FIS International 2025
Hosted by the British Infection Association
Bournemouth International Centre
2-4 December 2025

Abstract Supplement – Free Papers

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FREE PAPER ORAL PRESENTATIONS

115: Clindamycin resistance in group A Streptococcus in a tertiary Irish hospital

Thursday 4 December, 12:45, Bourne Lounge

Annemarie Lanigan[1], Dr Sadhbh O'Rourke[1]
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Introduction

Streptococcus pyogenes is a Gram-positive, facultatively anaerobic coccus, Lancefield group A Streptococcus (GAS). It is associated with a wide range of clinical manifestations from superficial to invasive systemic infections. In 2022, there was an increase nationally and internationally in the rates of invasive GAS infections reported to the European Centre for Disease Control (ECDC) which continued into 2023. The Irish Meningitis and Sepsis Reference Laboratory (IMSRL) published an increase in clindamycin resistance in GAS isolates in 2020-2021, with a rate of 7.8%. A tertiary hospital in Dublin published data corroborating this, with 28.1% clindamycin resistance in 2022.

Methods

All 2024 GAS isolates from St. James's hospital were reviewed, including outpatient, inpatient and general practitioners (GP) samples. Sample sites and susceptibilities were recorded. Patient demographic data, requesting specialty, admission status and clinical status were reviewed.

Results

GAS was isolated from 295 samples in 2024. A clindamycin resistance rate of 18% (n=54) was identified. Two (0.7%) clindamycin resistant GAS were identified from inpatients with severe cellulitis or necrotising fasciitis; no mortality was identified. GP GAS samples had the highest prevalence of clindamycin resistance, accounting for 74% (n=40) of samples. 80% (n= 32) of GP samples were from throat swabs.

Conclusion

Resistance to clindamycin was higher compared to previous national findings with an identified resistance rate of 18% (n=54) for isolates from 2024 compared to 7.8% among invasive isolates nationally from 2020-2021. Review of empiric penicillin allergy guidelines for tonsillopharyngitis and quinsy should occur as clarithromycin or clindamycin are local current guidelines.

128: A country's battle with carbapenem-resistant Klebsiella pneumoniae: insights into epidemiology and novel treatment options from Greek ICUs

Thursday 4 December, 13:00, Solent Hall

Louis Grandjean[1], Dr Georgia Vrioni[2], Dr Ioannis Skiadas[3], Dr Vassilios Grammelis[3], Dr Sofia Vourli[4], Dr Nikoletta Smyrni[3], Dr James Hatcher[5], Dr Athanasios Tsakris[2], **Professor Louis Grandjean**[1]
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Background

Carbapenem-resistant Klebsiella pneumoniae (CR-Kp) infections represent a global health threat with limited treatment options.

Methods

CR-Kp isolates were consecutively collected between May 2021 and December 2023 from 18 Greek ICUs as part of the prospective, non-interventional, nationwide INCREASE cohort study. Minimum inhibitory concentrations (MIC) were determined using broth microdilution. Whole genome sequencing (WGS) was performed using the Oxford Nanopore technology.

Results

A total of 271 CR-Kp were included, 257 were successfully sequenced. Most CR-Kp were isolated in blood (69%), respiratory samples (20.3%). All isolates (271/271) were carbapenemase producers, including KPC (48.7%), NDM (21.4%), KPC & NDM (14.4%), KPC & VIM (10.7%) and VIM (4.8%) enzymes. Most isolates were resistant to imipenem (96.7%) and meropenem (91.9%). Across all isolates, aztreonam-avibactam exhibited the most potent activity (94.5% susceptibility), followed by cefepime-zidebactam (91.1%) and cefepime-taniborbactam (both at 8mg/L). Lower susceptibility rates were noted for cefiderocol (58.3%), tigecycline (53.9%, 0.5mg/L) and colistin (53.5%). Resistance to aztreonam-avibactam was associated with production of VEB-25 and VEB-35.

Prevalent sequence types included ST39 (26.5%), ST11 (23.0%), ST258 (17.1%), ST323 (10.1%), ST512 (7.4%). Core genome MLST analysis (cgMLST) revealed multi-clonal expansion within six lineages. SNP distance-based phylogenetic analysis revealed frequent intra- and inter-hospital transmission. Time-based phylogenetic analysis revealed entry of successful international clones in Greece with local acquisition of carbapenemases, likely via plasmids.

Conclusions

Our results suggest a multi-clonal spread and intra-hospital transmission of CR-Kp, posing a significant health threat for patients hospitalized in Greek ICUs. Aztreonam-avibactam and cefepime-zidebactam represent valuable treatment options in the therapeutic armamentarium.

150: A Silent Threat: Understanding ESBL-KP Risk Factors in the Neonatal ICU

Thursday 4 December, 13:00, Solent Hall

Areej Alali[1]
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Introduction:
Extended spectrum beta lactamase Klebsiella pneumoniae (ESBL-KP) outbreaks in Neonatal Intensive Care Units (NICUs) are linked to significant mortality. This study aimed to investigate risks factors contributing to ESBL-KP acquisition among neonates.
Method:
This retrospective observational study included 502 neonates admitted to a NICU level III in a general hospital in Kuwait between August 2022 and January 2024. Data on clinical, demographic, laboratory, antibiotics prescription, and other multidrug-resistant organism colonisation were collected. The primary outcome was ESBL-KP acquisition; the secondary outcome was impact on clinical status (survival, mortality due to sepsis, or mortality due to other causes). Univariable and multivariable logistic regression evaluated associations with the primary outcome, while multinomial regression assessed associated risk factors for the secondary outcome.
Results:
Of 502 neonates, 157 (31%) tested ESBL-KP positive; 22 (14%) had primary blood stream infection, with the rest being rectal colonisations. Half of the neonates with ESBL-KP blood stream infection died. The multivariable logistic regression model for ESBL-KP acquisition revealed significant associations with length of NICU stay (OR:1.02, 95% CI:1.01-1.03), intrauterine growth restriction (OR:3.17, 95% CI:1.35–7.43), extreme prematurity (OR:2.56, 95% CI:1.32–4.97), previous hospital admission (OR:3.12; 95% CI:1.16-8.36), and prior antibiotics use (OR:4.92, 95% CI:2.52-9.58). Looking at the secondary outcome, the odds of death amongst ESBL-KP positive neonates increased by 9.71 (p-value=0.02) compared to negative neonates, after adjusting for confounders.
Conclusion:
Identifying risk factors for ESBL-KP acquisition is crucial for implementing a multifaceted approach, ensuring consistent standards of clinical care, and judicious antibiotic use to improve neonatal outcomes.

187: Characterisation of Bloodstream Infections in a Large, Tertiary NICU in London: A Five-Year Retrospective Analysis

Thursday 4 December, 13:00, Bayview Suite

Joana Freitas[1], Mildred A Iro[1,2,3]
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Introduction:
Neonatal sepsis is a major cause of morbidity and mortality in NICUs, contributing to prolonged hospitalisation, rising healthcare costs, antimicrobial resistance, and long-term effects. This study examines blood culture data from infants in a tertiary NICU.
Methodology:
Retrospective analysis of all positive blood cultures, BC (April 2019-March 2024) from admitted neonates to the NICU. Duplicate episodes (same pathogen within 14 days) were excluded. Early onset bacteraemia was defined as a positive BC in the first 72 hours of life; late-onset occurred after 72 hours. Antimicrobial resistance was assessed based on organisms of public health importance, using resistance profiles aligned with ESPAUR guidance.
Results:
Among 326 positive blood cultures (BCs), 280 (85.9%) were unique and 243 (86.8%) monomicrobial. Gram-positive organisms comprised 74.6% of isolates, and 93.9% were late-onset bacteraemia. Mean age at BC positivity was 27 days (range 0–266). The top pathogens were coagulase-negative staphylococci (CoNS, 58.6%), E. coli (7.9%), S. aureus (6.8%), E. faecalis (5.4%), E. cloacae (2.9%) and K. pneumoniae (2.9%). Total number of positive BCs increased from 2019 to 2023 (incomplete annual data for 2024), except for a dip in 2021. E. coli resistance was notable: 36% to third generation cephalosporins, 13.6% to aminoglycosides, and 27.7% to fluoroquinolones. 15.4% of Klebsiella spp. were cephalosporin resistant. One MRSA case was detected. Five AmpC producers were identified, rising from 2022 (2022: 2; 2023: 3).
Conclusion:
This five-year analysis reveals significant resistance in Gram-negative pathogens highlighting the urgent need for continuous surveillance and focused antimicrobial stewardship to combat rising resistance.

258: Amikacin and gentamicin resistance in neonatal and infant Enterobacterales bacteraemia: implications for empiric treatment in England (2017 to 2024)

Thursday 4 December, 13:00, Bayview Suite

Benjamin Simmons[1], Hannah Higgins[1], Jacquelyn McCormick[1], Dr Katherine Henderson[1], Kate Ellis[1], Dr Mariyam Mirfenderesky[1], Dr Alicia Demirjian[1,2,3]
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Gentamicin has been the traditional empirical aminoglycoside of choice for Gram-negative bacteraemia (GNB) and sepsis in the neonatal setting. However, GNB resistance to gentamicin has increased in the English population overall.

We analysed Enterobacterales rates, and gentamicin and amikacin resistance trends in infants <3 months in England using national laboratory data, 2017-2024. Trends over time were assessed using a zero-inflated negative binomial regression model.

From 2017-2024, Enterobacterales represented 72.4% of all reported GNB episodes in infants, with bacteraemia rates increasing from 1.06-1.36/1,000 live births from 2017 (n=683) to 2024 (n=782). Escherichia coli (65.0%) and Klebsiella pneumoniae (11.0%) were the most reported species in 2024. The greatest relative increases in reporting rates were in K. pneumoniae (33.9% increase) and other Klebsiella spp. (57.5%).

Enterobacterales resistance rose annually from 2017 to 2024 to gentamicin (6.8% to 9.2%;p=0.11) and amikacin (0.8% to 3.2%;p=0.01). Between 2017 and 2024, the difference between Enterobacterales resistance to gentamicin and amikacin increased from 5.9% to 6.0% (p<0.001). Regional variation showed highest resistance concentrated in and around London (gentamicin: East of England, South East, London, 9.5–8.7%; amikacin: East Midlands, London, South East, 2.7–2.4%; regions with <50% susceptibility testing not assessed).

This is the first national study in England to demonstrate rising Enterobacterales rates and increasing gentamicin and amikacin resistance in infants. These findings highlight the importance of monitoring local antimicrobial resistance patterns and reviewing site-specific empirical treatment guidance to ensure responsiveness to emerging antimicrobial resistance trends.

116: Development of a Quantitative Lateral Flow Assay for Vancomycin Therapeutic Drug Monitoring

Thursday 4 December, 13:00, Solent Hall

Halima Hasan[1], Dr Alaa Riezk[1], Ms Stefania Frederico[1], Mr Richard Wilson[1], Professor Alison Holmes[1], Dr Timothy Rawson[1]
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Background
Vancomycin's narrow therapeutic index makes it suitable for therapeutic drug monitoring (TDM). Current TDM techniques are limited by complex analytical processes, performance heterogeneity and lengthy sample preparation. Lateral flow immunoassays (LFIA) enable rapid point-of-care analysis in a quantitative fashion.

A competitive antibody-based LFIA was designed with a single-step detection mechanism and avidin-biotin control system to quantify sample vancomycin concentration. Its performance was compared to gold standard liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Methods
LFIA strips were printed with sheep anti-vancomycin antibody-coated test and avidin control lines. A biotinylated vancomycin-gold nanoparticle conjugate solution was applied with vancomycin samples at a 100:40 µL ratio. Line intensities were quantified at 25 minutes post-sample addition.

Validation curves were generated using GraphPad Prism 10.4.2, and estimated concentrations of spiked samples (50 ug/mL and 100 ug/mL) interpolated. Linearity, sample recovery and quantification accuracy were assessed using the European Medicine Agency's bioanalytical guidelines.

Results
The LFIA strips displayed consistent control line intensity. The validation curve had acceptable linearity (R2 = 0.983) and accuracy for both samples (50 ug/mL= 13.7%, 100 ug/mL=9.45%). Compared to LC-MS/MS, the LFIA demonstrated greater recovery (101.05% vs 111.5%)

Discussion
A quantitative vancomycin LFIA may overcome some of the limitations of traditional TDM techniques through rapid, point-of-care analysis. Prospective clinical evaluation is required for full validation, testing therapeutic concentrations to assess clinical applicability. Printing automation and conjugate pH stability would help optimise line visibility and strip uniformity.

238: A national audit of antimicrobial prescribing in Critical Care Units in the United Kingdom

Thursday 4 December, 13:00, Solent Hall

Oliver Hamilton[1], Dr Luke Flower[2], Dr Alicia Waite[3], Dr Adam Boulton[4], Dr Andrew Boyle[5], Rachel Berry[6], Dr Andrew Conway Morris[7], Prof Adam Roberts[8], Dr Jasmin Islam[6,9], Dr Paul Dean[10], Dr Reena Mehta[9,10], Prof Diane Ashiru-Oredope[6], Dr Joe Lewis[1], Dr Ben Morton[1,3]
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Background
The 2023 English point-prevalence survey demonstrated that intensive care units (ICUs) account for the highest antimicrobial use within hospitals. Therefore, a comprehensive understanding of antimicrobial stewardship (AMS) is needed.

Methods
In March-April 2025, we conducted a prospective national audit of antimicrobial prescriptions in UK ICUs, using UK Health Security Agency guidance as the standard. All sites received approval from local audit departments prior to data collection. Sites screened all patients for antimicrobial use over a 24-hour period and submitted anonymous data electronically. Additional data were collected for patients within 3 days of therapy initiation for a granular understanding of determinants of antimicrobial prescription.

Results
We enrolled 155 sites. Of 2637 patients included, 1604 (60.4%) were prescribed antimicrobial therapy. Broad-spectrum antimicrobials were commonly prescribed, including piperacillin-tazobactam (553/3114 prescriptions, 17.8%) and meropenem (306/3114, 9.8%). Of 2381 empirical prescriptions, 2207 (92.7%) were prescribed either according to guidance; had documented justification for guidance deviation; or on specialist advice.
In the cohort of ≤3-day therapy, antimicrobial review occurred within 72 hours in 1349/1520 (88.7%) of prescriptions. At review, the same regimen was continued in 617/1349 (45.9%), changed in 516/1349 (38.4%), stopped in 174/1349 (12.9%) and converted to enteral in 38/1349 (2.8%).

Conclusion
We have demonstrated good AMS across UK ICUs, although broad-spectrum antimicrobial use is common. Further analysis of this dataset will improve our understanding of the drivers for this. Inclusion of AMS standards in national ICU surveillance schemes may allow further reduction of broad-spectrum antimicrobials, in line with the national action plan (2024-2029).

240: Penicillin Allergy Management in the NHS: A Novel Trust-Wide Implementation of R1 Independent Side-Chain Beta-lactam Prescribing to Enhance Antimicrobial Stewardship and Patient Outcomes

Thursday 4 December, 13:00, Solent Hall

Stephen Hughes[1], Nicki Lewis, Mo Kwok, Rakhee Mistry
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Background: Incorrect penicillin allergy labels are highly prevalent and pose a significant challenge to antimicrobial stewardship (AMS). These labels often lead to the suboptimal use of broader-spectrum, less effective, or more expensive non-beta-lactam antimicrobials, increasing risks of C. difficile infection and overall morbidity. Historical concerns about beta-lactam cross-reactivity have been overestimated, as IgE-mediated reactions are primarily driven by R1 side-chain similarity, not the beta-lactam ring itself.
Methods: A novel trust-wide guideline promoting beta-lactams with R1-independent side chains (e.g., cefazolin, cefuroxime, ceftriaxone) in patients with documented penicillin allergy, including patients with severe IgE recations (e.g. anaphylaxis), was introduced Feb 2025. A comprehensive rollout involving guideline updates, staff education, and pharmacist-led decision support at the point of prescribing was introduced.
Results: Prescribers have adopted the new guidelines, enabling safe and appropriate beta-lactam use for penicillin-allergic patients who would have previously received alternative antimicrobials. Post-February 2025 rollout, total cephalosporin use increased by 12% from the equivalent 5 month periods in 2023 and 2024, with 1st Gen cephalosporin's increasing >50%. No confirmed IgE-mediated reactions were reported in exposed patients (Feb-Jun 2025); one patient developed delayed shortness of breath (>12 hours post-exposure), an unconfirmed reaction with no tryptase confirmation.
Conclusion: This initiative provides a robust model, confirming that implementing a targeted R1-independent beta-lactam prescribing strategy for penicillin-allergic patients is feasible and safe within an NHS Trust. It represents a significant advancement in AMS, optimising antimicrobial selection, reducing reliance on non-beta-lactam agents, and optimising access to first line agents even in patients with severe penicillin allergy.

188: Association Between Infection Prevention and Control Practices, Antimicrobial Stewardship, and Antimicrobial Resistance Patterns in Resource-limited Healthcare Settings: Findings from the BALANCE Study

Thursday 4 December, 13:00, Bayview Suite

Dr Refath Farzana[1], Dr Nazmul Haque[2], Prof Sazzad Bin Shahid[3], Dr Md. Mostaqimur Rahman[4], Dr Nazia Haque[5], Prof Rabaab Zahra[6], Muhammad Hamza[6], Dr Brekhna Hassan[7], Dr Kashif Shafique[8], Prof Muhammad Idrees[9], Prof Abbas Naqvi[10], Dr Guljanan Guljanan[10], Prof Kenneth C. Iregbu[11], Dr Philip Nwajiobi-Princewill[11], Dr Aminu Aliyu[12], Dr Ifeyinwa Nkeiruka Nwafia[13], Dr Chioma Rita Achi[1,18], Dr Gregory Ganda[14], Dr Damaris Adera[15], Dr Elizabeth Kibaru[16], Edward Owinoh[1], Keegan Hoog[1], Chaima Abdellaoui[1], Dr Maria Christodoulou[19], Prof Edoardo Carretto[17], Prof Timothy R. Walsh[1]
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This report examines the relationship between infection prevention control (IPC) and antimicrobial stewardship (AMS) standards and antimicrobial resistance (AMR) in resource-limited settings.

The study analyzed isolates from healthcare-associated bloodstream infections (HA-BSI) in adult and paediatric populations during October 2023 to March 2025 from 11 hospitals in lower-middle-income countries. Organisms were identified using MALDI-TOF, and antimicrobial susceptibility were assessed through minimum inhibitory concentration (MIC) via Becton, Dickinson Phoenix™ system. Facility-level IPC and AMS evaluations were conducted using the WHO IPC self-assessment tool and AMS-CHECK. Non-parametric tests, including Kruskal-Wallis and Mann-Whitney U tests, were utilized for analysis.

A total of 1,558 isolates were recovered from HA-BSI cases. While no statistically significant differences were identified concerning IPC practices and the recovery of WHO-listed priority resistant pathogens including third-generation cephalosporin-resistant E. coli (3GCREC), K. pneumoniae (3GCRKP), carbapenem-resistant E. coli (carbaREC), K. pneumoniae (carbaRKP), Pseudomonas aeruginosa (carbaRPSA), Acinetobacter baumannii (carbaRACB), and methicillin-resistant Staphylococcus aureus (MRSA) at the facility level, notable associations emerged between the absence of certain AMS components and an increase in the isolation of WHO-listed priority healthcare-associated pathogens per 10,000 blood cultures. Specifically, these associations pertained to the necessity for basic training in optimal antibiotic usage, initial regular training of AMS teams, and healthcare facility access to information technology, particularly in relation to 3GCRKP and carbaRKP, as well as policies for documenting prescribed medications associated with carbaRPSA and carbaRACB ($p<0.05$).

