinely step down IV antibiotics to oral as soon as possible, and 42% of physicians took into consideration the affordability of antibiotics for the patient. For cases where SSI was suspected, urine for urinalysis/urine R/E, or urine culture by 176 (34%) and 61 (11.8%) physicians, respectively, while 11 (2%) physicians did not deem it necessary to test urine at all.
Qualitative findings included that most physicians reported that a lack of a sufficient IPC culture, inadequate laboratory testing facilities, and prior antibiotic usage are key contributors to AMR. Absence of updated antibiotic use guidelines, insufficient monitoring and auditing, limited evidence-based practices, and the non-existence of ASP. Irrational prescribing by unqualified practitioners, dispensing of antibiotics without prescriptions, incomplete doses, and aggressive promotion by pharmaceutical companies
Conclusion: Implementing hospital-specific antibiotic use guidelines through regular training for physicians and hospital leadership, with continuous monitoring, is crucial. Political commitment, advocacy, and accountability at both the national and hospital levels to effectively implement ASP in healthcare settings

Disclosure of Interest
None declared.

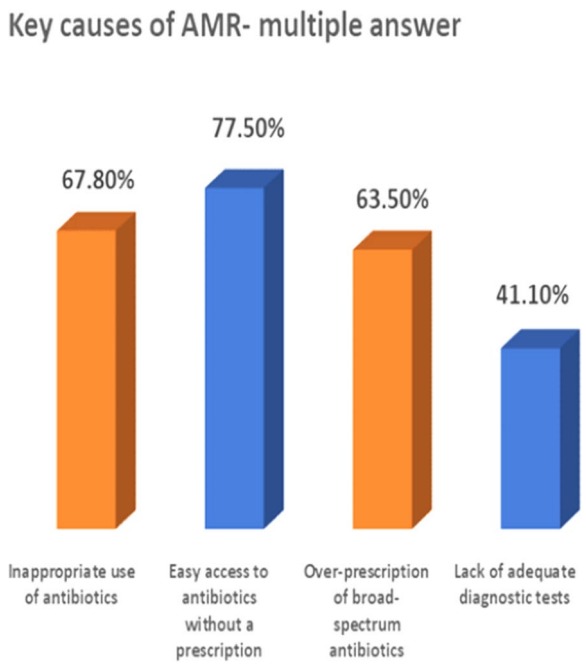

Fig. 1 (abstract P1427). Key causes of AMR-multiple answer

P1429

A multiyear analysis on antimicrobial usage in a teaching hospital in Indonesia: evaluation to prevent future resistance

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Introduction: Antimicrobial resistance (AMR) contributes significantly to higher treatment failure, morbidity and mortality rates, resulting in higher healthcare costs. To improve patient outcomes and reduce treatment costs, it is critical to raise awareness of the appropriate utilization of antibiotics through a variety of interventions, and additional analysis is required to establish the success of the AMR program.
Objectives: To analyze the success of the AMR program
Methods: The investigation was done at Moewardi Teaching Hospital, Indonesia, where the AMR program was implemented using a variety of intervention modalities such as antibiotics restriction, selective susceptibility reporting, automatic stop order, expert approval before antibiotics initiation, computerized physician order entry (CPOE), and antibiotics de-escalation according to microbiology test results. The antibiotic use was assessed qualitatively and quantitatively in the Internal Medicine Department during 2022 and 2024 using the Gyssens flowchart and DDD/100 bed days methods, respectively. Cost-effectiveness was assessed by measuring the cost of antibiotics utilized in Moewardi Teaching Hospital between 2017 and 2024.
Results: According to the Gyssens report, the Internal Medicine Department's category V (no indication) value decreased from 18.18% in 2022 to 9.43% in 2024. The total DDD/100 bed days decreased in 2022 and 2024, to 54.95 and 42.34, respectively. The quantitative analysis results for 2024 show that the DDD values ranged from 0.26 to 11.70 DDD/100 bed days, with ampicillin/sulbactam having the highest DDD. Meropenem has quite a low DDD, namely 0.35. Between

2017 and 2024, the cost of antibiotic use decreased significantly, by about $8 per patient.
Conclusion: AMR program in Moewardi Teaching Hospital, Indonesia can reduce the usage of broad-spectrum antibiotics with more reasonable indications and effective antibiotics cost.

Disclosure of Interest
None declared.