The findings highlight the importance of enhancing AMS practices to effectively reduce AMR prevalence in resource-limited settings, providing guidance for prioritizing future interventions.

195: Increasing importance of the Streptococcus anginosus group as a cause of serious streptococcal infection in the UK: a retrospective longitudinal observational study

Thursday 4 December, 13:00, Bayview Suite

Dr Eliza Gil[1,2,3,4], Dr James Hatcher[2,3], Dr Sophia De Saram[4], Dr Trupti Patel[4], Rebecca Guy[5], Dr Theresa Lamagni[5], Prof Michael Marks[1,4], Prof Jeremy Brown[2,4]
[1]London School of Hygiene & Tropical Medicine, [2]University College London, [3]Great Ormond Street Hospital, [4]University College London Hospital, [5]UK Health Security Agency

There is emerging evidence of an increase in invasive Streptococcus anginosus group (SAG) infections, particularly in children. These organisms are not regularly included in disease surveillance in most countries and there remains limited description of their epidemiology.

Methods:
We retrieved all identifications of streptococci from the laboratory information management systems of diagnostic microbiology laboratories at Great Ormond Street Hospital (GOSH), London, which processes local and national specimens, from 2000-2023, and University College London Hospitals (UCLH) from 2012-2023 to calculate the number of SAG infections diagnosed per year, and their burden relative to other streptococcal pathogens. We also analyzed nationally reported streptococcal bacteraemia data from 2015-2023.

Results:
SAG infection cases diagnosed per year increased throughout the study period in all patient groups. At GOSH and UCLH, SAG infections increased from 81/2381 streptococcal infections (3.40%) in 2012 to 342/3669 (9.32%) in 2023. SAG organisms were predominantly isolated from pus/fluid aspirates (1890/3278 isolations, 57.66%) from normally sterile body sites (1894/3278 isolations, 57.78%) in hospitalized patients (2936/3132 infection cases, 93.74%). By 2014 SAG was the predominant streptococcal species causing deep pyogenic infections of sterile sites in all patient groups. SAG organisms caused 254/473 (53.70%) cases of streptococcal central nervous system infection, of these Streptococcus intermedius caused 70.08% (178/254) of cases.

Discussion:
SAG infections, predominantly deep pyogenic collections, are increasing in both children and adults. Further work is urgently needed to understand whether this change is due to increasing virulence of SAG organisms, changes in carriage rates or dynamics or if there are alternative drivers.

267: A Capability Framework for Antimicrobial Stewardship Specialists in the NHS

Thursday 4 December, 13:00, Solent Hall

Ryan A Hamilton[1], Naomi Fleming[2], On behalf of the AMS Capability Framework Development Group
[1]British Society For Antimicrobial Chemotherapy, [2]NHS England

Background
Antimicrobial stewardship (AMS) programmes are essential to combat antimicrobial resistance (AMR) and optimise antimicrobial use. While frameworks exist for generalist healthcare education, there is no national framework to support the development of AMS specialists.

Objectives
To develop a multi-professional capability framework that defines and supports AMS specialist practice across adult and paediatric services, and all levels of post-foundation specialist practice.

Methods
A modified Delphi methodology was employed. Initial capability statements were derived from a literature review of AMS-related frameworks and policies. Two rounds of Delphi surveys were conducted with UK-based AMS experts to assess the importance and applicability of each statement. Follow-up workshops identified descriptors of practice and professional development resources to support implementation.

Results
Forty-four initial capability statements were developed from the literature review. After two Delphi rounds the final capability frameworks contained 45 capability statements organised into four domains 1) AMS Professional Practice, 2) Leadership and Management, 3) Education, and 4) Research and Quality Improvement.

A total of 135 descriptors of practice and 56 development resources were identified to support benchmarking, professional development, and career progression across all levels of specialist practice (enhanced, advanced, and consultant-level practice).

Conclusions
This framework defines AMS specialist practice across NHS settings; supporting professional development, strategic workforce planning, and the delivery of effective AMS programmes. It provides a foundation for education providers, managers, and healthcare organisations to recognise, develop, and embed AMS expertise across disciplines.

118: Investigating Neutrophil Dynamics in Candida auris Biofilm Development

Thursday 4 December, 12:45, Bourne Lounge

Basmah Almaarik[1]
[1]King Saud University

Candida auris is an emerging multidrug-resistant yeast that poses a serious threat in healthcare settings due to its rapid spread, high morbidity and mortality rates. A key virulence factor of C.auris is its ability to form biofilms, which enhance resistance to antifungals and immune responses.

Neutrophils play a critical role in combating fungal infections. However, C.auris exhibits immune evasion strategies, with neutrophils showing limited activity against planktonic forms. This study investigates how C.auris biofilms modulate neutrophil responses. To our knowledge, this is one of the first studies globally to explore neutrophil interactions with C. auris biofilms, providing insights into immune evasion mechanisms.

Objective:
- Characterizing neutrophil activation by assessing CD marker expression.
- Assessing the influence of neutrophil interactions on biofilm growth.
- Investigate the effects of neutrophils on the biofilm structural integrity.

Methods:
We compared biofilm formation in 11 clinical C.auris isolates versus C.albicans. Biofilms were exposed to human neutrophils, with biomass measured by crystal violet staining and structure analyzed via SEM/confocal imaging. Neutrophil activation was assessed by flow cytometry.

Results:
C.auris biofilms exhibited greater resistance to neutrophil-mediated disruption compared to C.albicans, as demonstrated by higher retained biomass, maintained structural integrity in SEM and confocal imaging, and reduced neutrophil activation markers, collectively indicating enhanced immune evasion capabilities

Conclusion:
C.auris biofilms show stronger resistance to neutrophils than C.albicans, maintaining structure and reducing immune response. This enhanced defense may explain its persistence in hospitals and treatment challenges. Further studies should uncover the exact mechanisms to guide new therapies.

153: Routine eye screening in candidaemia: current UK landscape and future directions

Thursday 4 December, 13:00, Purbeck Lounge

Rachel Southern-Thomas[1], Saba Farrukh[2], Salma Babiker[4], Neil Stone[1,3], Nima Ghadiri[4,5], Fiona McGill[2], On behalf of the British Infection Association, the Royal College of Ophthalmologists and the Intensive Care Society.
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Introduction

Endogenous candida endophthalmitis (ECE) is a sight-threatening complication of candidaemia. Views on management differ and there is limited national UK guidance. We surveyed specialists throughout the UK to gather data on current practice and opinions.

Methods

A survey was distributed via professional societies and informal networks. Data were analysed using excel and R version 4.5.1.

Results

107 responses received from 70 infection specialists, 31 ophthalmologists, 4 intensive care professionals and 2 others. 93% were consultant or registrar level. 73% worked in teaching hospitals. All 4 nations of the UK were represented.
Most infection specialists recommended echinocandins as first-line treatment for candidaemia (73%). 52% of ophthalmologists and 71% of infection specialists felt routine eye screening of candidaemic patients was justified.
30% had no trust policy on routine screening. 29% said their trust policy recommended routine screening.
Comments showed a desire for clear guidance, collaboration, focused screening and bedside retinal photography. Challenges identified included lack of ophthalmology equipment, off-site ophthalmologists and variability in recommendations.

Discussion

There are knowledge gaps among professionals around the management of candidaemia and ECE. Wide variation in local policies exists and opinion on eye screening varies. The breadth of geographical representation and high percentage of senior opinion lends strength to our findings, as does the study's collaborative design. Conclusions are limited by the lack of intensive care responses and the vulnerability of survey data to bias. These findings will be used to develop a collaborative position statement on eye screening in candidaemia in the UK.

168: Safety and potent functional immunogenicity of a novel blood-stage P. falciparum malaria vaccine, R78C and RH5.1 with Matrix-M®, in UK adults in a Phase I trial

Thursday 4 December, 13:00, Purbeck Lounge

Jo Salkeld[1], Dimitra Pipini[1], Andrew DS Duncan[1], Melanie Etti[1], Megan Baker[1], Nicola Greenwood[1], Thomas W Roberts[1], Ellie C Baker[1], Jennifer K van Heerden[1], Jordan R Barrett[1], Barnabas G Williams[1], Lloyd DW King[1], Ababacar Diouf[2], Cecilia Carnrot[3], Alison M Lawrie[1], Katherine Skinner[1], Rachel E Cowan[1], Jee-Sun Cho[1], Carole A Long[2], Kazutoyo Miura[2], Carolyn M Nielsen[1], Sarah E Silk[1], Simon J Draper[1], Angela M Minassian[1]
[1]University Of Oxford, [2]National Institutes of Health, [3]Novavax AB

An effective vaccine against the blood-stage of Plasmodium falciparum (Pf), if combined with the licensed pre-erythrocytic vaccines, may improve protection against clinical malaria and reduce severe disease. The Pf RH5-CyRPA-RIPR (RCR) hetero-trimeric invasion complex is the leading blood-stage malaria vaccine target. RH5.1, a soluble protein targeting reticulocyte-binding protein homologue 5 (RH5), is the most advanced clinically, showing partial efficacy against clinical malaria in African children in a Phase 2b trial, when administered with Matrix-M adjuvant. RH5-interacting protein (RIPR) and cysteine-rich protective antigen (CyRPA) have not previously been tested clinically. We assessed R78C, a soluble protein comprising RIPR EGF-like domains 7-8 fused to CyRPA, alone and combined with RH5.1, in a first-in-human Phase 1a trial. Healthy, malaria-naïve UK adults (N=32) received either: i) RH5.1/Matrix-M alone, ii) R78C/Matrix-M alone, iii) the combination of R78C+RH5.1/Matrix-M in a delayed third dose (0-1-6 month) regimen, or iv) the combination with the final doses of R78C/Matrix-M and RH5.1/Matrix-M given separately at 6 and 7 months. Vaccinations were well tolerated with no safety concerns. Antibody responses to each antigen increased after each vaccination, were sustained out to 6 months, and showed no evidence of immune interference when co-immunising. Functional immunogenicity as assessed via the growth inhibition activity (GIA) assay at 14 days post-final vaccination was significantly higher in the combination groups (median GIA 51% at 2.5mg/mL IgG) vs. R78C (26%) or RH5.1 (35%) alone, representing the highest GIA seen in UK adults to date. These data strongly support onward clinical testing of the combination of R78C+RH5.1/Matrix-M.

223: Oropouche Virus Reaches the UK: A Diagnostic Wake-Up Call for an Emerging Arbovirus

Thursday 4 December, 12:45, Bourne Lounge

Wubbo de Boer[1], Hamish Houston[1], Thomas Reed[1,2], Rachael Wallis[3], Aaron Lloyd[3], Jane Osborne[3], Anna Last[1,4], Tommy Rampling[1,3]
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Oropouche virus (OROV) is a zoonotic arbovirus in the Simbu serogroup of the genus Orthobunyavirus. It is endemic to the Amazon Basin, where it has caused over 30 epidemics and half a million cases since 1961. Recently its geographic range has expanded, with outbreaks in Cuba, Bolivia, and non-Amazonian Brazil (2023). Travel-associated cases have subsequently been reported in North America and Europe[1-4]. We report the first three UK cases in male travellers returning from Paraty, Brazil, highlighting the virus's spread within Brazil and globally.

Clinically, OROV fever mimics other arboviral infections, with fever, headache, myalgia, and rash. Severe neurologic manifestations including Guillain-Barré syndrome, encephalitis, and meningoencephalitis are reported[5-8]. Emerging evidence also links maternal infection to adverse foetal outcomes, including miscarriage, microcephaly, and neonatal death, though causality remains unconfirmed[9-10]. These findings warrant heightened vigilance, particularly in pregnant travellers.

Viral RNA is detectable by PCR in blood and urine during the acute febrile illness[11]. Seroconversion occurs within two weeks, with antibodies detectable in serum and cerebrospinal fluid[11-13]. Assay development to date has been hindered in the UK due to lack of access to positive sample material, and there is limited availability of commercial assays.

UK clinicians should be aware of OROV as an emerging risk to travellers. Initial testing is available via submission of blood and urine samples from symptomatic travellers with compatible travel history to the UK's Rare and Imported Pathogens Laboratory (RIPL). Pregnant individuals with suspected OROV infection should be reported to the UK teratology information service (UKTIS)[14].

94: Understanding the interaction between Streptococcus pneumoniae and respiratory syncytial virus in a novel controlled human infection model

Thursday 4 December, 12:45, Bourne Lounge

Sanjita Brito-Mutunayagam[1], Oliver Hamilton[2], Carla Solórzano[1], Filora Elterish[1], Tatiana Codreanu[1], Bruno Rocha De Macedo[1], Rachel White[1], Angela Hyder-Wright[2], Bhumika Patel[1], Emma Francis[1], Madlen Farrar[2], Ashleigh Howard[2], Dima El Safadi[2], Nile Verleur[1], Raqib Huq[2], Emma Carter[2], James Court[2], Xinxue Liu[1], Kiarash Tanha[1], Maria Lahuerta[3], Isis Kanevsky[3], Kena Swanson[3], Negar Aliabad[3], Ye Tan[3], Julie Catusse[3], Christian Theilacker[3], Bradford Gessner[3], Christopher Chiu[4], Andrea Collins[3], Ben Morton[2], Maheshi Ramasamy[1], Elena Mitsi[1], Daniela Ferreira[1]
[1]Oxford Vaccine Group, University Of Oxford, [2]Department of Clinical Sciences, Liverpool School of Tropical Medicine, [3]Pfizer Vaccines, Pfizer Inc, [4]Department of Infectious Disease, Imperial College London

Background
Streptococcus pneumoniae (Spn) and respiratory syncytial virus (RSV) are major causes of respiratory tract infections globally with co-infection commonly observed and leading to more severe disease. We developed a novel, open-label, randomised controlled human co-infection challenge study to evaluate these pathogen interactions and immune responses during co-infection.

Methods
Healthy volunteers aged 18-55 years were randomised 1:1 to receive either Spn serotype 6B or RSV-A primary nasal inoculation, with a reciprocal inoculation after 7 days. The primary objective was to determine whether primary RSV challenge increases the risk of secondary Spn carriage. Secondary objectives included assessment of pneumococcal density between groups. Nasal samples were analysed for pneumococcal colonisation by bacterial culture and RSV infection by quantitative polymerase chain reaction methods.

Results
Preliminary data are presented. Overall, 111 participants (median age 26 years [Q1–Q3: 22–34]; 43% (48/111) female) were included. Primary RSV inoculation resulted in 50% (27/54) of participants being infected with RSV. In participants who became RSV positive, secondary challenge with Spn resulted in 85% (23/27) carriage vs 56% (15/27) in RSV negative individuals (RR:1.53, 95% CI: 1.08–2.33). We also observed a 2-log increase in pneumococcal density (days 2 and 7, $p < 0.01$) in participants with RSV infection compared to the RSV negative group.

Conclusions
Prior RSV infection increased the risk of subsequent Spn colonisation acquisition and significantly increased pneumococcal density. These data suggest that implementation of RSV vaccine programmes could indirectly reduce pneumococcal carriage. Further work is required to evaluate this at the population level.

173: Post-TB care in the UK: cross-sectional analysis from a national survey

Thursday 4 December, 13:00, Purbeck Lounge

Ailva O'Reilly[1], Dr Christopher Martin[1], Dr Dominik Zenner[2], Dr Pranabashis Haldar[1], Dr Jamilah Meghji[3], Professor Manish Pareek[1]
[1]University Of Leicester, [2]Queen Mary University London, [3]Imperial College London

Introduction
Global research has shown high rates of morbidity among people who have previously experienced tuberculosis (TB) disease.
Currently, UK guidance (NICE) does not consider follow up after treatment for drug-susceptible TB to be cost effective due to low rates of relapse.
We conducted a survey to understand current approaches to post-TB care.

Methods
A questionnaire was distributed among (February-May 2025) specialist doctors and nurses representing TB services.
Responses were analysed descriptively.

Results
Responses were received from 83.7% (113/135) of TB services.
The majority had encountered patients with post-TB lung disease (82%; 93/113) and problems relating to social vulnerabilities (79%; 89/113) (Table 1).
End of treatment chest X-rays (for pulmonary TB, PTB) and symptom screening were reported by 98% (111/113) and 96% (108/113) of services. Few reported routinely offering pulmonary function testing after PTB (22%; 25/113) or screening for diabetes (13%; 15/113) and cardiovascular risk (1%; 1/113).
Fewer than half (41%; 46/113) reported providing medical care routinely after treatment and only 11% (12/113) ongoing psychosocial support. This support is provided at individual clinicians' discretion (51%; 27/53), informally (38%; 20/53) and via specific clinics (36%; 19/53).
The main reported challenges to providing post-TB care include limited healthcare staff (78%; 88/113), clinic capacity (70%; 79/113) and funding (59%; 67/113).

Discussion
Specialists in TB services regularly encounter patients with post-TB morbidity. Provision of post-TB care is currently limited and heterogenous in scope and delivery.
There is a need to identify patterns of morbidity among UK TB survivors, to guide standards for clinical practice.

40: Pandemic-Associated Dysmicrobiosis: A Hidden Variable in Pediatric Vulnerability and Future Pandemic Preparedness

Thursday 4 December, 13:00, Bayview Suite

Liu Bingjie[1]
[1]Children's Hospital Of Soochow University

Background:
Following the COVID-19 pandemic, an unusual surge in pediatric respiratory tract infections (RTIs) has been observed, likely related to the concept of "immunity debt." While declines in antibody levels have been widely reported, changes in respiratory microbiota—a crucial component of mucosal immunity—remain underexplored.

Methods:
This study analyzed respiratory microbiota from pediatric RTI patients across three time periods: 2018–2019 (n=112), 2021–2022 (n=130), and 2024 (n=103). Nasopharyngeal secretions were subjected to 16S rDNA sequencing. Microbial diversity and composition were compared using the Kruskal-Wallis test, Principal Component Analysis (PCA), Analysis of Similarities (ANOSIM), and PERMANOVA.

Results:
Both alpha and beta diversities were significantly reduced in the 2021–2022 group compared to pre-pandemic and 2024 samples ($P<0.01$). Dominant genera shifted over time: in 2018–2019, Streptococcus (40.77%), Moraxella (10.47%), and Haemophilus (8.71%) prevailed; in 2021–2022, Streptococcus (25.38%), Dolosigranulum (24.18%), and Moraxella (8.43%) dominated; by 2024, Streptococcus (29.38%), Moraxella (24.37%), and Methylobacterium (7.53%) were most common. Differential abundance analysis showed significant enrichment of Streptococcus, Prevotella, and Haemophilus in 2018–2019, and Dolosigranulum and Ralstonia in 2021–2022 ($P<0.01$).

Conclusion:
The respiratory microbiota of children experienced marked alterations during the pandemic, with reduced diversity and shifts in dominant taxa. These changes may contribute to increased RTI susceptibility post-pandemic, highlighting the role of Pandemic-Associated Dysmicrobiosis (PAD) in pediatric respiratory health and future pandemic preparedness.