P1430

Knowledge, attitudes and practices of the population of the Mukaza commune in Bujumbura town (Burundi) regarding antimicrobial resistance

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1430

Introduction: RBPCI has organized the first-ever study in the country of the knowledge, attitudes and practices of the population of the commune of Mukaza, Bujumbura in Burundi, on antimicrobial resistance, in order to establish evidence that can contribute to the implementation of activities that meet the real needs of the community. The study took place in November 2023.
Objectives: The overall aim of the activity is to raise community awareness of the dangers of antimicrobial misuse, and consequently involve all stakeholders in the fight against AMR in Bujumbura Mairie, Commune Mukaza;
Methods: The study used stratified random sampling. Households in the survey area were selected by stratified random sampling. All households in the target area were included in the survey frame to ensure that the results were representative. The study area was divided into 10 strata (neighborhoods), i.e. the 10 target neighborhoods for the study.
Results: The results show that the population surveyed is underinformed in many aspects of the fight against AMR, whether women, men, those in or out of school, although the proportions are different, for example (78% of respondents said they were not informed about the danger of sharing antimicrobials, compared with only 22% who were informed). The practices of the population surveyed also show that joint efforts are needed to curb the burden of AMR in the survey area and throughout the country. 74% of respondents who had taken antimicrobials stated that they had not had any laboratory tests carried out before taking them. According to the results, 89% of respondents dispose of UHP with household waste. Community attitudes show that healthcare providers are under pressure from the community to prescribe antimicrobials, and sometimes end up giving in to this pressure.
Conclusion: The results of the study show that the population has very little knowledge of the fight against AMR. Their practices strongly favor AMR, while their attitudes influence the work of health care providers in favor of AMR.

Disclosure of Interest
None declared.

P1431

Assessment of perspectives on common infections and antibiotic use in community pharmacies

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1431

Introduction: Community pharmacists play a pivotal role in antibiotic dispensing and influencing public behaviour. Understanding their views on community-acquired infections and antibiotic use is essential for public health interventions and AMR prevention in India.
Objectives: To assess dispensing patterns for community acquired infections as observed by CPs in Southern Indian City.
Methods: A cross-sectional descriptive study was conducted among CPs in Southern Indian City. A total of 48 registered CPs were purposively sampled. Data were collected using a validated and structured questionnaire. Content validity was done by ten subject experts, and internal consistency was acceptable (Cronbach's alpha = 0.76). Data were analysed using descriptive statistics in SPSS v20.
Results: Out of the 48 CPs, about 77.1% were male, with 60.4% having over 10 years of experience. The mean age of the participants was 37 ± 7 years. Most of them worked in independent type of pharmacy (70.8%) and in attached to a hospital (29.2%) setting. Gastrointestinal infections (79.2%) were the most commonly encountered, followed by skin infections (68.8%) and febrile illnesses (60.4%). Adults (19–60 years) were reported as the most affected age group (95.8%). Notably, 81.3% of pharmacists agreed of dispensing antibiotics without a valid prescription. Majority of CPs (73.9%) dispensed WHO listed Watch category antibiotics without prescription for upper respiratory tract infections, urinary tract infections and wound infections. Among these, about 43 CPs dispensed Azithromycin, followed by Amoxicillin (32), Cefixime (28) and Ciprofloxacin (23) without prescription. However, 68.8% acknowledged not refusing when patients lacked prescriptions. The most commonly perceived reason for patients requesting antibiotics without a prescription was the desire for quick relief (68.8%), followed by habit from previous experience (35.4%), and the belief that antibiotics cure all illnesses (33.3%).
Conclusion: The study findings indicate persistent gaps in regulatory compliance and patient education, contributing to the rise of AMR at the community level. These findings highlight the need for targeted educational interventions, antimicrobial stewardship interventions, stricter regulatory enforcement, and public awareness campaigns to promote rational antibiotic use in the community.

Disclosure of Interest
None declared.

P1432

Antimicrobial resistance in urban water sources: prevalence and public health implications

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Antimicrobial Resistance & Infection Control 2025, **14(1):**P1432

Introduction: The World Health Organization has prioritized combating antimicrobial resistance (AMR), with AMR surveillance being a key component of its Global Action Plan, aligned with the One Health approach. While research on antibiotic resistant bacteria (ARB) in surface waters has grown in developed countries, similar studies are limited in low-income nations, creating a gap in understanding the prevalence, spread, and health risks of AMR in urban water sources.
Objectives: This study aims to assess the prevalence of ARB in the surface waters of Khulna City, Bangladesh and evaluate their health risk implications..
Methods: Bacterial strains were isolated from surface water samples collected from three rivers and two lakes in Khulna City during both the wet and dry seasons during 2022-2024. Antibiotic resistance was assessed using the disc diffusion method. Isolates were preserved in glycerol stocks, and bacterial identification was performed through PCR amplification of the 16S rRNA gene, followed by Sanger sequencing and BLAST analysis.
Results: A total of 180 water samples were collected, yielding 106 distinct bacterial strains. Resistance was observed in varying degrees to ampicillin (9.4% to 18.8%), ciprofloxacin (75.0% to 87.5%), and cefotaxime (65.6% to 78.1%). No significant seasonal patterns were observed. Among 56 randomly selected resistant strains, *Shigella flexneri* (17.9%) was most prevalent, followed by