216: JN.1 Exposure as Vaccine or Infection During Autumn and Winter 2024 Induces Broad Neutralisation of Circulating SARS-CoV-2 Variants: KP 2.3, KP 3.1.1 and XEC

Thursday 4 December, 13:00, Purbeck Lounge

Oliver Hague[1], Dr David Greenwood[1], Dr Marianne Shawe-Taylor[1], Dr Giulia Dowgier[1], Dr Joshua Gahir[1], Dr Hermaleigh Townsend[1], COVID Surveillance Unit[3], COVID Serology Consortium[1], Legacy Investigators[1], Dr Nicola Lewis[1], Dr Ruth Harvey[1], Prof Steven Gamblin[1], Prof Charles Swanton[1], Prof Sonia Gandhi[1], Dr David LV Bauer[1], Dr Edward J Carr[1], Dr Mary Y Wu[1], Dr Emma C Wall[1]
[1]Francis Crick Institute, [2]National Institute for Health Research (NIHR) University College London Hospitals (UCLH) Biomedical Research Centre and NIHR UCLH Clinical Research Facility, UK, [3]COVID Surveillance Unit, The Francis Crick Institute, London UK , [4]Worldwide Influenza Centre, The Francis Crick Institute, [5]University College London

Background
Currently circulating omicron variants KP.2.3, KP.3.11 and XEC descend from the JN.1 strain that emerged in 2023 and are classified as Variants Under Monitoring by the World Health Organisation. Monovalent mRNA vaccination encoding JN.1 is recommended by the WHO and UK Joint Committee on Vaccination and Immunisation for high-risk groups. Ongoing evaluation of immunogenicity remains critical to inform public health policy.

Objectives
We investigated immunogenicity of JN.1 monovalent-booster-vaccination or JN.1-natural-infection during autumn/winter 2024 using neutralising antibody titres against SARS-CoV-2 variants (wild-type, BA.2, BA.5, XBB.1.5, JN.1, KP.2.3, KP.3.1.1 and XEC). Participants were from the UCLH-Crick Legacy Study (NCT04750356), a prospective observational cohort with longitudinal serological and infection surveillance.

Methods
nAb titres were quantified using a high-throughput, live-virus-microneutralisation-assay. Matched vaccinated (n=55) versus unvaccinated (n=19) and infected (n=23) versus uninfected (n=13) individuals were analysed. Two-tailed-Wilcoxon-signed-rank tests were used to assess nAb titres between groups.

Results
JN.1 vaccination increased nAb titres against all variants tested ($p<0.001$). JN.1 infection significantly boosted nAb titres against omicron variants ($p<0.001$) but not ancestral SARS-CoV-2 ($p = 0.893$). Both JN.1 vaccination (FC = 4.3, $p<0.001$) and infection (FC = 5.2, $p<0.001$) boosted nAb titres against XEC. Pre-exposure/baseline titres were comparable between groups. Most participants received Moderna mRNA-1273.167 (n=47), compared to Pfizer BNT162b2.JN.1 (n=8), limiting comparison of immunogenicity between manufacturers.

Conclusions
JN.1 monovalent-vaccination or infection induces robust, broadly neutralising responses against currently circulating, antigenically distinct variants supporting continuing monovalent JN.1 vaccination in at-risk populations. Understanding the basis of ‘forward’ immunity against emerging variants is crucial to protect vulnerable groups.

193: A multi-centre prospective study to evaluate the infectious complications in patients presenting to Irish hospitals after undergoing cosmetic procedures abroad, over a twelve month period

Thursday 4 December, 12:45, Bourne Lounge

Siobhain Kelly[2], Mr Barry O' Sullivan[2], Maeve White[2], Séan Whelan[2], Dr Aaron Doherty[3], Dr Niamh Reidy[3], Prof James Clover[3], Dr Róisín Baker[3], Dr Sinéad Mc Dermott[4], Dr Clarice Egan[4], Mr Jack Woods[4], Áine O' Dwyer[4], Ms Shirley Potter[5], Aoife Feeley[5], Professor Eoghan O' Neill[2]
[1]Healthcare Infection Society, [2]Connolly Hospital, [3]Cork University Hospital, [4]St. Vincent's University Hospital, [5]St James's Hospital

Objectives
With the rise of medical tourism for cosmetic procedures, managing post-operative infections has become increasingly challenging. This multi-centre study evaluates infectious complications in returning patients, assesses antimicrobial prescribing against empiric guidelines, and reviews adherence to infection control protocols. Given that current SSI guidelines are based on local resistance patterns, they may be inadequate in these cases. Findings aim to inform improved clinical pathways and guide policy development.

Methods
This ongoing prospective observational study is being conducted across four tertiary plastic surgery referral centres in the Republic of Ireland, with ethical approval secured at each site. Skin and soft tissue infections (SSTIs) are classified according to CDC definitions to ensure consistency in reported. Comprehensive clinical data - including surgical interventions, microbiological findings, and antimicrobial usage - is being collected and analysed.

Results
To date, 29 patients have been enrolled, with data collection continuing through August 2025. Clinical presentations have ranged from minor wound infections to complex, multidrug-resistant cases requiring surgical debridement and prolonged inpatient care. Preliminary findings indicate that most reveal that most infections involve gram-negative organisms not covered by standard empiric treatment guidelines. Additionally, several lapses in adherence to infection control protocols have been noted.

Conclusion
Preliminary findings indicate that current empiric guidelines may not adequately address the clinical needs of patients presenting with infections following cosmetic tourism. As the study advances, it aims to support the development of more effective antimicrobial prescribing practices, addressing a significant gap in data for this emerging patient population.

96: From big data to prediction: Applying machine learning for source attribution in a One Health approach, a case study on L. monocytogenes

Thursday 4 December, 13:00, Bayview Suite

Isis Lorenzo[1], Sophie Roussel[2], Thomas Brauge[3], Benoît Durand[4], Virginie Chesnais[1]
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Introduction
Source attribution is essential for food safety and public health, helping identify contamination origins and guide outbreak response. Listeria monocytogenes (Lm), a major foodborne pathogen, causes listeriosis, a severe illness with high fatality rates among vulnerable populations. While Machine learning (ML) holds promise for source attribution, previous studies have often relied on small, temporally, and geographically limited datasets.
Materials and Methods
We used a curated public dataset of 5,366 Lm isolates collected between 1997 and 2024 from six food sources (mammals' meat, birds' meat, dairy, fish and seafood, vegetables, and fruits) across five continents. Four genomic features were evaluated: cgMLST, pangenome genes, genetic variants, and 21-mers. LightGBM and Random Forest (RF) models were trained using an 80/20 stratified train-test split, with hyperparameters optimized via randomized search and 10-fold cross-validation.
Discussion
Tuned models achieved F1-scores between 72–74%, with cgMLST performing best. Fruits had the highest per-source accuracy (F1 > 80%). Combining multiples genomic features did not reduce error rates. However, grouping sources into broader categories (e.g., plant-based and animal-derived products) improved performance to 78%. Comparing LightGBM and RF showed similar results but different misclassification patterns. Temporal and geographic shifts reduced accuracy, indicating temporal and special limitations. Overall, ML shows strong potential for global Lm source attribution, though distinguishing between foods from closely related industries, for example, differentiating between mammalians meats and birds' meats, remains challenging. Diverse and representative datasets are key to improving robustness and reproducibility among time and space.

108: Nanopore in the Desert: Genomic Surveillance of Dengue Virus in Oman

Thursday 4 December, 12:45, Bourne Lounge

Asma Al Balushi[1], Dr. Fatma Ba Alawi[2], Mr. Rohit Satyam[3], Dr. Khuloud Al Maamari[2], Mr. Sabir Adroub[3], Ms. Lamiae Boualla[3], Mr. Tobias Mourier[3], Ms. Sara Al Sinani[4], Mr. Badar Al Busaidi[5], Ms. Azza Alqayoudhi[2], Prof. Arnab Pain[3]
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Objectives: Dengue virus (DENV) infection remains a major public health concern. This study aimed to characterize the genomic diversity of DENV and circulating lineages in Oman.
Methods: A retrospective study that analyzed 164 DENV-positive blood samples collected at Sultan Qaboos University Hospital from 2022 to 2023. Long-read, amplicon-based sequencing was employed to generate near-complete viral genomes.
Results: Phylogenomic analysis identified DENV-2 genotype II-F1.1 as the predominant lineage. DENV1 and DENV-3 were detected for the first time in Oman. Five of six DENV-1 positive samples from Al Batinah South were identified as genotype III-A, with no travel history, suggesting local transmission. An autochthonous DENV-3 genotype I-A2 case was identified in Muscat. Phylogenetic reconstruction using global references showed that Omani DENV-1 and DENV-2 sequences form distinct, well-supported monophyletic clades, indicating localized transmission chains. DENV-1 sequences were closely related to Pakistani isolates, despite no travel history, suggesting a shared recent ancestor. Two divergent DENV-2 cases clustered with Indian isolates and corresponded with patients traveled to India and the United Arab Emirates, supporting probable importation. Variant analysis highlighted NS5, NS1, and E as the most polymorphic proteins. Two genomes harbored high-impact nonsense mutations: p.Gln1240* (NS2A) and p.Trp2783* (NS5). Seven moderate-risk missense mutations were found exclusively in patients who died; however, no definitive pathogenic variants were identified.
Conclusion: This is the first high-quality full-length DENV genomic study from the MENA region, revealing novel detection of diverse lineages and local transmission chains in Oman. These findings underscore the need for real-time genomic surveillance in dengue control.

170: Sarcopenia is a Common and Overlooked Comorbidity in Pulmonary Tuberculosis

Thursday 4 December, 13:00, Purbeck Lounge

Angus De Wilton[1,2], Jack Stanley[1,2], Edson Marambire[1,3], Claire Calderwood[1,2,4], Kate Mattick[1,5], Wellington Samuriwo[1], Mazvita Maud Paradza[1], Grace Gwaze[1], Bornface Chinene[1,6], Farirayi Kowo-Nyakoko[1,8], Kate Ward[7,8], Celia Gregson[1,2], Katharina Kranzer[1,3,4]
[1]The Health Research Unit, Biomedical Research and Training Institute, [2]University Of Bristol, Bristol Medical School, [3]Ludwig Maximilian University of Munich, Germany, CIH Center for International Health, University Hospital, [4] Faculty of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine, [5]Brighton and Sussex Medical School, Global Health and Infection Department, [6]School of Allied Health Sciences, Harare Institute of Technology, Department of Radiography, [7]London School of Hygiene & Tropical Medicine, MRC Unit The Gambia, , [8]University of Southampton, MRC Lifecourse Epidemiology Centre, Human Development & Health

Background: Tuberculosis is associated with severe weight loss. However, the prevalence of comorbid musculoskeletal disorders, such as sarcopenia, is unknown.

Design/Methods: Adults diagnosed with pulmonary tuberculosis (Xpert-confirmed) in Harare, Zimbabwe, completed wellbeing, food insecurity (FIES), anthropometry, and grip strength assessments. Body composition was measured by DXA, with Appendicular Muscle Mass Index (AMMI) and percentage body fat calculated. Sarcopenia was defined using EWGSOP2 2019 criteria and Zimbabwean reference data, based on grip strength, chair stand time, and AMMI cut-offs. Analyses comparing underweight (BMI <18.5) with normal weight (BMI 18.5–25) used standard parametric and non-parametric tests.

Results: Among 75 participants, 33 (44.0%) were underweight (BMI <18.5). Confirmed sarcopenia was more common in underweight participants (26/33, 78.8%) than in those with normal weight (11/42, 26.2%; $p < 0.001$). Compared to normal-weight participants, underweight participants were similar in age, sex and PLHIV status, and had similar wellbeing and FIES scores. Underweight participants had significantly lower grip strength (31.0 kg, 95% CI: 27.7–34.3 vs. 36.2 kg, 32.6–39.8; $p < 0.05$), AMMI (5.7, 5.5–5.9 vs. 6.7, 6.3–7.1; $p < 0.001$), and total body fat (12.8%, 10.8–14.8 vs. 22.6%, 19.7–25.5) compared to normal-weight participants.

Conclusion: Sarcopenia is common among individuals who are underweight at the time of tuberculosis diagnosis. Clinicians should consider assessing for sarcopenia using simple bedside tools, such as grip strength or chair stand time. The role of established treatments for sarcopenia, including resistance training and dietary supplementation, remains to be established in the context of tuberculosis.

225: Primary CMV Infection in a Uterine Transplant Patient: Characterisation of the Immune Response to Guide Pregnancy Timing

Thursday 4 December, 13:00, Purbeck Lounge

Katie Jeffery[1], Priyanka Abraham[2], Barbara Kronsteiner[2], Clare Snelgrove[1], Andrea Devaney[1], Elizabeth Stafford[2], Ariadne L'Heveder[3], Etohan Ogbemudia[1], Benjamin Jones[4], Venkatesha Udapa[1], Shushma Shankar[5], Paul Harden[1], Richard Smith[3], Isabel Quiroga[1], Paul Klenerman[2], Susie Dunachie[2]
[1]Oxford University Hospitals, [2]Nuffield Department of Medicine, Oxford University, [3]Imperial College, [4]Lister Fertility Clinic, [5]Nuffield Department of Surgical Sciences, Oxford University

Delaying pregnancy for at least 6 months after primary CMV infection is recommended to allow maturation of maternal immune response and reduce congenital CMV risk. This case of primary CMV infection after uterine transplantation presented complex challenges as a successful pregnancy is the desired transplant outcome.

In February 2023, the first UK uterine transplant took place. The recipient, who had a congenitally absent uterus, underwent a living donor procedure with CMV status D+/R-. She received alemtuzumab induction and maintenance immunosuppression with tacrolimus and mycophenolate mofetil with 6 months prophylactic valganciclovir. Primary CMV infection was diagnosed in September 2023 and treated with valganciclovir for 5 weeks with good response. Subsequently CMV viral load rose to nearly 4 log(10) IU/ml. She remained well and preferred not to have further treatment unless levels rose further. Over the following 6 months, her viral load remained detectable at a low level.

Embryo transfer (ET) had been planned for November 2023, making the virological advice to delay difficult for the patient and clinical teams. It was agreed to characterise her immune response to guide optimal timing for ET. CMV antibody and anti-CMV T-cell responses were monitored over 6 months, showing an evolving and comprehensive immune response despite immunosuppression. The patient received careful counselling to understand the difficulty in quantifying risk and potential therapeutic options. ET took place in July 2024, with CMV DNA levels remaining very low/undetectable, and a healthy baby girl was delivered by C/S in February 2025.

FREE PAPER POSTER PRESENTATIONS

Antimicrobial agents

28: Evaluation of dalbavancin use in a tertiary care setting

Yvonne Chang[1], Asad Amin[1], Evangelos Vryonis[1]
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Background
Dalbavancin is a long-acting semi-synthetic lipoglycopeptide antibiotic used mainly for Gram-positive infections requiring prolonged or complex intravenous(IV) antibiotic therapy.

Objectives
To evaluate dalbavancin's effectiveness by assessing infection resolution rates and relapse within three months post-treatment. The study focused on complicated infections of bones and joints, skin and soft tissue, endocarditis, and Staphylococcus aureus and Streptococcus bacteraemia treated with IV dalbavancin.

Design/Methodology
Ninety-nine patients treated with IV dalbavancin between January 2022 and March 2024 were followed for three months to monitor relapse. Successful outcomes were defined as cure without relapse; unsuccessful outcomes included relapse or need for additional intervention within three months.

Results
Among patients, 61.6% were male, with a median age of 59 years (range 8–102); 14 were intravenous drug users (IVDU). All were managed by infection specialists via the Complex Outpatient Parenteral Antibiotic Therapy (COPAT) service. Indications included bone/joint infections (n=37), skin/soft tissue infections (n=30), endocarditis (n=5), Staphylococcus aureus (n=8), and Streptococcus bacteraemia (n=6). Use aligned with licensed indications in 34.9%, and 65.1% was off-label. Positive cultures were present in 63.6%, while 36.4% received empirical treatment. Overall, 92% (n=91) were cured; 7.1% (n=7) relapsed, with relapse mostly among IVDU (57.1%) and patients with chronic infections and comorbidities (28.6%).

Conclusion
Dalbavancin shows promising efficacy in managing complex infections, achieving over 91% cure rates. It is a viable option for prolonged therapy, though relapse is more common in patients with multiple comorbidities and IVDU.

148: Role of newer beta lactam-beta lactam inhibitor (BL-BLI) Sulbactam-Durlobactam (SUL-DUR) in combating carbapenem-resistant Acinetobacter baumannii (CRAB) clinical isolates

Hitender Gautam[1], Neha Nityadarshini[1], Jaya Biswas[1], Tamanna Bordoloi[1], Priyam Batra[1], Sarita Mohapatra[1], Seema Sood[1], Benu Dhawan[1], Bimal Kumar Das[1]
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Background: To determine in vitro activity of newer beta lactam-beta lactam inhibitor(BL-BLI) combination, sulbactam-durlobactam (SUL-DUR) against carbapenem-resistant Acinetobacter baumannii(CRAB) clinical isolates with focus on extensively drug-resistant(XDR) phenotypes.
Materials: 100 non-duplicate CRAB clinical isolates were obtained from various clinical specimens, primarily respiratory samples, and characterized using MALDI-TOF MS. Susceptibility testing for sulbactam-durlobactam (SUL-DUR) was performed using both Broth Microdilution (BMD) and Disk Diffusion(DD) in accordance with CLSI M100, 35th edition. FDA-approved breakpoints were used to minimum inhibitory concentrations (MICs) of SUL-DUR. A. baumannii NCTC 13304 strain was used for quality control. Descriptive analysis and categorical interpretations were employed to assess the susceptibility patterns.
Results: Eighty percent of the total 100 isolates were classified as XDR. Overall, 52% of isolates were susceptible to SUL-DUR, 46% resistant, and 2% intermediate. Among XDR strains, 40% isolates were susceptible. Higher resistance rates were seen in respiratory isolates, particularly from endotracheal (ET) aspirates and bronchoalveolar lavage (BAL). All non-XDR isolates (n=20) were susceptible to SUL-DUR. Broth Microdilution and Disk Diffusion methods showed 100% categorical agreement. The MIC distribution ranged from 0.25 to ≥128 µg/mL.
Conclusions: Sulbactam-durlobactam (SUL-DUR) showed promising in vitro activity against CRAB isolates, but efficacy was reduced in XDR strains, particularly respiratory isolates. High concordance between Broth Microdilution and Disk Diffusion methods supports the utility of disk diffusion in resource-limited settings. Global data may not be applicable in LMIC settings. Regional surveillance is necessary to guide clinical use of sulbactam-durlobactam (SUL-DUR) in high-burden settings.
Keywords: Sulbactam-durlobactam (SUL-DUR); Carbapenem-resistant Acinetobacter baumannii (CRAB); Extensively drug-resistant (XDR)

174: Measuring the efficacy of antimicrobials in the treatment of different strains of otitis externa.