Escherichia fergusonii (12.5%) and *Proteus mirabilis* (10.7%). The most abundant ARB genera were *Enterobacter* (23.5%), *Shigella* (20.6%), and *Escherichia* (14.7%). All sequences have been deposited in the NCBI GenBank database (accession numbers PQ576641–PQ576685). A quantitative microbial risk assessment of ARB was not feasible due to challenges in obtaining dose-response data for ARB and ARGs, along with the complexities of resistance development and gene transfer in the environment. This underscores the need for further research to develop reliable risk assessment models for ARB exposure.
Conclusion: This study reveals a significant prevalence of ARB in surface waters, underscoring the urgent need for regular monitoring. Interventions such as wastewater treatment and antibiotic stewardship are essential to reduce AMR spread and protecting public health. Further research is needed to develop frameworks for assessing and managing risks related to ARB in surface water.

Disclosure of Interest
None declared.

P1435

Acinetobacter ecology and antibiotic resistance along a patient-river continuum

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1435

Introduction:*Acinetobacter baumannii (Ab)* represents a significant threat to public health due to its antibiotic multi-resistance and its ability to persist on hospital surfaces and establish in hospital sewer system. While *A. baumannii* is extensively studied, *non-baumannii Acinetobacter* are increasing in human infections.
Objectives: We isolated *Acinetobacter* strains along a patient-river continuum, assess their persistence in the clinical environment and characterize them.
Methods:*Acinetobacter* strains were isolated from 20 hospitalized infected patients, their clinical environment (contact surfaces, sink/shower drains during patient's stay and at least two weeks after discharge), hospital effluents, the wastewater treatment plant and the river. Isolates were identified and characterized for clonal profile, presence of integrons and antibiotic susceptibility.
Results: A total of 397 isolates (244 clones) were isolated, with three main species found in patients (*A. baumannii*, *A. pittii* and *A. ursingii*) and two in the clinical environment (*A. ursingii* and *A. johnsonii*). Some clones persisted several weeks after patient discharge. Three patients carried a clone shared with he sink drain in their room. In addition, a clone persisting in the sink drain of an intensive care infected patient was found in the next patient occupying the room. Four isolates carried a class 1 integron: three belonging to different species were isolated from the same drain, and one, was a hospital effluent multi-drug resistant strain. Moreover, our study showed significant colonization of sink-drains by *Acinetobacter* genus, with both clinical and environmental species. Our results suggest that sinks may act as hotspots for genetic exchange between *Acinetobacter spp.*, and for transmission of strains to both effluents and patients (via aerosolization). To better characterize these mechanisms, whole genome sequencing of the strains of interest is currently underway.
Conclusion: This study provides valuable insights into the distribution and characteristics of *Acinetobacter* species along a patient-to-river continuum, with a focus on their persistence in clinical environments, transmission to patient related to environment and potential for antibiotic resistance gene transfer.

Disclosure of Interest
None declared.

P1437

Under the microscope: campylobacter diversity, amr trends & incidence "a one health view"

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1437

Introduction: Campylobacter (C) is a leading cause of foodborne gastroenteritis worldwide, with poultry, particularly chicken, serving as a primary reservoir. The One Health framework, emphasizing the interconnectedness of human, animal, and environmental health, is essential for addressing the growing threat posed by Campylobacter, especially its antibiotic-resistant strains.
Objectives: This study adopts a One Health approach to examine the prevalence, antibiotic resistance profiles, of Campylobacter isolates from retail chicken and human clinical samples. The findings aim to elucidate transmission dynamics and resistance mechanisms.
Methods: Campylobacter isolates were obtained from clinical samples collected at Hamad General Hospital, Qatar and from retail chicken carcasses sourced from major hypermarkets. Isolation was performed using selective media specific for Campylobacter spp. Species identification was conducted via PCR using species-specific primers. Antibiotic susceptibility testing was carried out using the Kirby-Bauer disk diffusion method, following CLSI guidelines.
Results: C. coli and C. jejuni were the predominant species isolated from poultry, occurring in equal proportions, while C. jejuni was the dominant species in human samples. Alarmingly high resistance to ciprofloxacin was observed, 100% in poultry isolates and 87% in human isolates, along with substantial resistance to erythromycin and tetracycline. Younger chickens showed higher contamination rates, and children under five years old were the most affected among human cases.
Conclusion: This study confirms the widespread presence of Campylobacter in both clinical and poultry sources, reinforcing poultry as a key reservoir. The identification of similar antibiotic resistance patterns in isolates from humans and poultry suggests potential transmission along the food chain. These findings underscore the urgent need for integrated One Health strategies to monitor, prevent, and control Campylobacter infections and antimicrobial resistance.
Acknowledgements: This work was supported by Qatar University and the APHA (UK) grant number QU-BRC-IRCC-24/25-394