AKSHATH Arora[1], Katy Day[2], John Perry[3], Dr. Joanna Lumb[4], Dr. Hassan Mohammed[5]
[1]Nhs, [2]NHS, [3]NHS, [4]NHS, [5]NHS

Background: The aim of our research was to examine the efficacy of topical antimicrobials in treating pathogens that cause otitis externa and to in the future compare them as an alternative to antibiotics to combat increasing antibiotic resistance.
Methods: We did this by testing the antimicrobial efficacy of a variety of different commercially available products in small plate assays, to rule out products that didn't show promising results so as not to slow down our research. After selecting products with good results we moved on to MIC (minimum inhibitory concentration testing) testing.
The method used involved inoculating the agar with different pathogens and then boring wells into the agar that are then filled with each product. After 24 hours incubation for bacterial pathogens and 48 hours for the fungi, the zones of inhibition were measured, which allowed us to filter the products into inhibitors and non-inhibitors.
After, we continued on with small plate assays with only 8 products against a further 39 pathogenic isolates for a total of 56 isolates. We then moved on to MIC for the 3 most active products and tested them against 32 representative isolates.
Results: Our results showed that 2 of the products we did MIC testing for were effective at fairly low concentrations.
Conclusion: We conclude that antimicrobials are viable options and will minimise the risk of antibiotic resistance and that they are safe to use for otitis externa and consequently one of the products is now in use at the Freeman ENT department.

221: The Antimicrobial Properties of Polymethylmethacrylate Doped With Graphene-Based Fillers When Used As A Dental Material - A Systematic Review

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AIM
This work aims to review updated scientific literature to extend the evidence base around the antimicrobial properties of polymethylmethacrylate (PMMA) enhanced with graphene-based fillers when used as a dental material.

METHODS
This systematic review's search strategy included a combination of MeSH (Medical Subject Headings) terms and Boolean operators. Inclusion criteria were adhered to when searching four electronic databases (PubMed, Scopus, Cochrane library, and Science Direct), yielding twelve articles. After three levels of screening, seven more articles were removed according to exclusion criteria. Five full texts were finally included in this review.

RESULTS
Although there was heterogeneity between the experimental methods of the five studies which tested different micro-organisms, they were all unanimously able to prove the outcome measure that the addition of graphene to PMMA enhanced the antimicrobial properties of the dental material, approving the research hypothesis. Three experiments measured the diameter of the inhibition zone on Petri dishes. One experiment evaluated the amount of viable biomass on the surface of both graphene-free and graphene-doped PMMA discs. The final experiment measured attachment levels of microorganisms to PMMA with and without graphene.

CONCLUSION
The incorporation of graphene into PMMA has proved promising results by enhancing the antimicrobial properties of the dental material. Further tests will be necessary to ascertain the safety of use in patients, whilst foreseeing the effect this addition has on the physical properties of PMMA. These results provide confidence that updating PMMA with graphene has clinical potential to decrease oral infections associated with PMMA use.

227: The Fuzzy Line Between Susceptible and Resistant: Reviewer Differences in Penicillin Disk Diffusion Interpretation in Staphylococcus aureus

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The Staphylococcus aureus Network Adaptive Platform (SNAP) Trial has suggested that benzylpenicillin is not inferior to flucloxacillin against penicillin-sensitive S. aureus (PSSA). Disk diffusion testing, recognized as more accurate than minimum inhibitory concentration (MIC) for detecting penicillinase encoded by the blaZ gene, is not routinely employed in many laboratories. This study evaluated concordance between penicillin susceptibility testing by automated MIC determination and disk diffusion in S. aureus and assessed inter-reader agreement in result interpretation.

Blood culture isolates of S. aureus (n=12) classified as PSSA by Vitek® 2, Biomerieux, were tested for penicillin susceptibility using European Committee on Antimicrobial Susceptibility Testing (EUCAST) disk diffusion methodology. Zone diameters, edge clarity, and colony growth were independently assessed by two medical laboratory scientists, two microbiology registrars, and one consultant microbiologist. Resistance was defined by zone diameters < 26 mm or the presence of a sharp ‘cliff edge’.

Among twelve isolates designated PSSA by automated MIC determination, full concordance in susceptibility interpretation occurred in only 16.7% (2/12) of samples. The majority (83.3%) showed either partial or no agreement among readers, with Fleiss’ Kappa of 0.20, indicating slight inter-observer reliability.

This study reveals significant variability in interpreting disk diffusion results in PSSA isolates, likely due to the subjective nature of assessing zone edges. These findings raise concerns about the utility of disk diffusion testing for benzylpenicillin susceptibility, as recommended by the SNAP trial. To improve diagnostic accuracy and consistency, the integration of automated testing platforms or molecular methods, such as blaZ gene detection, may be warranted.

236: Overview of prophylactic antimicrobial management of prosthetic joint infections: lessons learnt in gentamicin prescribing

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Background

Prosthetic joint infections (PJIs) are a serious complication of arthroplasty. While surgery is definitive, optimal antibiotic prophylaxis – including timing, dosing and choice, are critical. Aminoglycosides such as gentamicin are commonly used for prophylactic gram negative coverage.

Aims

To assess compliance with prophylactic antibiotic prescribing in patients investigated for PJI, identify barriers to compliance, and review current EOLAS guidelines.

Methods

Retrospective descriptive analysis of 31 patients with suspected PJI identified through OPAT between 2023 and 2025.

Compliance with prophylactic antibiotics during the first surgical procedure was evaluated against local EOLAS guidelines (Flucloxacillin 2g IV, Gentamicin 3mg/kg).

Local micro-organism epidemiology was reviewed.

Results

Only 29% of cases were fully compliant; 35% partially compliant (primarily due to incorrect gentamicin dosing irrespective of weight or renal function). 10% were non-compliant, and 26% had unknown antibiotic regimens.

Incorrect prophylaxis may have contributed to infection in 7 cases.

9 cases involved organisms not covered by current prophylaxis guidelines.

Discussion

With the rising incidence of gram negative PJIs; correct gentamicin dosing is essential, requiring engagement with the MDT (orthopaedics and anaesthetics).

Pharmacokinetic evidence and GIRFT guidelines support a single higher dose gentamicin 5mg/kg for adequate joint concentrations, with demonstrated safety shown in some studies. Review of current guidelines to include high-dose gentamicin or alternatively single dose cefuroxime should be considered.

255: Clinical experience of real life Dalbavancin use in gram-positive infections in two large NHS hospitals in Dorset

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Background: Dalbavancin is a lipoglycopeptide with a prolonged half-life and is approved for the treatment of acute bacterial skin and soft tissue infections. It can be used off-label for the treatment of infections caused by gram-positive bacteria requiring long term treatment such as infective endocarditis, osteomyelitis, discitis, prosthetic joint infections (PJI) or used for outpatient parenteral antibiotic therapy (OPAT) to facilitate discharge of medically fit patients. Clinical data is limited in these settings.
Objectives: To assess indications and long-term outcomes of dalbavancin-treated patients.
Methods: These two hospitals, retrospective study include patients who received dalbavancin in Dorset from January 2023 to December 2024. Indications for use and 90-day outcomes were determined.
Results: A total of 70 patients were included from 2 large NHS hospitals. The treated infections were acute bacterial skin and soft tissue infections (8.6%), Staph aureus bacteraemia (37%), infective endocarditis (5.7%), osteomyelitis / discitis (17%) and PJI (13%). Concomitant use of other antimicrobials was common (34%). Clinical success rate was 86%. No side effects occurred in these patients.
Conclusion: In this real-life study dalbavancin was primarily used in off-label indications for treatment of Staph aureus bacteraemia, infective endocarditis, osteomyelitis, discitis, PJI and OPAT. Success rate was high (86%), tolerability and safety were excellent in this setting. Dalbavancin may therefore be used in these off-label indications as alternative treatment approach.

272: Antimicrobial efficacy of carbapenems in combination with avibactam and relebactam against a panel of 33 multi-resistant Gram-negative bacteria

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Introduction: The rise of carbapenamase-producing enterobacterales (CPE) is a growing global concern. Avibactam and relebactam are beta-lactamase inhibitors which have previously been used alongside beta-lactam antibiotics to improve their efficacy. This study investigated the use of avibactam and relebactam in combination with carbapenems against a collection of CPE.

Methods: The Minimum Inhibitory Concentrations (MIC) of meropenem, ertapenem, and imipenem, with and without the presence of avibactam or relebactam, were determined for 33 isolates of CPE with known resistance mechanisms from a diverse global collection, (n=19 OXA-48, n= 10 KPC, n=4 NDM). Antibiotic concentrations were made as double dilutions (256 – 0.016 mg/L). Inhibitors were added at a concentration of 4mg/L. Testing was performed in Mueller-Hinton agar. Each strain was inoculated at 104 Colony Forming Units (CFU) per spot using a multipoint inoculator. Plates were incubated at 37°C for 18-22 hours.

Results:
All KPC producers showed significant reductions in carbapenem MIC when combined with avibactam or relebactam.
For KPC producers ertapenem-avibactam was the most effective combination with all isolates moving from resistant to susceptible, with an average 8-fold reduction in MIC.
Overall OXA-48 strains showed at least an average 4-fold reduction in carbapenem MIC when combined with avibactam.
The inhibitors showed little effect on the carbapenem MICs of NDM-producers.

Conclusions: The addition of avibactam or relebactam to carbapenems significantly reduced the carbapenem MIC against the KPC and OXA-48 producers tested.

331: Dalbavancin use in a UK tertiary referral centre; a retrospective review

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Background
Dalbavancin is a long-acting lipoglycopeptide with activity against Gram-positive bacteria. Although it is currently approved only for the treatment of skin and soft tissue infections (SSTI), an increasing evidence base supports use for osteomyelitis, prosthetic joint infections, endocarditis and bacteraemias. Dalbavancin may be used to facilitate early discharge for patients unsuitable for 'conventional' OPAT, often people who inject drugs (PWID).

Methods
We retrospectively reviewed all patients who had received at least one dose of dalbavancin between 2018 and 2024 at Cambridge University Hospital.

Results
A total of 106 patients received 163 doses of dalbavancin in 115 treatment episodes. The median age was 51 years (IQR 40-62) and 44% were female. The most common indication for treatment was SSTI (40 patients, 35%), followed by uncomplicated bacteraemia (26 patients – 23%), septic thrombophlebitis (15 patients, 13%) and discitis (15 patients, 13%). The most common reason for using dalbavancin instead of conventional OPAT was PWID (42 patients – 37%). Staphyloccoccus aureus was the most commonly identified organism (61 episodes – 53%, of which 92% were MSSA). Follow-up data was available for 77 episodes (67%). Dalbavancin was predominantly given with intent to cure the infection (100 episodes, 87%), and the treatment aim was achieved in 74% of cases. A total of 625 inpatient bed days were saved.

Conclusion
In our hospital, dalbavancin was mostly used for off-label indications to facilitate early discharge of patients for whom conventional OPAT was unsuitable. Dalbavancin appeared to be an effective treatment, with most patients attaining clinical cure.

Antimicrobial resistance

8: Genomic survey of multidrug resistant Salmonella enterica serovar Minnesota clones in chicken products

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Salmonella enterica serovar Minnesota (S. Minnesota) is an emerging serovar that persists within poultry supply chains, potentially causing outbreaks in humans. Understanding its population genomics is crucial for designing preventive measures. We performed a genomic surveillance study of S. Minnesota by analyzing 259 isolates from poultry in Saudi Arabia. Whole-genome sequencing data for these isolates were analyzed to characterize emerging clones and the genetic factors underlying antimicrobial resistance and virulence. We compared the isolates to all available global genomes of S. Minnesota. Our results revealed the emergence of four clones, three of which were mixed with global strains. These clones exhibited higher levels of antimicrobial resistance and virulence due to the acquisition of multiple plasmids, particularly IncC plasmids, carrying resistance and virulence genes. IncC plasmids underwent genomic rearrangements, presenting diverse configurations of resistance genes. Our findings demonstrate the emergence and persistence of pathogenic and multidrug-resistant S. Minnesota clones.

14: Comparison of antimicrobial susceptibility pattern in extended-Spectrum- β -Lactamase (ESBL), AmpC β-lactamases and carbapenemase producing Enterobacterales (CPE) isolated from urine samples among inpatients and outpatients: a 7 years retrospective study

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Objective
To analyse the antibiotics resistance pattern in ESBL, AmpC and CPE producing Enterobactarales from urine samples of inpatient and outpatient from The Princess Alexandra Hospital NHS Trust (PAHT) United Kingdom.
Methods
The retrospective study was conducted from January 2017 to December 2023 at the Microbiology department of PAHT.
Results
Overall, 53737 isolates were analysed. Total 1940 (63.1 %) Enterobacterales were ESBL, 893 (86.1 %) were AmpC, 37 (0.9%) were both ESBL and AmpC and 17(21.79%) were CPE producer. Rate of ESBL and AMPC production from inpatients was comparable with outpatient's urine isolates. Rate of CPE producer was high from inpatient 7 (31.8%) as compared to outpatient 10 (17.8%). Of Enterobacterales analysed, highest ESBL and AmpC production was demonstrated in E-coli from both patients groups. High rate of CPE production were noted in Klebsiella species from inpatients 4 (18.1%).High rate of antibiotics resistance was demonstrated in inpatient as compared to outpatient. Trend of antibiotics resistance in ESBL, AmpC and CPE producer Enterobacterales was high in both population. Highest rate of co-amoxiclav resistant was observed in AmpC producing Enterobacterales from inpatients (97.2%) and outpatient (96%) as compared to ESBL producer. ESBL producing Enterobacterales showed highest rate of resistance in ciprofloxacin, trimethoprim and gentamicin.
Conclusion
Rate of ESBL and AmpC producers are noteworthy for their comparable results in both inpatients and outpatients population. Knowledge of antibiotic resistance patterns in both patient populations helps clinicians to choose right empirical antibiotic when speciation and type resistance mechanisms is known but susceptibilities result are pending.

23: Multidrug resistance and persistent bacteremia in Enterococcus faecium Bloodstream Infections

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Enterococcus faecium is a leading cause of healthcare-associated bloodstream infections, frequently exhibiting multidrug resistance, including resistance to ampicillin and vancomycin. The emergence of vancomycin-resistant E. faecium and increasing reports of linezolid resistance present major therapeutic challenges in hospital settings. This retrospective study evaluated the clinical characteristics, antimicrobial resistance patterns, treatment regimens, and outcomes of E. faecium bacteremia in a tertiary care center. Seventy-two patients were identified (median age: 72.5 years, 62.5% male). Intra-abdominal (22.2%) and genitourinary infections (16.7%) were the most common sources. Vancomycin resistance was present in 33.3% of cases. Among 14 repeat blood cultures (3–30 days), 71.4% remained positive. The 28-day mortality rate was 26.4%. Older age (≥64 years) and malignancy were more common among non-survivors, while vancomycin resistance was not associated with higher mortality. Endocarditis was infrequent, suggesting that routine echocardiography may be unnecessary in the absence of clinical suspicion. The predominance of intra-abdominal and genitourinary sources underscores the need for targeted diagnostic evaluation. Persistent bacteraemia highlights the value of repeat blood cultures in guiding management. These findings emphasize the clinical complexity posed by E. faecium bacteraemia and the importance of individualized diagnostic and treatment strategies. Further large-scale studies are warranted to optimize therapeutic approaches and clarify the impact of vancomycin resistance on patient outcomes.

31: Extended spectrum, not extended duration: ESBL detection and associated antimicrobial use

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Objectives
Extended-spectrum B-lactamase Enterobacterales (ESBL) colonisation has important implications for infection prevention, empiric antibiotic therapy and antimicrobial stewardship.
The aim of this retrospective cohort study was to:
1. Identify a cohort of patients from whom ESBL was detected
2. Assess the subsequent detection of ESBL in clinical samples among this group
3. Review associated antimicrobials

Method
All ESBL-E-positive clinical isolates recovered between 01.01.20 and 31.12.20 were identified using LIMS. Duplicates and GP samples were excluded. Patients were followed until 31.12.24.

Results
202 patients were identified; 55% female (112/202). 18% (39/202) had a previous ESBL-positive isolate. 60% (122/202) of samples were E. coli. 67% (135/202) were recovered from urine. 51% (104/202) were hospital-acquired, 28% (56/202) healthcare-associated, and 21% (42/202) community-acquired.

No subsequent samples were sent from 41 patients. ESBL was not recovered from any further clinical sample over the next four years in 61% (98/161). Mean time to last positive culture was 3.2 months (95% CI 1.9 – 4.5 months).
48 patients cultured a subsequent non-ESBL-producing Enterobacterales, mean time 45 months (95% CI 41 – 48 months).

55% (112/202) were treated with meropenem. 35% (56/161) received meropenem after the date of their last ESBL-positive culture.
All-cause mortality was 37% (76/202).

Conclusion
Only 14% of patients cultured another ESBL-positive isolate beyond the first year of follow-up, yet 35% of patients received further meropenem therapy. Our site has now implemented a review of patients with previous ESBL E. coli. Those who have not cultured an ESBL in over a year have been delabelled.

57: Reterospective data analysis of Carbapenemase-producing Enterobacterales (CPE) contact screening at University Hospitals Coventry and Warwickshire: Are we utilising resources effectively?

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Objective

As the threat of antimicrobial resistance increases, healthcare providers have an obligation to ensure antimicrobial resistance is controlled. Carbapenemase-producing Enterobacterales (CPE) show resistance to many commonly used antibiotics. Infections with CPE can be difficult and costly to treat.

CPE control is important in hospital settings. However, resources must be utilised effectively for the overall benefit of patient care. There are no current national guidelines available in England that stipulate the frequency and duration of CPE screening following CPE contact in hospital settings.

At University Hospitals Coventry and Warwickshire, an 8-week screening programme is undertaken for patients who have been in contact with CPE. Here, a retrospective data analysis was performed to establish time to CPE positivity following contact to inform the local policy.

Methods

Data collected during the 2024/25 financial year was extracted from the local database and analysed. The number of patient contacts and number of swabs taken from contacts was recorded. Swab results were analysed and time to positivity was calculated.

Results

Seventy-six patients were identified as CPE contacts, resulting in 647 CPE swabs. Eleven of the 76 patients tested positive for CPE (15.5%), but only 5 were positive with the same CPE type that they had been exposed to (6.6%). Time to positivity for patients with the same CPE type as they were exposed to ranged between 3 and 38 days.

Conclusions

This data shows that reducing the 8-week screening protocol for CPE contacts could result in a better use of resources and improved patient experience.

147: A SYSTEMATIC REVIEW OF PREVALENCE AND EPIDEMIOLOGICAL CHARACTERISTICS OF CARBAPENEMASE-PRODUCING ENTEROBACTERALES (CPE) IN THE UNITED KINGDOM

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ABSTRACT
Introduction: The prevalence of Carbapenemase-producing Enterobacterales (CPE) was low in the United Kingdom before the mid-2000s. CPE is challenging to treat, resulting in an increased risk of treatment failure, higher treatment costs, morbidity, and mortality rates. There is a global rise in CPE prevalence, particularly in healthcare settings.
Objectives: To estimate CPE prevalence in the UK and to determine epidemiological characteristics of CPE.
Methods: A literature search was conducted on PubMed, Medline, Scopus, Web of Science, and the Cochrane Library. The study includes all published papers related to CPE prevalence and epidemiology. Relevant data were extracted and analyzed using Excel and Stata Statistical Software.
Results: The review included nine studies that reported the CPE prevalence in the UK and were conducted between 2015 and 2023. The annual number of CPE isolates increased from 2009 to 2019. The overall CPE prevalence varies by location, ranging from 0.1% to 3.8%. There was a geographical variation in the distribution of carbapenem resistance genes, with KPC as a predominant type in Manchester, while NDM and OXA-48 were predominantly identified in the West Midlands and London. VIM and NDM were identified in Scotland as the major types. The meta-analysis of the risk factors showed some level of heterogeneity.
Conclusion: The review revealed that CPE prevalence in healthcare settings has increased in the UK, with variable prevalence and the presence of resistant genes in different regions. Recent hospitalization and overseas travel are the risk factors for the acquisition of CPE.

164: High ward-level and within-sample diversity of Klebsiella pneumoniae on a Malawian neonatal unit revealed by single colony whole genome sequencing and post-enrichment metagenomics

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Background:
Klebsiella pneumoniae is a frequent cause of antimicrobial resistant healthcare associated infections in neonates across sub-Saharan Africa, with multiple lineages associated with neonatal sepsis. However, the full diversity of circulating strains and key reservoirs facilitating transmission within hospitals is unknown.

Objectives:
We investigated the population structure and within-sample diversity of K. pneumoniae in a Malawian neonatal unit.

Methods:
We recruited 94 mother-neonate pairs and collected regular stool samples, hand swabs, cot swabs and swaddling cloth samples. Additionally, we collected ward surface-swabs and staff hand swabs. To establish within sample diversity we employed a dual sequencing approach; (i) single colony picks from Extended-Spectrum Beta-Lactamase (ESBL) selective chromogenic agar for whole genome sequencing; and (ii) post-enrichment metagenomics using plate sweeps from a non-selective agar.

Results:
In total, we analysed 552 single-colony picks and 772 plate-sweeps. Comparing sequence types, surface antigens, antimicrobial resistance and virulence genes, and plasmid replicons, between sequencing approaches, we identified advantages and limitations of post-enrichment metagenomics. Our approach revealed high diversity at both the ward and individual level, with a high proportion of the overall diversity likely due to ESBL negative organisms. ST15 and ST307 were found in high numbers using both methodologies, whilst ST14 was identified primarily from metagenomic samples. Isolates and samples from ward surface swabs had more antimicrobial resistance genes and plasmid replicons than those isolated from human stool.

Conclusions:
This approach demonstrates the value of combining colony-based and metagenomic sequencing approaches, as a cost-effective alternative to shotgun metagenomics to study health care associated infections.

165: Junk or adjunct? The place of protein synthesis inhibitors for treatment of severe invasive Streptococcus pyogenes infections in a time of rising clindamycin resistance

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Background: Widespread use of clindamycin as an adjunctive antitoxin therapy for patients with severe invasive Streptococcus pyogenes infections is based on limited data from in vitro and observational clinical studies. However, at least 25% of invasive isolates are now clindamycin resistant in several countries. This study evaluates the effect of clindamycin as an antitoxin agent in clindamycin resistant invasive S. pyogenes strains.

Methods: A panel of five well-matched S. pyogenes isolates from M1 and M12 lineages were selected based on whole genome sequencing, differing only in genes for constitutive or inducible clindamycin resistance (all linezolid susceptible). Time-kill assays were conducted in minimal media with increasing concentrations of clindamycin, linezolid, and penicillin. Supernatants were harvested at late-log phase for SLO quantification via ELISA and used to stimulate whole blood for IL-6 measurement.

Results: Clindamycin at 1µg/mL suppressed growth in clindamycin-susceptible and inducibly resistant strains but had no effect on constitutively resistant strains. Penicillin (0.016µg/mL) and linezolid (1µg/mL) effectively suppressed growth in all strains. Clindamycin reduced SLO production in susceptible and inducibly resistant strains at doses ≥0.25µg/mL but had no effect in resistant strains. Similarly, IL-6 levels following blood stimulation were reduced in clindamycin-susceptible and clindamycin inducibly resistant strains exposed to clindamycin 0.5µg/mL, but not in resistant strains.

Conclusion: Preliminary data suggests that clindamycin effectively suppresses SLO production and IL-6 responses in clindamycin-susceptible and inducibly resistant strains but not in resistant strains. This suggests that alternatives to clindamycin should be considered for adjunctive treatment of severe infections with clindamycin-resistant S. pyogenes.

175: Carbapenemase-Producing Enterobacterales (CPE) Bacteraemia: A Retrospective Five-Year Analysis of Epidemiology and Clinical Outcomes (2020-2024)

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Background:
Carbapenemase-producing Enterobacterales (CPE) bacteraemia poses increasing challenges due to rising colonisation rates, requiring substantial resources and multidisciplinary efforts.

Methods:
We retrospectively analysed CPE-positive blood cultures (BCs) from January 2020 to December 2024. Data reviewed included patient demographics, Charlson Comorbidity Index (CCI), admission details, and clinical outcomes.

Results:
Of 22 patients, most were male (64%), White British (68%), and elderly (>65y; 64%). 18% resided in long-term care facilities. Median comorbidity burden was high at CCI of 5.5 (IQR 5-9), with key comorbidities being diabetes mellitus (41%), chronic kidney disease (32%) and solid tumours (32%).

Admissions (25 total) were primarily under general medicine (76%). Common infection sources were biliary or urinary (28% each), followed by line (20%), bowel (12%) and chest (12%). Source control was achieved in 40%, and 16% required augmented care. Median length of stay was 20 days (IQR 9-39). Inpatient mortality was 20%, while all-cause mortality (ACM) reached 24% (30-day), 36% (180-day), and 48% (1-year).

Incidence of CPE-positive BCs (29 total) rose from 1 in 2020 to 11 in 2024. Escherichia coli (48%) and Klebsiella pneumoniae (41%) were the predominant species. PCR showed 46% OXA-48, 29% NDM-1, 13% KPC and 13% mixed (OXA-48+NDM-1) enzymes. Fewer than half of BCs had previous positive screens (38%) or significant specimens (41%).

Conclusions:
CPE bacteraemia disproportionately affects highly comorbid individuals, resulting in prolonged hospitalisation and high mortality (48% 1-year ACM), requiring strategic measures during patient management. The limited predictive value of previous selective screening also highlights the difficulty in identifying high-risk patients.

202: Local Epidemiology of Carbapenemase-Producing Enterobacterales (CPE) in a High-Burden London Trust

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Background:

North Middlesex Hospital serves a population of 640,000 across Enfield and Haringey, two of England's most socioeconomically deprived and ethnically diverse boroughs. Given the recognized association between deprivation, ethnicity and antimicrobial resistance (AMR), we reviewed local CPE epidemiology, comparing granular findings with national published data.

Methodology:

Between October 2023 and September 2024, CPE isolates were identified, following the CRE-DITS protocol. Local admission and CPE resistances results were attained through Trust informatics and LIMS. National and regional comparisons were made using data published by UKHSA (GOV.UK).

Results/Discussion:

A total of 20,674 non-elective admissions were recorded and 4935 resistant organism screens performed, a screening rate of 239 per 1000 patient admissions. From these, 218 carbapenem-resistant Enterobacterales isolates were identified, of which 174 were confirmed as carbapenemase-producing, yielding a positivity rate of 8.4 CPE positive screens per 1000 admissions.

The majority (85.6%) of CPE isolates were from rectal screening samples, with 10.3% from urine and 2.9% from sterile sites. OXA-48 (48.3%), followed by NDM (45.4%), and mixed (OXA-48 and NDM) (6.3%), were the most frequently isolated CPE mechanisms. The most frequently isolated species was Klebsiella pneumoniae (42.5%), followed by Escherichia coli (39%) and Enterobacter spp. (9.2%).

Conclusions:

This local dataset reveals a substantial and under-recognized burden of CPE in a high-risk urban population. Transparency in local screening rates and positivity is essential for benchmarking, driving targeted infection prevention strategies, empirical treatment guidelines and ensuring national surveillance reflects the true distribution of AMR risk across diverse healthcare settings.

326: The Resistance Risk of Penicillin Allergy

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Background
Clindamycin is a common second line antibiotic for use in patients with a penicillin allergy. However, with reported penicillin allergy rates of up to 10% and with potentially less than 10% of this number having a true allergy, there may be significant incorrect antibiotic prescribing, which may in turn impact resistance rates.

Aim
To see if clindamycin resistance rates of Group B Streptococci (GBS) and Staphylococcus aureus (SA) differ in patients who are labelled as allergic to penicillin, compared to patients with no penicillin allergy.

Methods
A six month retrospective data search was done for isolates of GBS and SA that had sensitivities done. Clindamycin sensitivity/resistance was recorded. Corresponding patient records were then checked for whether they had a recorded allergy to penicillin.

Results
Of the 1701 samples of SA, 438 (25.8%) were resistant to clindamycin. In the penicillin allergic population, the rate of resistance was 41.9% compared to 23.7% in the non-allergic group. There were 406 GBS samples and of these, 141 (34.7%) were resistant to clindamycin. The resistance rate of clindamycin in the penicillin allergic population was 55.8% compared to 32.2% in the non-allergic group.

Conclusion
Clindamycin resistance in penicillin allergic patients is higher than that of those without an allergy. If treating empirically, this could mean that over 55% of patients are receiving ineffective treatment when treating GBS, and 40% for SA. This has implications both for empiric antibiotic guidelines, but also for supporting penicillin allergy de-labelling practices.

329: Phenotypic susceptibility testing for Scottish M. avium isolates at SMRL 2012 – 2025

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The increased incidence of NTM in Scotland has largely been driven by M. avium complex (MAC) and M. abscessus complex. This has also been reported globally. Current guidelines advocate the use of a macrolide in combination with rifampicin and ethambutol. Yet there are only established clinical breakpoints for the former. Broth microdilution (BMD) is the only method recommended by the Clinical Laboratory Standards Institute (CLSI). For most drugs susceptibility testing correlates poorly with clinical outcomes; there are few molecular tools to guide NTM therapy.
Aim:
Describe phenotypic drug susceptibility (pDST) patterns for Scottish Mycobacterium avium isolates
Methods:
Retrospective review of Scottish Mycobacteria Reference Laboratory (SMRL) pDST data by BMD (2012 to 2025).
Results:
A total of 1529 M. avium isolates had pDST results. From 2012-2019 (1115 isolates), we found that 92% were susceptible to clarithromycin and 88% to amikacin. More recent data on MIC distributions from 2020 to 2025 (414 isolates) showed that susceptibility to clarithromycin has increased to 97.3% and to 93.9% to amikacin. This could represent variability in the method. Given the challenges with treatment for M. avium patients, as the CLSI has provided non- clinical breakpoints for Linezolid and moxifloxacin we examined our most recent data and found resistance in 56% and 15% of isolates respectively.
Conclusion:
Susceptibility of M. avium to macrolides and amikacin remain largely susceptible and relatively constant in Scottish isolates. MICs to moxifloxacin are low whereas linezolid displays higher MICs. Further studies are required to ascertain the role of AST for NTM disease.

Antimicrobial stewardship

15: PREVELENCE AND PRACTICE TOWARDS RATONAL DRUG USE AT MARIAKANI SUB- COUNTY HOSPITAL (MSCH) BASED ON WOLD HEALTH ORGANIZATION USE INDICATTORS.

Dr. Antony Nyabuto[1], Dr. Peter Kinyanjui[1]
[1]MOH

INTRODUCTION
Rational drug use is essential for high-quality healthcare and achieving Universal Health Coverage in Kenya. It involves the appropriate prescribing, dispensing, and use of medicines, ensuring patients receive the right medications at the right time.
OBJECTIVES
The study aimed to assess medicine use patterns in the outpatient departments of Mariakani Sub-County Hospital (MSCH) using WHO/INRUD core drug use indicators
METHODOLOGY
Researchers evaluated prescribing, patient care, and facility indicators retrospectively for 1200 prescription encounters at MSCH between July 2021 and June 2022. Data was collected using and outpatient attendants were included to collect patient indicators. Availability of 22 essential medicines was assessed using MoH HPT tracer list.
RESULT
1200 MSCH outpatient prescriptions had 74% generics, 95% essential medicines, and 69% antimicrobials. 2.7 medicines were prescribed per prescription with 11.7 mins and 175.8 secs consultation and dispensing times. 86% essential medicines were in stock. Females received more meds and antimicrobials, and the top five antimicrobials made up 75.9% of total consumption.
DISCUSSON
The study showed that prescribing practices at outpatient department are generally good. However, the high prevalence of antimicrobial prescriptions highlights the need for enhanced antimicrobial stewardship. The gender distribution of prescribing and the common use of antimicrobial prescription should be further explored to identify potential drivers of these patterns.
CONCLUSION
High rates of polyoharmay and overuse/missuses of antimicrobials indicate a need for interventions to improve rational use of medicines. Training on rational prescribing, patient education, and antimicrobial stewardship are recommended, with close monitoring and evaluation for impact

24: Antibiotic usage for prophylaxis in asymptomatic contacts of notifiable disease cases in North East England increased between 2013 and 2024

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INTRODUCTION

Between 2013 and 2024, the UK Government aimed to reduce community antibiotic prescribing by 25%. No data has previously been collated on changes in antibiotic usage in health protection practice in England.

In England, UKHSA Health Protection Teams (HPTs) recommend prescription of antibiotics for certain contacts of invasive meningococcal disease (IMD) and invasive Group A Streptococcal disease (iGAS) cases. This audit assessed changes in the quantity of antibiotics recommended for contacts by an HPT in North East England.

METHODS

The HPT's clinical records of all sporadic IMD and iGAS cases managed in 2013 or 2024 were reviewed. Where antibiotics had been recommended for one or more asymptomatic contacts, the number of defined daily doses (DDDs) was calculated, assuming the standard dose of the first-line antibiotic had been prescribed.

RESULTS

In 2024, the North East HPT recommended 155% more antibiotic DDDs for these indications than in 2013 (131 in 2013; 335 in 2024).

DISCUSSION

A 2022 change in national guidance, based on updated evidence, expanded eligibility for antibiotic prophylaxis among iGAS contacts. This accounted for 78% (260) of the DDDs recommended in 2024. Excluding this group, recommended DDDs would otherwise have decreased by 44%.

CONCLUSIONS

The quantity of antibiotics recommended by the North East HPT for asymptomatic contacts of IMD and iGAS more than doubled between 2013 and 2024. This sharp rise, driven by expanding the eligible group for iGAS prophylaxis, contrasts with national efforts to reduce prescribing. This highlights the tension between antimicrobial stewardship and public health protection.

45: Audit of antimicrobial prescribing in an acute medical assessment unit in a University Hospital

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Background
Patients are admitted into the St Vincent's University Hospital (SVUH) acute medical assessment unity (AMAU) requiring antimicrobial therapy for different conditions. A chart review was conducted to see if these patients are on the correct antimicrobials for their diagnosis in accordance with the SVUH guidelines and if applicable have they been switched from an intravenous to oral agent at the appropriate time. Incorrect prescribing of antimicrobials can result in increased side-effects, costs and increase in antimicrobial resistance.

Aims:
- To review the drug kardex to assess if patients admitted were on correct antibiotic for their diagnosis in accordance with the SVUH guidelines.
- Is the patient switched from an intravenous to oral agent at the appropriate time.

Methods:
A retrospective drug kardex review of AMAU patients was carried out to look for antimicrobial prescriptions. Fifty patients were identified for inclusion. The name, dose, frequency, duration and indication for the prescribed antimicrobial agent were recorded. The antimicrobial agent was then compared
to the SVUH "GUIDE doc guidelines" to assess if it was appropriate.

Results:
The main indication for antimicrobial prescribing in the AMAU unit was for respiratory tract infections (RTI). The most prescribed antimicrobial was co-amoxiclav. The types of RTI were community acquired pneumonia (n=13), infective exacerbations of COPD (IE COPD) (n=2), aspiration pneumonia (N=1), hospital acquired pneumonia (HAP) (n=2) and lower respiratory tract infection unknown type (n=10).The audit identified under prescribing of amoxicillin in community acquired pneumonia where the CURB score was 0-2 and an over use of co-amoxiclav.

46: Reduction in antibiotic prescribing after implementation of Paediatric Antimicrobial Stewardship Rounds in a Tertiary Centre

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Introduction:
Antimicrobial stewardship (AMS) in Paediatrics is controversial due to the relatively common usage of empiric antibiotics.(1) Negative repercussions to overprescribing antibiotics, such as the emergence of multidrug resistant organisms or drug side effects, necessitate AMS. Of particular interest is AMS encouraged by the recent WHO AWaRe classification, in which the commonly-used Ceftriaxone is an antibiotic to "Watch".(2)

Methods:
A prospectively kept database from 2016-2024 in Oxford University Hospitals Trust was developed, collecting data on all antimicrobial prescriptions in inpatients, compared with bed occupancy. Twice weekly AMS rounds were undertaken by the Paediatric Infectious Diseases Specialty team from 2018, including a Specialist Pharmacist to review inpatient antimicrobial prescriptions.

Results:
A reduction in antibiotic prescriptions was seen between 2016 and 2024 (from 9.0 +/- 0.81 to 6.1 +/- 0.75 average frequency per inpatient bed day). This overall antibiotic prescribing data was fitted to a linear model (multiple R squared 0.54, F-statistic 2.2e-15), which demonstrates progressive decrease in antibiotic prescribing. Reductions in antibiotic prescribing were noted after AMS round introduction in 2018, but also during and after the COVID pandemic period.

Conclusions:
Our data suggests improved optimisation of antimicrobial prescribing following the implementation of AMS rounds. We encourage wider AMS implementation, with further studies to assess the efficacy in differing settings, and the impact on patient outcomes.

References:
1. Principi, N and Esposito, S., BMC Infectious Diseases (2016), 16: 424.
2. AWaRe classification of antibiotics for evaluation and monitoring of use, 2023. Accessed on WHO website June 2025: https://www.who.int/publications/i/item/WHO-MHP-HPS-EML-2023.04

47: Change in Paediatric antimicrobial prescribing behaviour following the implementation of Antimicrobial Stewardship Rounds

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Introduction:
Paediatric departments have been late adopters in antimicrobial stewardship (AMS), thus the UK Paediatric AMS (UK-PAS) network was launched to address an unmet need to coordinate this effort.(1,2) Good practice recommendations advise evidence-based expert advice to be available, and regular audit of local antimicrobial prescribing.(2)

Methods:
Data were gathered relating to AMS round advice and implementation, between 2023 and 2024 in the Children's hospital, Oxford University Hospitals Trust, following the implementation of Specialist Paediatric AMS rounds. This data was compared to a prospective database of all inpatient antimicrobial prescriptions during this period.

Results:
Between 2023 and 2024, we found an increase in compliance with AMS advice of 13%. Advice to "escalate" antibiotics of add an additional antibiotic was most often followed, 91% of the time. Conversely, de-escalation and IV-oral switch advice was the least, followed 59% and 76% of the time during our study period.

Conclusions:
Our data suggests a change in prescribing behaviour during our study period, with an increase in compliance and a decrease in antibiotic prescribing overall during our study period. Further studies are required to further optimise AMS compliance, in particular in understanding the differences in compliance between different advice categories.

References:
1. Vergnano, S, Bamford, A et al. J Hosp Infect. 2020 Aug; 105 (4): 736-740.
2. Paediatric Antimicrobial Stewardship Good Practice Recommendation. Accessed on BSAC website June 2025: https://paediatric-ams.co.uk/

73: Mortality in sepsis caused by Streptococcus pyogenes vs. other gram-positive cocci: can the biomarkers help with prediction?