Disclosure of Interest
None declared.

P1439

The impact of antibiotic growth promoters on broiler chicken and environmental health in Kibaha town council – Tanzania

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**P1439

Introduction: A cross-sectional survey was conducted at Kibaha Town (Tanzania) to assess awareness and effects of using antibiotic growth promoters (AGPs) on both broiler chicken and environmental health.
Objectives: This study aimed at investigating the effects of using antibiotic growth promoters (AGPs) on both broiler chicken and environmental health, in the context of Safe food—and One Health Approach.
Methods: A structured questionnaire was administered through face to face interview to 40 broiler chicken keepers. Data were collected by a combination of qualitative and quantitative methods.

Results: The analysis revealed that all respondents (n = 40) had no diseased chickens in their houses and was attributed to AGPs use, broiler boost and/or hygienic practices. AGPs were provided to chicken by mixing with food (47.5%; n = 19) or drinking water (52.5%; n = 21) during the first week (45%; n = 18), second week (25%; n = 10), third week (12.5%; n = 5) or done continuously disregarding the withdrawal period (17.5%; n = 7). The respondents administered AGPs themselves (62.5%; n = 25) while 37.5% (n = 15) had neither considered dosage nor the number of broilers kept in their poultry houses. Only 42.5% (n = 17) of respondents knew about the negative effects of using AGPs whereas 57.5% (n = 23) had no knowledge at all. Of these respondents 67.5% (n = 27) sold the litter to vegetable growers and fish ponds owners as organic manure while 25% (n = 10) randomly dumped it and only 7.5% (n = 3) safely preserved it in shaded pits to avoid environmental contamination.
Conclusion: These results indicate that poultry wastes with AGPs residues are used as organic manure for agricultural fields and fish ponds production hence, posing risks to human, animals and environmental health. These findings contribute to improvement of Animal Health and Education for Ecological Awareness.
Key words: food, broiler boost, contamination, hygienic, litter

Disclosure of Interest
None declared.

C01

Five steps to hygiene songs

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C01

Abstract video clip description: The video focuses on promoting handwashing practices among pregnant and nursing mothers as part of the BetaMamaPikin project, which aims to improve maternal and child health. In the clip, we discuss the importance of hand hygiene in preventing infections that can affect both mothers and their babies. To make the message more engaging and memorable, we introduced a catchy handwashing song with the lyrics:
5 steps to hand washing (5 times)
Wash your hands, apply soap,
Scrub, rinse, and dry.
The repetition and rhythm of the song are designed to help mothers and nurses easily remember the five key steps to proper handwashing. The goal of the campaign is to promote this song as a tool that health workers, especially nurses, can use to engage mothers and encourage consistent handwashing behavior.

Disclosure of Interest
None declared.

C02

Medsimu ES® in action: strengthening clinical preparedness for measles outbreaks through simulation

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C02

Abstract video clip description: This video emphasises the vital role of medical simulation in equipping healthcare professionals to recognise, diagnose and manage measles cases effectively. In light of the resurgence of measles in various regions due to declining vaccination coverage, it is crucial that clinicians stay vigilant and keep themselves informed about the disease's clinical presentation and management protocols.
Medical simulators provide a safe, controlled environment in which physicians can test and refine their diagnostic reasoning, decision-making skills, and responses to complications, all without endangering patient safety. Realistic case scenarios involving fever, rash progression, Koplik spots and complications such as pneumonia or encephalitis enhance practitioners'ability to respond swiftly and accurately in real-life situations.
By reinforcing key clinical skills and promoting the early recognition of highly contagious conditions such as measles, simulation-based training is an invaluable tool for outbreak preparedness and infection control.

Disclosure of Interest
None declared.