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Introduction: Worldwide, there has been an increase in sepsis episodes caused by Streptococcus pyogenes, which may be associated with high mortality. Inflammatory biomarkers can be the tools to predict the outcome of the patient.
Methods: We retrospectively (years 2020-2025) evaluated the results of selected biomarkers, such as C-reactive protein (CRP), procalcitonin (PCT), white blood cell count with differential count and neutrophil-lymphocyte ratio (NLR), in septic patients who had positive blood cultures (Staphylococcus aureus, Streptococcus dysgalactiae and Streptococcus pyogenes) and were hospitalized in the General University Hospital in Prague. The mortality rates were also evaluated and compared according to the causative agent.
Results: During the observed period, the mortality in sepsis caused by S. aureus and S. dysgalactiae reached 17.28% and 17.9%, respectively. However, the mortality rate of S. pyogenes-caused sepsis was 39.4%. PCT levels were significantly higher (median 65.9 ng/ml, IQR 45.56-94.1 ng/ml) in S. pyogenes group of patients who died. Among S. pyogenes survivors, PCT levels were lower (14.03 ng/ml, IQR 3.4-35.1 ng/ml). In S. aureus and S. dysgalactiae, the difference in PCT values between survivors and non-survivors was not significant. Additionally, PCT levels in these groups were generally lower than those seen in patients infected with S. pyogenes.
Conclusions: The difference in mortality between sepsis caused by Streptococcus pyogenes and other gram-positive cocci is significant. The use of biomarkers (especially PCT) is essential to predict mortality in sepsis, as the conventional microbiological methods can be delayed. Further research of additional biomarkers (e.g. Intensive Care Infection Score) is necessary.

87: Improving Documentation and MDT Standards in Periprosthetic Joint Infection Management: A Retrospective Audit

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Objectives:
Periprosthetic joint infections (PJI) present significant clinical challenges, demanding comprehensive multidisciplinary team (MDT) input per British Orthopaedic Association (BOA) guidelines. Despite regular MDT discussions at Manchester University NHS Trust, compliance with BOA standards had not previously been audited. This retrospective audit evaluated MDT compliance against established standards for documentation, attendance, and antimicrobial stewardship.

Methods:
Fifty unique cases from January–May 2024 discussed at the MDT were retrospectively reviewed. MDT attendance compliance was assessed, along with documentation quality and antibiotic stewardship.

Results:
MDT attendance was fully compliant for infectious diseases physicians (100%) and orthopaedic surgeons (100%) but suboptimal for microbiologists (62.5%). Documentation compliance varied: surgical history was well-documented (95%), systemic antibiotic usage clearly recorded (90%), but correct antibiotic dosing prior to MDT review was notably poor (25%). EBJIS classification documentation was below target (79%), with organisms documented in 80% of cases, predominantly MSSA, Enterobacter cloacae, and Escherichia coli.

Discussion:
Identified challenges included inconsistent documentation practices and antibiotic dosing errors, particularly with Teicoplanin, where only 60% of patients audited were on the correct dosage. Only 60% had antibiotic dosage documentation, 63% had treatment duration documented, and 38% received drug monitoring advice. One year follow-up outcomes showed effective infection control in most (24 cases without continued antibiotics), though adverse outcomes (amputation, resection, or death) occurred in 12 cases. Recommendations include implementing structured MDT documentation templates, targeted educational interventions, and establishing repeat audit cycles.

Conclusions:
This audit highlights the urgent need for standardisation of MDT practices to improve patient outcomes and enhance antimicrobial stewardship.

90: Antifungal Stewardship in Critical Care:

The impact of introducing on-site 1,3-beta-D-glucan (BDG) testing on antifungal stewardship in the critically ill

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Background
Invasive Candidiasis (IC) has high morbidity and mortality in intensive care unit (ICU) patients, and early antifungal therapy is critical to improve outcomes1-4. On-site BDG testing (Fujifilm Wako) was introduced at St George's Hospital in October 2023. We assessed the impact of on-site testing on test turnaround time (TAT) and its influence on appropriateness of empirical antifungal prescribing and hence antifungal stewardship.

Methods
ICU patients prescribed empirical echinocandin therapy (anidulafungin) between October 2022 and October 2024 were included. Proven IC was diagnosed through positive blood or sterile fluid cultures (EORTC criteria). Data were analysed using R.

Results
100 patients were included: 48 before and 52 after on-site testing implementation. On-site BDG testing significantly reduced TAT from a median (IQR) of 12 (10-14) days in 2022/23 to 3.5 days (2-4) in 2023/24 ($p<0.0001$). For patients with a negative BDG result, median (IQR) antifungal course length was 4 (2-6.25) days before implementation (n=32), 3 days (2-5.5) days after on-site testing implementation (n=31), a 25% reduction in median course length ($p=0.52$). For those with a positive BDG result without an ultimate proven IC diagnosis, antifungal course length increased from a median (IQR) of 3.5 days (1.75-9) to 5.5 (4-7.25) days (n=16 and 13 patients respectively) after implementation of on-site testing ($p=0.70$).

Conclusion
On-site BDG testing significantly reduced turnaround time and resulted in a clinically meaningful reduction in median antifungal course length following a negative, but not positive, BDG result, with beneficial implications for antifungal stewardship.

103: Clindamycin and Opioid Use in Dentistry: Ten-Year Trends in Antimicrobial and Analgesic Prescribing by NHS Dentists in England

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Background
Optimising patient outcomes in dental care requires a clear understanding of prescribing trends, particularly for antimicrobials and analgesics. Given the global threat of antimicrobial resistance (AMR), and the role of dental prescribing in contributing to this issue, this study investigates ten-year prescribing patterns by NHS dentists in England, with a focus on the impact of COVID-19.

Methods
A retrospective analysis was conducted using NHS Business Services Authority dispensing data from January 2014 to December 2023. The dataset included prescriptions for antimicrobials and analgesics issued by primary care dentists in England. A chi-squared test of distribution was applied to assess significant changes in prescribing behaviour from February 2020 to December 2023, coinciding with COVID-19 restrictions.

Findings
Prescribing rates for both antimicrobials and analgesics declined overall between 2014 and 2023. However, a sharp increase was observed during the pandemic. Clindamycin prescriptions rose from 1.83 items per 100,000 in February 2020 to a peak of 3.09 in June 2020, remaining elevated at 2.00 by December 2023. Dihydrocodeine, now comprising 42% of all analgesics prescribed, increased from 3.22 items per 100,000 in February 2020 to 7.32 in May 2020, and settled at 3.51 by December 2023.

Interpretation
While antimicrobial stewardship initiatives have contributed to a long-term reduction in prescribing, the pandemic disrupted progress. The sustained post-pandemic use of Clindamycin, linked to Clostridium difficile, and increased reliance on opioid analgesics like Dihydrocodeine highlight the need for continued education, regular audit, and adherence to evidence-based prescribing guidelines in dental practice.

113: Improving Antimicrobial Stewardship in Infective Exacerbations of Chronic Obstructive Pulmonary Disease (IECOPD): A Retrospective Audit of Practice and Interventions in the Acute Medical Unit (AMU), Rotherham District General Hospital, United Kingdom

Dr Esther Lawrence, **Dr David Agyemang - Yeboah**, Dr Mary McNamara, Dr Chen Xiaomei
[1]Rotherham District General Hospital

Background
Antimicrobial resistance is a global concern, particularly in the over-prescription of antibiotics for patients admitted with IECOPD.

Objectives
The project aimed to evaluate the appropriateness of antibiotic prescribing in patients with IECOPD admitted to the AMU and to implement targeted interventions to promote antimicrobial stewardship.

Methods
Following approval from the Clinical Effectiveness Department, we retrospectively reviewed 65 patient records coded as IECOPD in October 2024. Data points included:

CRP levels (using a >20mg/L cut-off in line with Butler et. al 2019)
Sputum sample submission
Antibiotics given and type
Adherence to local guidelines
Documentation of antibiotic review

Results
42 patients were analysed, with 23 excluded due to alternative diagnoses.

Only 7 (16.7%) had sputum samples sent. 25 (59.5%) had high CRP>20mg/L suggesting infection. Despite this, the majority, 39 (92.8%) received antibiotics, including 17 (40.5%) patients with CRP<20mg/L where bacterial infection was less likely.

Among those with CRP>20mg/L, 11 (44%) patients did not receive antibiotics according to guidelines. Several patients received broad-spectrum agents without documented clinical rationale.

Discussion
Our findings reveal poor sputum sampling, frequent guideline deviation and over-reliance on empirical therapy. In response we launched the 'Think SPIT' campaign addressing four key areas using the acronym 'SPIT': Sputum collection, Procalcitonin, Intended treatment and Treatment review.

This campaign is running alongside the introduction of procalcitonin testing on AMU, educational initiatives and a collection box for sputum pots. A re-audit is planned to evaluate impact.

Conclusion
Behaviour-focused interventions targeting sampling and guideline adherence may help overcome antimicrobial stewardship challenges in IECOPD management.

123: Understanding the barriers and enablers of antimicrobial stewardship: results from a cross-disciplinary staff survey at a tertiary NHS Trust

Akish Luintel[1], **Dr Akish Luintel**[1], Dr Giovanni Satta[1], Ms Preet Panesar[1]
[1]University College London Hospitals Nhs Trust

Background:

Antimicrobial stewardship (AMS) requires multidisciplinary engagement, yet staff perspectives on prescribing support and feedback needs are rarely captured systematically. To inform the development of a new Trust AMS strategy, we surveyed prescribers' beliefs, behaviours, barriers and support needs across University College London Hospitals (UCLH).

Methods:

A cross-sectional survey was distributed to doctors, nurses, pharmacists, and allied professionals involved in antimicrobial prescribing or review at UCLH over 2-weeks in March–April 2025. The survey included both structured and free-text questions on prescribing confidence, decision-making resources, education, and feedback preferences.

Results:

A total of 118 responses were received (112 analysed), representing a wide range of specialties and roles. Confidence in common infections was high (mean 4.2/5), but lower for resistant or complex infections (mean 3.0/5). Over 50% had not received AMS training in the past year. Respondents reported challenges stopping antimicrobials prescribed by others, particularly in hierarchical settings or with frail patients. The electronic health records system (EHRS) was described as poorly integrated with AMS functionality, and there was strong interest in feedback, clinical decision support, and embedded resistance data. Free-text responses highlighted four key themes: educational gaps, digital limitations, cultural barriers, and the need to integrate AMS into clinical routines.

Conclusion:

Staff across UCLH are motivated to improve antimicrobial use but face persistent barriers, especially around prescribing feedback, decision support, and confidence in prescribing for complex infections. Our findings are shaping the Trust-wide AMS strategy, with a focus on education, EHRS functionality, and tailored feedback mechanisms.

132: Can the Role of an Infection Specialist Embedded in a Primary Care setting Improve Antimicrobial Stewardship (AMS)?

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[1]James Alexander Family Practice

Effective leadership in AMS across healthcare is essential in the fight against AMR. In our practice, we strengthened our approach by integrating a trainee ACP with a special interest in Infectious Diseases (ID). With over 11 years of experience as an ID specialist nurse and a postgraduate diploma in ID, this clinician has brought valuable expertise to our team, supporting both patient care and staff education.

Unlike other chronic conditions such as diabetes, primary care typically lacks dedicated infection specialists, but GPs and ACPs play critical roles in infection management.

Hull is one of four most deprived local authorities in England, facing significant socioeconomic and health challenges, marked by high levels of poor health literacy and a lower-than-average life expectancy compared to both the Yorkshire regional and national averages. These factors compound the difficulty in managing infections and contribute to the urgent need for innovative, community-based solutions to improve patient outcomes.

How Have We Achieved This?

- Improved Management of Complex infections
- Optimised Antimicrobial Use
- Appropriate Course Duration
- Efficient Tirage
- Immediate In-House Guidance
- Enhanced Screening and testing
- Education and Support
- Improved sample Collection

Impact

So yes – it works, embedding infection expertise in primary care settings optimises patient care and improves AMS efforts. Proving that with the right expertise, primary care can be an effective frontline defence against AMR. This model demonstrates how a targeted, specialist-led approach addresses gaps in infection management, reduce unnecessary referrals and play a key role in combating AMR.

138: Antimicrobial stewardship at the front door: The effect of daily in-reach into the Acute Medical Unit on length of stay and antibiotic route and duration

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[1]Manchester NHS Foundation Trust

Background
There were over 66,000 serious antimicrobial resistant (AMR) infections in the United Kingdom in 2023. Antimicrobial stewardship (AMS) programmes play a key role in combating AMR within healthcare organisations.

Methods
A daily in-reach AMS ward round on the acute medicine unit (AMU) was piloted at a single site in a large NHS Foundation Trust and was conducted by infectious diseases physicians. Patients were identified via review of the electronic patient record (EPR) and discussion with clinicians and subsequent recommendations were made.

Results
167 patients had a documented intervention over the course of the 10-week pilot with a median time from admission to review of 1 day. 55% (92) of patients had pulmonary infection, 12% (21) had a urinary source and 10% (17) had sepsis of unknown origin. 43.7% (73) of recommendations involved an intravenous (IV) to oral (PO) switch, 9% (15) were to stop antibiotics and 27.5% (46) recommended narrowing antibiotic spectrum. 85% (142) of plans were actioned within 48 hours. The median length of stay was 7 days when the plan was actioned compared to 10 when it was not. A survey of AMU staff found the intervention to be highly acceptable.

Conclusion
'Back-end' AMS interventions may be more effective and sustainable than 'front-end' pre-prescription interventions. Rounds on the AMU can result in improved antimicrobial prescribing and reduced length of stay in patients where advice is followed. Buy-in from the AMU team is vital to maintain high rates of adherence and encourage a positive culture of AMS.

142: Stewardship Without Borders: Impact of Non-AMS Steward to Drive Change

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[1]Geriatric Medicine , [2]Microbiology Department

Background: Following recent updates to local antimicrobial guidelines, monthly audits revealed suboptimal antibiotic prescribing compliance on elderly care wards. Compliance was found to be impacted by issues with indication documentation, dosing and intravenous (IV) to oral switch practices. This study evaluates the impact of a dedicated antimicrobial steward on improving prescribing behaviours and guideline adherence.

Methods: A five-month quality-improvement project placed a non-specialist antimicrobial stewardship (AMS) champion on one elderly ward (W3). The champion installed infection-specific guideline posters, delivered targeted education and shared monthly audit feedback at MDT. Bundle compliance was compared with a matched control ward (W1). A 14-item prescriber survey (n = 14) explored behavioural and organisational barriers.

Results: Bundle compliance on the champion ward (W3) increased from 83 % to 94 %, clearing the 90% target, while the control ward (W1) decreased from 95% to 93%. Indication documentation and IV to oral switching each increased from 75% to 100% on the champion ward (control 83 to 92% and 100 to 90%). Correct antibiotic choice improved to 71% (control 86%). Dosing accuracy stayed at 100%. Staff feedback on the champion ward confirmed that posters, teaching and monthly audit discussions made guidelines easier to apply, prompted daily review and reduced unnecessary antibiotic starts.

Conclusion: Embedding a ward-based AMS champion yielding significant results which exceeded targets versus control. Survey insights will guide phase-2 actions, via simulation teaching and streamlined microbiology referral. Thus allowing to embed and scale this model Trust-wide.

154: Quality improvement project to assess the impact of multidisciplinary team (MDT) antimicrobial stewardship (AMS) ward rounds and the uptake of recommendations in surgical wards

Louise Dunsmure[1], Dr Josephine Lightowler[1], Bee Yean Ng[1], Dr Andrew Dagens[1], Dr Nicola Jones[1], Tanya Escayo[1]
[1]Oxford University Hospitals Nhs Foundation Trust

Introduction:
Antimicrobial resistance (AMR) is an emerging global health concern exacerbated by inappropriate use of broad-spectrum antibiotics.
The objective of this project was to investigate the impact of MDT AMS rounds on surgical wards.
Method:
An MDT AMS round consisting of an infectious diseases (ID) registrar and AMS pharmacist was piloted for 4 weeks in surgical wards in a tertiary hospital. All surgical patients on broad spectrum antibiotics were reviewed prospectively. The data was reviewed to determine whether the advice was acted upon 24 hours after the round.
Focus group discussions were conducted with peri-operative consultants, surgeons and matron to identify barriers in uptake of recommended interventions. This led to the MDT including a peri-operative consultant.
Result:
Number of recommended interventions per prescriptions reviewed were similar in the ID registrar AMS round and the peri-operative consultant led round (41% vs 43%). There was an improvement in intervention implementation within 24 hours after the peri-operative consultant led round (73% compared to 42%). IVOS and duration change had the highest actioned rate (100% and 75%) .
Discussion:
This highlights the importance of engaging the right stakeholders, particularly those with decision-making power and who can drive influence within the surgical team. When stewardship messages are delivered by a peri-operative consultant it fosters a shared stewardship agenda increasing the likelihood of behaviour change and successful implementation.
Conclusion
Engaging stakeholders enhances the uptake of AMS recommendations. Identifying an antibiotic champion is key to successful antimicrobial stewardship.

178: Impact of Antimicrobial Stewardship (AMS) programme accreditation on the professional development of AMS practitioners

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[1]British Society for Antimicrobial Chemotherapy

Introduction

Specialist training for AMS professionals is not readily accessible in every country, which the British Society for Antimicrobial Chemotherapy (BSAC) aims to address through several education programmes. BSAC's Global AMS Accreditation Scheme (GAMSAS), which has accredited 22 hospitals' AMS programmes, aims to drive continuous improvement in AMS globally through standards and good-practice recommendations.

Aim

To determine whether GAMSAS benefits professional development of AMS specialists working at hospitals who have undergone accreditation.

Methods

A self-administered online survey was distributed (18th March–5th May 2025) to AMS leads at hospitals accredited through GAMSAS at least 6-months prior. A closed question asked whether GAMSAS had impacted their practice, professional development, and career. An open question then captured details about what this impact was, or what they wanted this impact to be.

Results

Twenty health professionals (Ireland 8, USA 4, UK 4, Egypt 1, Mexico 1, Nigeria 1, UAE 1) responded, of which 70% stated that GAMSAS had impacted their practice, development, or career. Analysis of the open responses highlighted that GAMSAS i) increased own awareness of AMS initiatives, ii) improved personal and team recognition, ii) supported networking, and iv) provided inspiration and motivation.

Those who reported that GAMSAS had not had this impact (n=4), or were unsure (n=2), generally did not feel that GAMSAS could support them individually. One respondent felt GAMSAS could support centres with AMS team business cases, while another wanted opportunities for collaborative research.

Conclusions

Participation in GAMSAS provides benefits for individuals' professional development and career opportunities.

197: Microbiology and Epidemiology of Adult Liver Abscess in a Tertiary Hospital in Ireland (2009 - 2023)

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Introduction
Liver abscesses are a potentially life-threatening condition that can arise from a variety of infectious aetiologies, and their clinical impact can be influenced by underlying aetiology, microbiology and timely interventions.

Objectives/Background:
This study aims to provide an in-depth review of all clinical cases of liver abscesses in adult patients at Beaumont Hospital over a 15-year period (2009-2023), focusing on epidemiology, microbiology, and mortality outcomes.

Methods
A fifteen-year retrospective analysis of radiological, laboratory, and medical records of adult patients presenting with liver abscesses to a tertiary referral hospital.

Results
176 patients; 117 were male (66.47%). Mean age at diagnosis 65 years (range 18-96 years).
Aetiology: biliary pathology 51.7%, no identifiable cause 15.9%, diverticular disease 8.5%, post-operative intra-abdominal collections 6.5%.
In 50.6%, one or more organisms were cultured. 36.9% of abscesses were not aspirated and of those aspirated 12.5% had no growth in the laboratory. The commonest pathogens isolated were Escherichia coli (n=39), Streptococcus species (n=22) and Klebsiella pneumoniae (n=11). Of note 5.1% (n=9) passed away whilst hospitalised with a confirmed liver abscess.

Conclusion
This study has provided an epidemiological update on liver abscesses in a tertiary level 4 hospital. Biliary disease being the commonest cause and E.coli being the commonest pathogen concurs with recent data. Mortality rate is also consistent with global data estimates of less than 10%.

215: Bacteraemia Following Inadequate Treatment of UTIs: a Consequence of Misunderstanding the Principles of Antimicrobial Stewardship

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Background:
Antimicrobial stewardship and the reduction of Gram-negative bacteraemia are recognised national priorities. Antimicrobial consumption targets have evolved into a core performance metric that measures stewardship. The enthusiastic pursuit of such targets, we believe, has a role in hospital admissions resulting from bacteraemia.
Aim:
To study this, we audited the preceding community and/or outpatient antibiotic treatment of all patients admitted to our hospital with bacteraemia from urinary tract infections (UTI) over six months.
Methods:
All patients admitted from 01/01/2025 with UTI with a positive blood culture were included. Patient records were examined for UTI, urinary pathologies and urological procedures in three months preceding admission with community/outpatient antibiotic treatment. Appropriateness was determined per current guidelines.
Results:
Totally 128 patients were included (73 male, 55 female; age range 17-99y, median age 78y). Preceding admission, 24 (19%) patients (16 male and 8 female) received treatment for uncomplicated lower UTI despite having clinical features of complicated and/or upper UTI, with 17 (13%) having systemic symptoms of fever, delirium and/or falls, and 15 (12%) having anatomical/physiological abnormalities of the urinary tract, including calculi and tumours. The antibiotic most commonly prescribed was nitrofurantoin – in 18 (14%) cases.
Conclusions:
Potentially 19% of bacteraemia from UTI were avoidable with appropriate diagnosis and treatment in the community. Our findings highlight: (1) a major unintended consequence of the pressures of meeting antimicrobial consumption targets, (2) a lack of understanding of the principles of stewardship, and (3) the inability of current guidelines to unambiguously differentiate between complicated and uncomplicated UTIs.

233: Optimising Invasive MSSA Treatment: Demonstrating High Anti-Staphylococcal Beta-Lactam Coverage Through a Novel Penicillin Allergy Pathway in an NHS Trust

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Background: Invasive Methicillin-Sensitive Staphylococcus aureus (MSSA) infections are a critical clinical challenge, with anti-staphylococcal beta-lactams (ASBL) being the preferred treatment due to superior efficacy. However, penicillin allergies often lead to suboptimal non-beta-lactam use, impacting patient outcomes and contributing to antimicrobial resistance. Modern understanding of beta-lactam cross-reactivity, primarily driven by R1 side-chain similarity, allows for safer prescribing.

Methods: A local penicillin allergy management pathway was introduced to facilitate safe ASBL use in penicillin-allergic patients. This guideline employs robust risk stratification (e.g., PEN-FAST criteria) and a structured provocation/challenge protocol through AMS pharmacy team. It includes routine administration of R1 independent side-chain cephalosporins (e.g., cefazolin) even with penicillin anaphylaxis history, and graded flucloxacillin challenges for low-risk penicillin allergies. We assessed its impact on ASBL prescribing for invasive MSSA.

Results: From Jan-2024 to Jul-2025, 103 cases of MSSA bacteraemia were identified in 102 adult patients. Twelve patients were excluded due to transfer or death prior to targeted therapy. 90/91(98.9%) received an ASBL: 36 cefazolin, 53 flucloxacillin, and one ertapenem (polymicrobial). Only one patient received a glycopeptide (mixed MSSA/CONS). This high beta-lactam coverage highlights successful penicillin allergy protocol adoption. Since latest guideline update (Feb-2025), three penicillin-allergic patients safely received beta-lactams: one underwent successful flucloxacillin provocation, one received cefazolin despite dizziness/collapse history, and another received cefazolin following angioedema. No adverse reactions were observed.

Conclusion: Here, we demonstrates that a structured penicillin allergy pathway significantly optimises beta-lactam prescribing for critical infections like invasive MSSA, even in allergic patients.

248: Review of Urine Culture Requesting and Associated Antimicrobial Prescribing in Older People's Services, Glasgow Royal Infirmary

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INTRODUCTION:

Urinary tract infection (UTI) in older people is an important diagnostic and therapeutic challenge. Asymptomatic bacteriuria is highly prevalent, with presentations often being atypical. Improvements to diagnostic and stewardship strategies are needed to ensure judicious prescribing in such patient populations and reduce the risk of toxicity/harm caused by over-prescribing. The aim of our study was to assess clinical information provided with urine specimen requests and evaluate the impact of laboratory reporting on patient treatment.

METHOD:

A retrospective review of urine culture results/reporting was performed for 2023, followed by a focused 2-month snapshot analysis of urine specimen requests. For each case/specimen request; the symptomology/indication, antimicrobial management and microbiological culture/laboratory results were assessed.

RESULTS:

4462 urine samples were processed in 2023, 34% yielding significant growth. For the snapshot analysis, 26% (172/674 specimens; 167 patients) were culture positive. 97% of specimens were requested by nurses. Notably 32% listed “urinalysis” as the indication despite this not being advised for this population.
Urinary symptoms were listed for 9%. Non-urinary-symptoms (rigors/functional decline/delirium) were listed for 41%. 17% listed mixed (urinary/non-urinary) symptoms. 33% were asymptomatic.
For 38%, empirical antibiotics were initiated at the time of culture; 34% had antibiotics changed/initiated in response to the positive culture. For 27%, antibiotics were started due to a positive culture despite the patient being asymptomatic.

CONCLUSION:

Our study suggests that urine culture reporting can contribute to the inappropriate over-prescribing of antibiotics. We propose that quality improvement initiatives (requests with insufficient details are not processed) are essential to support/optimise stewardship strategies.

257: Low hanging fruits for antimicrobial stewardship: Results of an audit to monitor compliance with urine authorisation by clinical microbiology and senior biomedical scientists in a tertiary care hospital in the UK

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Urine culture is commonly requested by healthcare professionals. Over the last 6 years, 35% of all specimens processed in our lab were urine samples. Releasing appropriate susceptibility results based on the type of urine sample, number of white cells/epithelial cells and clinical background of the patient is essential to good antimicrobial stewardship. We recently updated “coded comments” to streamline clinical authorisation process.
This retrospective audit, conducted between 01/03/2024 to 31/03/2024, assessed if appropriate codes and antibiotics were authorised. We also analysed the antibiotic susceptibility patterns of pathogens isolated to determine whether the current empiric treatment choice (nitrofurantoin) is still valid.
Results
2193 urine samples authorised during this period. 500 specimens were analysed for comments. 408 (81.6%) were authorised during weekdays; 343 (69%) were authorised by senior biomedical scientist (BMS); 21% were authorised with an appropriate clinical comment; 52% had all appropriate antibiotics released. Of the 471 specimens which grew significant isolates, 85.1% were authorised with an appropriate intravenous antibiotic. 398 specimens lacked appropriate comments;24.6% were authorised by a member of the CMS. 2193 specimens were analysed for antimicrobial susceptibility: 1581 were Enterobacterales, 411 Gram positive organisms (GPO) and 52 Pseudomonas species. 10% of Enterobacterales isolated were intrinsically nitrofurantoin resistant species. When excluded, 99.78% were susceptible to nitrofurantoin. Co-amoxiclav susceptibility was 79.4%. 95.6% GPO were susceptible to nitrofurantoin.
Conclusion
Compliance to using coded comments and releasing of all appropriate antibiotics were low.
Current empirical choice remains valid for lower urinary tract infection (UTI) treatment and even for patients presenting with urosepsis.

279: Evaluating Prophylactic Antibiotic Practices in Gastrointestinal Surgery: A Tertiary Centre's Journey Toward Electronic Prescribing

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Objectives:
Prophylactic antibiotics are crucial in gastrointestinal (GI) surgery to reduce surgical site infections, but inappropriate use can drive antimicrobial resistance and complications. Our Trust uses two guidance frameworks: the trust wide Antimicrobial Guidelines and a departmental Surgical Guidelines Handbook. Without electronic prescribing, reliance on handwritten drug charts may lead to inconsistent prescribing and documentation. This retrospective study assessed adherence to prophylactic antibiotic protocols in Upper and Lower GI surgeries and identified discrepancies between the two guideline sets.
Methods:
Ninety patients undergoing laparoscopic cholecystectomy, appendicectomy, or colorectal surgery from 15 January to 5 February 2025 were included. Data were gathered from operation notes, anaesthetic records, and ward documentation to evaluate antibiotic selection, timing, and postoperative continuation against both guidelines.
Results:
In laparoscopic cholecystectomy cases, 61% of patients received antibiotics without a documented indication. Co-amoxiclav was used in 66% of these cases without justification, while Gentamicin and Metronidazole were inappropriately prescribed in 45%. For Lower GI surgeries, 42% of prescriptions were non-compliant; notably, 62% received Gentamicin and Metronidazole despite no recorded penicillin allergy. Postoperative antibiotics were continued in 23% of Upper GI and 40% of Lower GI cases, often without clear clinical rationale.
Discussion & Conclusion:
This study highlights significant variation in antibiotic use and documentation, driven by guideline misalignment and lack of electronic prescribing. We recommend unifying prescribing protocols and implementing digital prescribing systems within the NHS to improve antimicrobial stewardship and guidelines alliance.

287: An evaluation on the use of antimicrobial therapy in the management of Influenza pneumonias at Musgrove Park Hospital

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Background

Distinguishing uncomplicated influenza from influenza with associated bacterial pneumonia is a significant clinical challenge as there is no single definitive test. This creates an antimicrobial stewardship dilemma because antibiotics have no benefit in the management of influenza infections occurring alone.

Methods

We performed a retrospective analysis of influenza cases from December 2024 to January 2025 and reviewed factors that were used by clinicians to aid in their decision-making and antimicrobial prescribing. These included observation charts, radiological, microbiological and biochemical investigations.

Results

114 cases of influenza infection were identified, 91% were Influenza A associated, 7% influenza B and 2% co-infected with both strains. 102 (89%) cases were community acquired. The median age was 70 (interquartile range 55-79) and 30-day all-cause mortality was 8 (7%).

78 cases (68%) had a National Early Warning Score (NEWS)≥5. This included respiratory decompensations with tachyponoea (54%) or requiring supplemtnal oxygen (65%), tachycardia (59%), significant hypotension (26%) and new onset confused noted in 27% of cases. 36 cases had evidence of consolidation on X-ray or CT, 3 had a positive microbiological culture. 2 had a raised procalcitonin. All cases with positive microbiological culture or raised procalcitonin had radiographic consolidation.

Discussion

Influenza can cause systemic decompensations that may raise concern for sepsis or bacterial infection. 83 (73%) of patients were started on antibiotics and 66 (58%) completed a full course despite only 36 (32%) having a positive radiological/microbiological investigation or raised procalcitonin. This suggests that antibiotics are being over-utilised for uncomplicated influenza infections, raising antimicrobial stewardship concerns.

293: Community Antimicrobial Stewardship: Patterns and Challenges in Community Pharmacy Antibiotic Dispensing in Western Kenya

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Background:
Antimicrobial resistance (AMR) remains a global health threat, exacerbated by inappropriate antibiotic use in community settings. This study, conducted through the Commonwealth Partnerships for Antimicrobial Stewardship and Cambridge Global Health Partnerships, investigates prescribing and dispensing practices across 30 community pharmacies in Kakamega, Kenya.
Methods:
Data were collected electronically by pharmacists using a standardized tool across 617 patient encounters between 3rd-22nd August 2025. Variables included patient demographics, antibiotic type, indication, dispensing method (prescription vs. over-the-counter), prescriber source, and treatment adherence.
Results:
Notably, 36% of all antibiotics dispensed were to treat an upper respiratory tract infection (URTI), which typically resolve without antibiotics. Amoxicillin or Co-amoixclav (37%) and Azithromycin (15%) were the most commonly dispensed antibiotics, primarily for respiratory tract infections. 44% of antibiotics were dispensed without a prescription, and 24% of prescriptions were not filled as full courses due to cost, stock-outs, or patient preference. Repeat antibiotic use was high, with 31% of patients reporting prior use within one month—half for the same condition.
Discussion:
Findings highlight critical gaps in stewardship, including high rates of antibiotic use for URTIs, non-prescription dispensing, incomplete courses, and repeat use. The mismatch between community prescribing and antibiogram data raises concerns about empirical treatment efficacy. Pharmacies play a pivotal role in patient education and could support diagnostic testing to guide therapy.
Conclusion:
Targeted interventions are needed to strengthen antimicrobial stewardship in community settings, including prescriber engagement, public education, and improved access to diagnostics. These findings inform policy and practice for AMR mitigation in low-resource contexts.

302: One-year Audit of Penicillin Allergy Delabelling at Oxford University Hospitals

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Background
Up to 10% of hospital inpatients carry a penicillin allergy label, yet <1% have a true allergy. Such labels are associated with broader-spectrum antimicrobial prescribing, increased rates of Clostridioides difficile infection, resistant organisms, longer hospital stays, and higher costs. Delabelling restores access to first-line therapy and supports antimicrobial stewardship. We aimed to assess local penicillin allergy delabelling implementation.
Methods
We undertook a one-year retrospective audit (April 2024 - March 2025) of patients prescribed penicillin antibiotics for allergy delabelling at a large UK NHS trust. Using electronic prescribing records, all prescriptions with the indication ‘challenge’ or ‘delabelling’ were identified and cross-checked with electronic allergy fields, and clinical notes. Manual record review confirmed prescription administration, adverse reactions, and discharge communication.
Results
In total, 280 patients were prescribed amoxicillin or co-amoxiclav for penicillin allergy delabelling. Median age was 66 years (IQR 37-79) and most activity occurred in General Medicine inpatients. Possible/probable allergic reactions occurred in 4.2% (11/263) patients and probable reactions in 1.9% (5/263). Documentation of successful delabelling in discharge communication was present in 68% of patients. Incorrect relabelling of penicillin allergy within the electronic patient record at one year was strongly associated with discharge documentation: 12.5% (10/80) when absent versus 1.3% (2/153) when present.
Discussion
Local penicillin allergy delabelling is safe and feasible with low reaction rates and substantial monthly activity. However, discharge communication remains inconsistent and is the major gap in implementation. Improving documentation should be a priority to ensure the sustainability and stewardship benefits of allergy delabelling programmes.

307: Integrated Antimicrobial Stewardship, Infection Prevention & Control and Microbiology Services (iAIMS) at Lira Regional Referral Hospital, Uganda

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[1]University Hospitals Dorset NHS Foundation Trust, [2]Lira Regional Referral Hospital

Partners from University Hospitals Dorset NHS Foundation Trust (UHD) in the UK and Lira Regional Referral Hospital (LRRH) in Uganda, joined forces to help tackle the global threat of antimicrobial resistance as part of the second Commonwealth Partnerships for Antimicrobial Stewardship programme (CwPAMS2), sponsored by Global Health Partnerships (GHP) and The Commonwealth Pharmacists' Association (CPA). Project implementation involved healthcare workers from both Poole Africa Link (PAL) at UHD and Strengthening Institutional Capacity for Research Administration (SICRA) and LRRH.

The poster outlines the many activities carried out to show the impact of partnership and volunteering expertise from within the NHS, as well as the bidirectional learning opportunities, with improved knowledge and skills developed on both sides of the partnership.

Main titles for sections of the poster include: AMS & IPC; Microbiology Services; Behavioural Change; Gender Equality and Social Inclusion; Community Sensitisation; Bidirectional Learning; Next Steps.

It highlights the value of such work even as decisions around funding and the wrapping up of the Fleming Fund make such work more difficult to support, so some timely optimism and a nudge towards international collaboration.

318: Face-to-face teaching reduces the use of antibiotics for acute pancreatitis at a large general hospital - an antimicrobial stewardship audit and quality improvement project

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Acute pancreatitis is a sterile inflammatory process and antibiotics are not routinely indicated. To prevent secondary infection in necrotic pancreatitis, local guidelines recommend prophylactic meropenem for patients with ≥30% necrosis on CT scan, for a maximum of 14 days in the absence of positive pancreatic fluid culture. We aimed to assess and modify, if required, antibiotic use in patients with acute pancreatitis admitted to Whipps Cross Hospital, London, 2022-2023.

The primary audit standard was that no patients with acute pancreatitis and <30% necrosis receive antibiotics. Secondary standards were: any antibiotic use; antibiotic duration >14 days; whether patients on antibiotics with ≥30% necrosis underwent pancreatic aspiration for culture.

120 patients were admitted with acute pancreatitis (55 female; mean:48 years). 13 patients had pancreatic necrosis. In the four months pre-intervention, 34% (n=16) of patients did not pass the primary audit standard. In the four months following a face-to-face teaching session delivered to all doctors in the department, this fell to 8.1% (n=3). In the four months following a second intervention, an office poster, this was 11% (n=4).

In general surgery at a large district general hospital, we demonstrate face-to-face teaching reduces the inappropriate prescribing of antibiotics for acute pancreatitis, and in-situ posters may help embed this change. Broad-spectrum antibiotics are associated with complications for the patient (side effects, C.difficile infection, allergy, colonisation with resistant organisms) and wider population (antimicrobial resistance, cost). Surgeons managing acute pancreatitis have a key role to play in reducing this iatrogenic morbidity.

324: Developing and piloting a data-driven antimicrobial stewardship tool: the UHSussex experience

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Introduction:
Laboratory systems routinely capture large volumes of antimicrobial susceptibility data, but existing national platforms (SGSS, Fingertips) are often slow to update and provide limited local resolution. To address this, we developed and validated a new tool combining local resistance and prescribing data across two laboratories serving a population of 1.8 million.

Methods:
Data were extracted from the LIMS and a bespoke Python-based tool was built to automate data cleaning and analysis, allowing us to review five years of blood and urine culture results. A second module combined community and hospital prescribing data from NHS Digital. Outputs were designed to inform empirical treatment, guideline development and infection prevention.

Results:
The tool has recently completed validation and is now being piloted. It provides rapid, locally relevant analysis of resistance and prescribing trends and early results have already shaped local prescribing guidance. These data inform exceedances, laying the groundwork for early outbreak detection. Over the next 6–12 months the system will move to live use, with plans for dashboards showing resistance rates, prescribing trends and outbreak alerts. Because the framework can be adapted for use with other LIMS, it has the potential to be adopted more widely across integrated care systems.

Conclusion:
This project demonstrates how local AMR and prescribing data can be combined into a practical tool that supports antimicrobial stewardship and infection prevention. By delivering timely, clinically relevant outputs, it provides a model that could be scaled more widely to support national ambitions for data-driven stewardship and prevention.

Clinical cases

10: Systematic Literature review: Tuberculosis in Companion Animals

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Introduction:
Mycobacterium tuberculosis complex (MTBC) comprises bacteria that cause tuberculosis (TB) in humans and animals. Zoonotic transmission of MTBC poses a significant public health concern, especially in domestic settings.

Objectives:
This review aimed to investigate the zoonotic impact of MTBC by assessing TB prevalence in companion animals, identifying dominant Mycobacterium species, and evaluating animal-to-human transmission pathways.

Methods:
A systematic review was conducted across multiple databases (PubMed, Medline, Google Scholar, Embase, Scopus, Web of Science), screening 1,427 papers. After applying exclusion criteria, 56 case studies were analysed. This review quantifies the often-overlooked transmission risk from companion animals to humans.