C03

Anugerah Istimewa: voices for clean hands — a malaysian harmony of care

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C03

Abstract video clip description:
Background: World Hand Hygiene Day (WHHD), championed by the World Health Organization (WHO), has been an annual event at Hospital Sultan Abdul Aziz Shah (HSAAS), Universiti Putra Malaysia (UPM), since the institution's inception in 2019. Hand hygiene compliance is a critical component of infection prevention and control (IPC). However, sustaining engagement through conventional educational methods remains a challenge.
Objective: To develop a culturally resonant, emotionally engaging, and educational tool to strengthen awareness, motivation, and behavioural adherence to hand hygiene practices among healthcare workers (HCWs).
Methods:A collaboration between the Infection Control Unit and the Faculty of Human Ecology, led to the creation of *"Anugerah Istimewa"*, an original song. Conceptualized through discussions between Dr. Tengku Zetty Maztura Tengku Jamaluddin and Assoc. Prof. Dr. Ahmad Faudzi Musib, the initiative was inspired by global precedents such as Prof. Didier Pittet's "Clean Your Hands" anthem.
Results:*"Anugerah Istimewa"* integrates lyrical content emphasizing both the physical and spiritual dimensions of hand hygiene. The lyrics reinforce the concept of the hand as a sacred tool—responsible not only for care and clinical service but also for upholding public trust and patient safety. The musical composition blends traditional Malaysian elements, including the *Sape* (indigenous Sarawak lute), *Biola Melayu Asli* (Malay traditional violin), and *Tabla* (Indian hand drum), representing Malaysia's multicultural population. Set at 98 BPM, the 4-min composition features lead vocals supported by chorus harmonies and rhythmic phrasing to enhance memorability.
Conclusion: This novel, arts-based intervention demonstrates the potential of culturally embedded music as a complementary tool for IPC advocacy. The project successfully transformed routine WHHD messaging into a dynamic, community-driven initiative that fosters intrinsic motivation and emotional resonance among HCWs. This approach offers a scalable, locally adaptable model to revitalize IPC campaigns. *"Anugerah Istimewa"* reflects the synergy of culture, care, and compliance.

Disclosure of Interest
None declared.

C04

Interactive hand hygiene trainer for students with disabilities

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C04

Abstract video clip description: Handwashing is a simple, low-cost behavior that plays a critical role in preventing respiratory, gastrointestinal, and other infectious diseases. While effective for all, students with disabilities face unique challenges in learning, remembering, and performing proper hand hygiene. These challenges increase their vulnerability to infection and the consequences of illness.
To address this gap, we developed the **Hand Hygiene Trainer (HHT)**—a research-supported, game-based learning tool designed to teach and reinforce proper handwashing skills through high-fidelity, interactive simulation. Players guide realistic 3D-rendered hands through each step of the handwashing process, receiving immediate visual feedback on areas missed and the scrubbing needed for complete coverage.
Our video showcases the development, classroom implementation, and impact of HHT on students in a U.S. high school special education prevocational program. Our participation in the competitive **NIH I-Corps** program helped us better understand the unmet need for inclusive hand hygiene education.
Objectives:

1. To provide students with disabilities a more accessible, engaging, and effective way to learn proper handwashing.
2. To reduce preventable infections in a high-risk, underserved population.
3. To demonstrate the power of digital tools in advancing health equity and accessibility through inclusive design.

Takeaways:

1. Experience a cutting-edge handwashing simulation through serious gaming.
2. Learn proper hand hygiene steps with instant, personalized feedback.
3. Understand how inclusive EdTech can drive real-world behavior change in vulnerable populations.

Disclosure of Interest
D. J. Vukanovic-Criley Grant/Research support from: National Institutes of Health/Eunice Kennedy Shriver National Institute of Child Health & Human Development (completed), R. Criley: None declared, W. Criley: None declared, S. Criley Grant/Research support from: National Institutes of Health/Eunice Kennedy Shriver National Institute of Child Health & Human Development (completed).

C06

In their eyes: the risk behind a missed moment

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C06

Abstract video clip description: Hand hygiene remains the cornerstone of infection prevention in healthcare settings, particularly in high-risk environments such as Neonatal Intensive Care Units (NICUs). In these units, premature and critically ill neonates are among the most immunologically vulnerable populations, with even a single missed hand hygiene opportunity potentially resulting in serious healthcare-associated infections (HAIs) or death.
This video aims to reinforce the vital role of hand hygiene compliance in the NICU, emphasizing the impact of seemingly minor lapses in protocol. Through a visually compelling narrative, the video highlights the silent vulnerability of neonates who rely entirely on healthcare professionals for their protection. It presents a contrast between unsafe and safe practices, underscoring the direct connection between hand hygiene behavior and patient safety outcomes.The message serves as a call to action: healthcare workers must recognize that hand hygiene is not merely a procedural task but a critical safeguard for the most defenseless patients.
By promoting awareness, accountability, and a culture of safety, this video seeks to inspire consistent adherence to hand hygiene practices as a fundamental duty in preventing harm and saving lives.

Disclosure of Interest
None declared.

C07

5 Good practices regarding hand hygiene

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C07

Abstract video clip description: Topic: 5 good practices regarding hand hygiene
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Objective
The objective of this video campaign is to raise awareness among healthcare professionals and the public about daily good practices that complement hand hygiene and contribute to infection prevention. These are simple yet often overlooked behaviours that reinforce safer care.
Description
In 2025, the Ministry of Health at the Government of Catalonia took a step forward by promoting five key good practices that support proper hand hygiene and contribute to safer healthcare environments. A training video was developed to highlight these practices, addressing common situations in healthcare settings where compliance issues are frequently the case.
The video features five scenes, each showing a wrong practice followed by the right one, accompanied by the messages "this is not ok" and "this is ok" reinforced by a voiceover. The five key practices promoted are:
- Using gloves only when indicated
- Keeping nails short, clean, and polish-free
- Avoiding jewellery during the workday
- Wearing appropriate uniform and tying back hair
- Decontaminating examination devices after each use
The script was developed with input from infection control nurses and patient safety officers and using accessible language and a positive tone to encourage reflection and behaviour change. The video features real healthcare professionals as actors, adding realism and credibility to the campaign. The campaign supports WHO hand hygiene guidelines by promoting daily actions that go beyond technique and timing.
Transcription and subtitles are available in Catalan, Spanish, and English.

Disclosure of Interest
None declared.

C08

Gloves are not enough: hand hygiene first

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C08

Abstract video clip description: This educational video demonstrates the critical role of hand hygiene in preventing healthcare-associated infections, even when gloves are utilized. The scenario depicts a nurse entering a patient's room without performing hand hygiene, subsequently donning gloves and touching multiple surfaces, including personal phone, without appropriate hand sanitation. An infection control nurse, observing from outside the room, intervenes before medication is administered to the patient. She provides immediate correction and instruction, emphasizing that gloves do not replace the need for hand hygiene. The purpose of the video is to reinforce that proper hand hygiene must be performed following 5 moments of hand hygiene to ensure patient safety and maintain infection control standards.

Disclosure of Interest
None declared.

C09

Hands that heal-the heartbeat of Manipal hospitals

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C09

Abstract video clip description: The video titled ***"Hands That Heal, Heartbeat of Manipal Hospitals"*** is a heartfelt tribute to the countless lives touched and saved through a simple, powerful act hand hygiene. Anchored in the WHO's 5 Moments and 6 Steps of Hand Hygiene, this video showcases real-life moments at our Manipal Hospitals, Millers Road, Bengaluri capturing the silent promise made with every scrub, rinse, and rub. In our hospital hand hygiene is not just protocol, it is protection. Not just compliance, it is compassion. With every scene, we reaffirm that **hand hygiene is not an option, it is a promise towards action.**
We aim to inspire a culture where hand hygiene is ingrained as an unshakable value across all levels of healthcare delivery. We also aim to visually and emotionally reinforce the idea that every hand that heals carries a duty not just to treat, but to protect. The campaign seeks to promote hand hygiene as a shared responsibility, highlighting its role in preventing healthcare-associated infections and ensuring patient safety.

Disclosure of Interest
None declared.

C10

Much ADO about hand hygiene: to adhere or not to adhere? — an educational journey through the 5 moments of hand hygiene

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C10

Abstract video clip description: This video presents a novel educational tool designed to strengthen hand hygiene (HH) training among healthcare workers, with a particular focus on the practical application of the WHO 5 Moments for Hand Hygiene. Titled *"Much Ado About Hand Hygiene: To Adhere or Not to Adhere?"*, the clip offers a reflective, scenario-based approach that guides viewers through real-time decision-making in diverse clinical care situations.
Developed by the Infection Control Unit at Hospital Sultan Abdul Aziz Shah (HSAAS), Universiti Putra Malaysia, this initiative reflects the facility's commitment to advancing HH compliance through innovative, context-relevant materials. As a growing tertiary facility, HSAAS has proactively prioritized the cultivation of a strong safety and hand hygiene (HH) culture.
The video features simulated yet relatable clinical interactions, each mapped to one or more of the WHO 5 Moments. By inviting viewers to "spot the error," it promotes active learning and encourages reflective practice on common lapses in HH compliance. It reinforces correct timing and technique in performing hand hygiene at the point of care.
Aligned with the WHO IPC Multimodal Strategy, the video integrates key components including:
Training and education through visual, scenario-driven storytelling;
System change by addressing accessibility and availability of HH resources;
Evaluation and feedback through demonstration of both errors and correct practices;
Reminders in the workplace via implicit cues within the clinical settings shown;
Institutional safety climate by modelling accountability and role-modelling by HCPs.
The video aims to standardize HH auditors' observation techniques and improve consistency in interpreting the 5 Moments. This video will be integrated into HH briefings, orientation modules, and IPC campaigns. By combining educational rigor with engaging delivery, we hope to sustain awareness, build confidence in HH knowledge, and ultimately support the reduction of HCAIs through improved compliance.

Disclosure of Interest
None declared.

C11

"Milking the cow" campaign

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Abstract video clip description: This video outlines the journey of our"Milking the Cow"campaign, which began in 2015, and demonstrates how the hand hygiene device functions with the COW (Computer on Wheels). Infection Prevention Team at Ng Teng Fong Hospital, Singapore have conducted pilot studies to evaluate the device's effectiveness in reducing keyboard contamination. The primary goal of this campaign is to decrease the microbiological burden on keyboards and enhance hand hygiene compliance among healthcare workers.

Disclosure of Interest
None declared.

C12

It's okay to remind, hand hygiene is a shared responsibility

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C12

Abstract video clip description: Hand hygiene remains one of the most effective measures for preventing healthcare associated infections, yet real-world adherence remains inconsistent, often hindered by social norms and hierarchical structure in Singapore healthcare settings. This video aims to spotlight the role of patient empowerment as a catalyst for cultural change; encouraging patients to actively remind healthcare workers to perform hand hygiene, and how healthcare professionals can respond with receptiveness and respect.
The video depicts a realistic and relevant topic through a studio-based format that brings together the perspectives of a doctor, a nurse and a patient. Each of them responds to a carefully curated set of questions designed to explore the deeper social and cultural dynamics that may influence hand hygiene practices. Their responses highlight the unspoken impact of professional hierarchy, the hesitation many patients feel about "speaking up" and the broader mindset within Singapore healthcare context where deference to authority often hinders open dialogue.
As a whole, this video reinforces the message that hand hygiene is a shared responsibility, emphasizing mutual respect and psychological safety in creating a culture where reminders are viewed as a collective duty, not confrontation. It encourages both patients and healthcare workers to recognize that hand hygiene is not just an individual task, but a collaborative effort that safeguards everyone.

Disclosure of Interest
None declared.

C14

Short video clips to reinforce ipc good practices: ok or not ok!

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Abstract video clip description: Abstract video clip description. A series of 3 very short video clips (less than 30 s each) with brief commentary was developed by the hospital infection control & prevention team. They were filmed in iconic locations within the hospital settings and dealt with healthcare worker (HCW) attire. They were distributed afterwards through social networks from the 13 September 2023 and presented to the medical community.
Objectives: To disseminate and support the adoption of IPC good practices and knowledges to all HCWs and especially to the newly-arrived staff with a focus on HCW attire.
Results: For this series, between the first release (13 September 2023) and the 16 April 2025, 1560 views have been registered on the IPC's team social networks account.
Conclusion: The IPC team disseminated good practices through a new media short and easily understandable that was rapidly adopted by the community of HCWs and the hospital institution. The hospital communication department decided to disseminate this series to all the HCWs through the institutional email newsletter. The IPC team is continuing producing similar clips to cover other IPC-related topics.

Disclosure of Interest
None declared.

C15

Empowering patients through tiktok style video to support hand hygiene culture

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Abstract video clip description: This short-form, TikTok-style video represents a creative and innovative approach to promoting hand hygiene compliance by addressing a culturally sensitive yet crucial aspect of infection prevention: healthcare worker's receptiveness to reminders from patient and visitors to perform hand hygiene. In many healthcare settings, particularly in hierarchical environments, patient may feel reluctant to speak up comfortably, while healthcare workers may perceive such reminders as personal criticism rather than collaborative acts in upholding safety efforts.
To address this challenge, a campus-wide TiKTok video competition was launched to engage healthcare staff in creating short, scenario-based clips that depict respectful, patient-initiated hand hygiene prompts. The objective was twofold: first, to normalize and empower patients/visitors to speak up about hand hygiene; and second, to promote positive, constructive responses from healthcare workers. A total of 12 entries were received for the competition, and three winners were selected based on the judge's scoring. By involving healthcare workers directly in the creative process encouraged self-reflection, empathy and a deeper understanding of how to foster open and respectful communication.
The TikTok format was intentionally selected for its popularity among younger generations, its fast-paced/visually engaging style, and its ability to deliver key messages in a concise, accessible and widely shareable format. By leveraging the power of social media and peer driven storytelling, the competition created a platform for healthcare workers to champion a culture of mutual respect and shared accountability in infection prevention.
This initiative highlights how creativity, frontline involvement and modern communication tools can come together to shift culture and strengthen safe practices. More than just a video, it also fosters psychological safety, supports patient empowerment, and reinforces hand hygiene as a shared responsibility, ultimately contributing to safer care environment and improve on hand hygiene compliance.

Disclosure of Interest
None declared.

C16

The triangle: in infectious diseases, infection control and antimiicrobial stewardship

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C16

Abstract video clip description: The video titled *"The Triangle"* presents a concise narrative on the critical need to address the persistent disconnect between clinicians, microbiologists, and infection control teams. It emphasizes how aligning these three pillars through timely collaboration, communication, and shared decision-making is essential for effective diagnosis, infection prevention, and antimicrobial stewardship.
The video aims to raise awareness about the importance of breaking perceived silos and encourage teamwork in infectious disease management. It talks about a unified approach that brings three corners of the triangle together into strong, coordinated care pathways for better patient safety and healthcare outcomes.

Disclosure of Interest
None declared.

C17

News: Bergenol, a new active substance

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C17

Abstract video clip description: The TV news announces the arrival of a new active substance for hospital disinfection.
An effective, alcohol-free hand sanitizer incorporating the patented grape seeds extract [Bergenol®] that is standardized in polyphenols and more particularly in proanthocyanidins was developed. It could be used as a food or cosmetic ingredient also, respecting all the necessary requirements in terms of quality and traceability.
The objective of the campaign is to confirm that innovative possibilities are present in the market that can reduce but not ban the use of ethanol.

Disclosure of Interest
None declared.

C18

Hand hygiene contest 2025 at Yaounde University Teaching Hospital

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*Antimicrobial Resistance & Infection Control 2025,***14(1):**C18

Abstract video clip description: In celebration of World Hand Hygiene Day on May 5, 2025, the Yaoundé University Hospital (CHUY) launched a creative contest under the theme:"It may be gloves, It's always Hand Hygiene always."This initiative aimed to raise awareness among healthcare staff, patients, and the general public about the critical importance of hand hygiene—even when gloves are used. Open to all hospital departments, including healthcare personnel, students, interns, residents, and volunteers, the contest invited participants to submit creative materials in one or more of the following formats: a short video (1–1.5 min), an audio spot (30–45 s), and a poster (A3 or A4 format). All productions were required to reflect the theme, convey a clear public health message, and incorporate CHUY branding elements. Entries were judged based on message relevance, creativity, technical quality, visual/auditory impact, and compliance with the contest guidelines. The winners were announced during the official Hand Hygiene Day celebration at CHUY on May 5, 2025. This contest successfully fostered collective engagement, innovation, and education around hand hygiene practices, reinforcing YUTH's ongoing commitment to patient safety and infection prevention.

Disclosure of Interest
None declared.

C19

Health-care system: always hand hygiene

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Abstract video clip description: Gloves play a crucial role in various occupations by providing a protective barrier that safeguards humans from physical, chemical, biological, and infectious hazards. It is an important protective tool for healthcare personnel, primarily used to prevent exposure to blood, body fluids, mucous membranes, and non-intact skin during specific clinical procedures that pose a risk of contamination or infection. However, their use is not universally required for all patient care activities. Health authorities and infection prevention guidelines emphasize that gloves should only be worn when there is a clear risk of contact with potentially infectious materials, such as during invasive procedures, wound care, or handling contaminated equipment. Inappropriate or excessive glove use is discouraged because it can lead to several issues: it wastes resources, increases environmental burden, and most critically, it may reduce compliance with essential hand hygiene practices. Gloves do not replace hand hygiene; rather, handwashing or hhand hygiene must be performed immediately before putting on and after removing gloves to effectively reduce pathogen transmission.In this video, we tried to highlight the importance of hand hygiene for healthcare workers.

Disclosure of Interest
None declared.

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