Results:
Findings identified 41 cases of human-to-animal and 18 cases of animal-to-human TB transmission. Of the latter, 14 involved occupational exposure, underscoring the need for integrated veterinary and public health approaches.

Discussion and Conclusions:
Limitations include weak evidence for definitive transmission links and exclusion bias from non-English or inaccessible sources. Nonetheless, the study highlights the zoonotic potential of companion animals and the occupational risk to those in close contact with them. These findings emphasise the need for more comprehensive risk assessments and public health strategies to mitigate the threat of zoonotic TB transmission. Strengthening diagnostic methods, such as incorporating whole genome sequencing, and improving access to global data sources would enhance future research. Public health strategies must consider these risks to better prevent zoonotic TB transmission.

13: A case report: Haemophagocytic lymphohistiocytosis (HLH) secondary to disseminated tuberculosis - an unusual diagnostic journey

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We present the case of a 16-year-old man who was transferred to a specialist Infectious Disease unit for investigation of pyrexia of unknown origin, after presenting with a week history of recurrent fevers and pleuritic chest pain. He was born in the Philippines and had lived in the United Kingdom for the previous two years. Initial investigations revealed anaemia, thrombocytopenia, hyperferritinaemia and hepatosplenomegaly but yielded no positive microbiology.

Due to clinical deterioration, extensive antimicrobial cover including empirical anti-tuberculosis treatment was given. Bone marrow aspirate showed evidence of haemophagocytosis and in the context of worsening H-score, he was started on treatment for HLH and later transferred to critical care.

The trigger for HLH was investigated extensively. PET-CT showed hepatosplenomegaly with FDG avid liver foci, and multifocal intramuscular activity in the legs and gluteal regions. Both regions were biopsied, and 20 days into admission, results of the muscle biopsy showed a positive Ziehl-Neelsen stain with multiple acid-fast bacilli later identified as Mycobacterium tuberculosis.

With treatment he made a gradual clinical improvement and was discharged two months after admission. Ultimately, Mycobacterium tuberculosis was cultured from two smear negative induced sputum samples from early in his admission, as well as one blood culture. No evidence of underlying immunodeficiency was identified.

Discussion
The diagnosis of both HLH and its underlying trigger can be challenging. A thorough, MDT led investigation can reveal a treatable underlying cause. While tuberculosis can affect virtually any part of the human body, infiltration into muscle tissue is a rare manifestation

29: Clinical Characteristics and Outcomes of Pregnancy-Associated Listeriosis in Qatar: A Case Series

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[1]HMC

Background:
Listeriosis in pregnancy is a rare but severe infection with potential for poor fetal outcomes. Data from the Middle East, including Qatar, remain limited. This study describes the clinical features, management, and outcomes of pregnancy-associated listeriosis cases at a tertiary care hospital in Qatar.

Methods:

A retrospective review of eight confirmed cases of pregnancy-associated listeriosis was conducted between May 1, 2011, to November 26, 2021 Clinical data were extracted on gestational age, antimicrobial therapy, placental cultures, maternal/fetal outcomes, and obstetric complications.

Results:
Eight cases were identified; six occurred in the third trimester and two in the second. Seven pregnancies involved singletons; one was a twin pregnancy. Initial appropriate empirical antimicrobial therapy was administered in only one case. All patients received definitive treatment with ampicillin ± gentamicin for 10–14 days. Placental cultures were positive in 50% of tested cases. Premature labor occurred in 5/8 pregnancies. Two pregnancies in the second trimester resulted in fetal loss (abortions), and one twin pregnancy led to the loss of one fetus. Overall, 6 out of 9 fetuses survived. All mothers recovered with no reported maternal deaths.

Conclusion:
Pregnancy-associated listeriosis in Qatar demonstrates patterns consistent with international literature—predominant occurrence in the third trimester, frequent preterm labor, and a risk of fetal loss. Delayed initiation of appropriate antimicrobials was common, highlighting the need for heightened clinical suspicion and early empirical coverage in suspected cases. Enhanced awareness and diagnostic vigilance are essential for improving perinatal outcomes in this high-risk population.

34: Unmasking the Storm: Psychosis Induced by HLH Secondary to Tuberculous Lymphadenitis

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Introduction
Tuberculous (TB) lymphadenitis is the most common extra-pulmonary manifestation of TB. The most frequently isolated organisms include Mycobacterium tuberculosis, Mycobacterium avium, and Mycobacterium kansasii [1]. Hemophagocytic lymphohistiocytosis (HLH) is a hyperinflammatory syndrome marked by dysregulated immune activation and tissue destruction. It usually presents with fever, cytopenias, hyperferritinemia, and organomegaly [2], and may be triggered by infections, malignancies, or autoimmune conditions [3]. Psychosis as a presenting symptom of HLH is exceptionally rare and has only been reported in association with neuropsychiatric lupus [4].

Case Presentation
I hereby present a 28-year-old Indian male who presented with constitutional symptoms and cervical lymphadenopathy. Laboratory investigations revealed pancytopenia and abnormal liver function. He developed acute delirium and psychosis during admission, with HLH suspected based on a diagnostic score of 171. CSF was negative for TB, but lymph node biopsy confirmed Mycobacterium tuberculosis. He was started on a modified, liver-friendly anti-TB regimen due to transaminitis. HLH therapy began with steroids and was escalated to dexamethasone and anakinra following specialist input. The patient made a full clinical and neuropsychiatric recovery.

Discussion
This case highlights TB-associated HLH developing acute psychosis, a rare and underreported complication. Neurological symptoms in HLH may stem from the underlying cytokine storm rather than direct CNS infection.

Conclusion
Clinicians should maintain a high index of suspicion for HLH in TB patients with unexplained cytopenias and consider that psychotic symptoms are direct complications of the HLH rather than the infection. A coordinated, multidisciplinary treatment approach is essential for favorable outcomes.

36: Tongue Histoplasmosis and Immune Reconstitution Inflammatory Syndrome complicating anti-tumour necrosis factor (TNF)–α therapy

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[1]Barts Health NHS Trust

Background:

Histoplasmosis may complicate anti-tumour necrosis factor (TNF)-α therapy and oral histoplasma lesions can mimic malignancy.(1,2) Fungal culture has low sensitivity yet prompt treatment with antifungals is critical,(3) along with considering Immune Reconstitution Inflammatory Syndrome (IRIS) if underlying immunosuppression has been discontinued and symptoms recur.(1)

Case:

A 50-year-old Bangladeshi man with Crohn's disease managed with azathioprine and infliximab presented with a large ulcerating lesion on his left ventral tongue, following months of investigation for malignancy.

He had a positive Beta-D-glucan and histopathology showed granulomatous inflammation with invasive fungal elements on Grocott's stain.

Liposomal amphotericin B was commenced for suspected disseminated histoplasmosis. Histoplasma antigen was detected in serum and urine, and antibodies to Histoplasma capsulatum were detected at 1:1600 by latex agglutination, confirming diagnosis.

After two weeks, fevers, glossitis, speech and swallow function improved. He was switched to itraconazole and immunosuppression for Crohn's was discontinued.

After 3 months on itraconazole, he developed worsening tongue pain and fevers. Based on Histoplasma testing and his refractory presentation, he was treated with corticosteroids for suspected histoplasmosis induced IRIS.

Discussion:

Histoplasma capsulatum is a systemic mycosis, primarily affecting the lungs, with a worldwide distribution.(4) Oral mucosal manifestations can present as plaque-like lesions or ulcerations.(5)

While fungal culture remains the gold standard investigation, Histoplasma capsulatum antibody testing, alongside Histoplasma antigen detection in serum or urine has reported sensitivity of 82% and specificity of 99%.(6)

Treatment is with intravenous liposomal amphotericin B or oral itraconazole and withdrawal of immunosuppression where possible, however, this can result in IRIS.(1,7)

39: Severe Measles in Late Pregnancy: Perinatal Management and Infection Control

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Background
Measles is a highly infectious virus with a reproduction number of 15-20. Here, we report a severe case of measles in late pregnancy, part of a wider outbreak. We highlight the challenges of providing maternal critical care and neonatal care whilst maintaining robust infection control practices. We explore the interpretation of neonatal measles testing for which guidance in the literature is limited.

Case description
A 32-year-old, with a known household measles contact, presented at 37 weeks pregnancy with fevers, confusion and rash. A diagnosis of measles was rapidly confirmed. She deteriorated shortly after arrival, requiring intubation and ventilation, and transfer to intensive care. The baby developed foetal distress and was delivered by caesarean-section, intubated and transferred to the neonatal unit.

The neonate received Human Normal Immunoglobulin at delivery as per UK national guidance. Measles PCR was positive at birth. Measles IgM was negative but IgG, detectable. We postulate that the detectable RNA may reflect immunoglobulin-bound neutralised virus crossing the placenta.

The need for optimal perinatal management dictated that care took place on units where optimal infection control measures were a challenge. Family visiting was complicated by their lack of measles immunity. Six incident meetings were held during the 12-day admission to address urgent infection control and public health issues. No onward hospital transmission of measles occurred.

Discussion
Prevention of measles transmission in healthcare settings is challenging in the context of critically ill adults and neonates. We describe a safe response including dynamic planning, communication and co-operation between multiple disciplines.

41: The first reported case of paediatric Lodderomyces elongisporus bacteraemia and intra-cranial infection

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[1]UKHSA, [2]North Bristol NHS Trust, [3]University Hospitals Bristol and Weston NHS Foundation Trust

We present the first paediatric case of Lodderomyces elongisporus bacteraemia with presumptive intra-cranial infection secondary to a dog-bite.

A previously healthy 15-month-old girl was taken to the Emergency Department following an attack by the family dog where she sustained a bite to the head. Arterial bleeding points in the scalp wound were sutured, and the wounds were closed in the ED. She had serial CT scans which showed an expanding subdural haematoma. She was taken to theatre and had a craniotomy and evacuation of the subdural haematoma, removal of the bone fragments from the brain parenchyma, and control of the source of bleeding. Prophylactic antimicrobials were initiated (intravenous cefotaxime with metronidazole) and these were continued until day 10.

On day 10, having previously been afebrile, the patient had temperatures over 38 °C. She was changed to meropenem due to concern about ongoing infection and communication between the scalp wound and the underlying bone. Blood cultures were positive for L. elongisporus, and intravenous fluconazole was commenced. A wound swab of the scalp injury was taken which grew Pseudomonas aeruginosa and L. elongisporus.

Fluconazole was continued to complete six weeks antifungal therapy. The patient improved and had no residual neurological deficit. She was discharged home on day 52.

Lodderomyces elongisporus is an emerging fungal pathogen and, until recently, it was commonly misidentified as Candida parapsilosis. Awareness of unusual pathogens following a contaminated injury such as a dog bite is important in ensuring optimal management, even in the immunocompetent host.

51: Complicated native mitral valve infective endocarditis by Streptococcus pyogenes in Intravenous drug user

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Introduction:
Group A Streptococcus (GAS), also known as Streptococcus pyogenes, commonly causes pharyngitis, scarlet fever, glomerulonephritis, and skin infections. However, infective endocarditis (IE) due to GAS is rare. We present a complex case of mitral valve endocarditis caused by Streptococcus pyogenes that we managed successfully

Case Report:
A 30-year-old female presented to Warrington A&E with sepsis, eye pain, and lymphadenopathy. She had a background of anxiety, depression, and active IV drug use (IVDU) for 3 years. Initial empirical treatment with IV Tazocin was escalated to IV Ceftriaxone for possible meningitis. Persistent fever and neutropenia prompted addition of IV Vancomycin. Blood cultures grew Streptococcus pyogenes (emm type 108), leading to a switch to IV Benzylpenicillin. Eye samples grew Staphylococcus saprophyticus and S. haemolyticus, sensitive to flucloxacillin.

Transthoracic echocardiography (TTE) showed mitral valve abnormalities; transoesophageal echocardiography (TOE) confirmed large vegetations. Neutropenia worsened (neutrophils 0.07), with cerebral thrombi on MRI brain. Suspecting possible fungal infection, antimicrobials were changed to IV Vancomycin, Meropenem, Gentamicin, and Micafungin.

Transferred to Liverpool Heart and Chest Hospital, she was treated with IV Ceftriaxone, Gentamicin, and Caspofungin. Mitral valve replacement was performed. Postoperatively, neutropenia persisted; beta-lactam and Vancomycin-induced neutropenia was suspected. Antibiotics were adjusted to IV Teicoplanin and Moxifloxacin (for ocular involvement), along with topical Ofloxacin. Tissue and follow-up blood cultures remained negative. She completed a 6-week antibiotic course and recovered fully.

This case highlights the rare but serious potential of GAS to cause complicated IE with systemic emboli and ocular involvement.

52: Between the Beats: Unravelling Enigmatic Endocarditis in Persons Who Inject Drugs

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A 42-year old Hepatitis C treated male, with a history of heroin injecting, returned to acute medicine two days after being discharged, having been found unconscious. During the previous admission, he was treated and was noted to have an infected groin tract discharging offensive pus and grew Gram positive rods (figure 1), identified by MALDI-TOF as Actinomyces odontolyticus, from 3 sets of blood cultures. On his return, he was started on high doses of amoxicillin with synergistic gentamicin. A transthoracic echocardiogram revealed a small vegetation on the anterior tricuspid valve leaflet (figure 2), fulfilling 2 Duke criteria. Sources of the organism included poor dentition and necrotic areas on the buttock (figure 2). Antimicrobials broadened to meropenem as pelvic osteomyelitis was suspected. Despite previous drug use, a long intravenous line was inserted to ensure adequate dosing. Further positive blood cultures grew Nakaseomyces glabratus and Staphylococcus haemolytius for which anidulafungin and vancomycin was started. As the patient settled, a plan was made for 6 weeks of amoxicillin and anidulafungin. The patient absconded on day 37 of his admission and was lost to follow up. The Anaerobe Reference Unit, Cardiff UK identified the initial organism as Schaalia odontolytica. Antimicrobial susceptibilities, performed by broth microdilution demonstrated low minimum inhibitory concentrations to beta-lactams and carbapenems, although these could not be interpreted due to a lack of breakpoint data. Fastidious organisms that cause bacteraemias in immunosuppressed hosts, require prompt and accurate speciation can guide empirical antimicrobials.

56: COVID-19-Associated Mucormycosis: An Opportunistic Fungal Infection. A Case Series and Review

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Background
A surge in COVID-19-associated mucormycosis cases has been observed during the second wave of COVID-19 in summer of 2021. Most cases were reported from India. The Delta variant (B.1.617.2) was the most common variant circulating at that time. Mucormycosis is an opportunistic angioinvasive fungal infection with high morbidity and mortality.

Methods
We present 10 cases of COVID-19-associated rhino-orbital and rhino-orbital-cerebral mucormycosis managed in a secondary hospital in Oman.

Results
The median time for developing mucormycosis was two weeks after COVID-19 diagnosis. All patients were newly diagnosed or already known to have poorly controlled diabetes mellitus. Five patients received corticosteroid therapy for COVID-19. Three patients had severe COVID-19 and died of severe acute respiratory distress syndrome and septic shock. Another three patients died of advanced mucormycosis and cerebral involvement. Despite aggressive medical and surgical intervention, the mortality rate was 60% (6/10).

Conclusion
Mucormycosis is an aggressive opportunistic infection with high morbidity and mortality that requires prompt recognition and urgent intervention. Uncontrolled blood sugar, the use of corticosteroids, and immune dysfunction due to COVID-19 are all important risk factors for development of mucormycosis. Worse outcomes are associated with poor glycemic control despite aggressive medical and surgical interventions.

Keywords: Mucorales, Rhizopus oryzae, COVID-19 associated mucormycosis, Rhino-orbital-cerebral mucormycosis, Invasive mold infections, COVID-19 variants

59: Rhabdomyolysis and Acute Kidney Injury in HIV Care: A Complication of Bictegravir-Based ART

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Background:
Integrase strand transfer inhibitors (INSTIs) are widely used first-line antiretroviral agents due to their potency and favourable safety profiles. Bictegravir-based antiretroviral therapy (ART) is generally well tolerated; however, we report a rare but serious adverse effect; severe rhabdomyolysis with acute kidney injury (AKI) in a patient recently initiated on bictegravir.

Objective:
To highlight a rare case of bictegravir-associated rhabdomyolysis and AKI, underscoring the importance of recognising potential drug-induced muscle toxicity in HIV care.

Methods:
A 39-year-old man living with HIV presented with bilateral leg pain, swelling, and reduced mobility following minor trauma. He had recently commenced bictegravir/emtricitabine/tenofovir alafenamide (Biktarvy). Investigations confirmed rhabdomyolysis with a creatine kinase (CK) of 177,966 U/L and AKI (creatinine 620 µmol/L, eGFR 9 mL/min/1.73 m²).

Results and Discussion:
Doppler ultrasound and MRI excluded deep vein thrombosis but revealed diffuse muscle oedema. Autoimmune and myositis panels were negative. There was no history of statin use, substance misuse, or active infection. The patient required haemodialysis for one week alongside intensive supportive care. Biktarvy was discontinued, leading to gradual clinical and biochemical improvement. He was subsequently re-initiated on a non-INSTI-based ART regimen without further complications.

Conclusion:
This case demonstrates a rare but significant complication of bictegravir-based ART. Clinicians should maintain vigilance for myopathic symptoms in patients on INSTIs. Early recognition, prompt withdrawal of the suspected agent and management are critical to prevent permanent renal damage. Further pharmacovigilance is needed to elucidate risk factors for bictegravir-induced rhabdomyolysis.

70: Concomitant neck and lung masses post dental procedure; a potential novel presentation of the Cellulosimicrobium species in humans

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Background: Cellulosimicrobium, formerly known as the Oerskovia genus is a gram positive organism known for it's characteristic bright yellow colonies. While abundant in nature it is very rarely linked to pathogenesis in humans, with less than 50 cases being described in the literature. These cases tend to be either foreign body-related or involving immunocompromised patients. Rates of Cellulosimicrobium-associated infections have been hypothesised to rise in the future, due to rising numbers of immunocompromised patients in the community and increasing usage of foreign bodies such as prostheses and long term catheters. Existing technical difficulties regarding misidentifying cultures as other species (often other coryneforms) also likely have a significant role in the low number of documented cases and this may change in the near future with diagnostic advancements such as whole genomic sequencing.

Case presentation: A 57-year-old immunocompetent Irish male presented with concomitant neck and lung masses. Notably, this was found to be directly following a recent dental procedure. During extensive investigations, Cellulosimicrobium was isolated from biopsied lung tissue. The patient was treated with long term oral amoxicillin and both masses showed measurable reductions in size on subsequent imaging.

Conclusion: Should Cellulosimicrobium represent the causative pathological organism in this case, then we believe this to represent a novel documented presentation of the organism's pathogenesis in humans. We provide detailed discussion surrounding the successful management of this patient and the evaluation of the evolving differential diagnosis throughout this case. We also discuss the existing literature at length.

72: Purrplexing Pathogens: Intraabdominal Mayhem after a Feline Exposure

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We report a rare and complex case of disseminated intra-abdominal abscesses in a 47-year-old woman, involving hepatic, splenic, subphrenic, and tubo-ovarian regions. The patient presented with systemic symptoms including prolonged weakness, weight loss, night sweats, and flank pain. Imaging studies revealed multiple abscesses alongside a left tubo-ovarian abscess with an intrauterine contraceptive device (IUCD) in situ.

Microbiological analysis of blood and drained abscess fluid identified a polymicrobial infection involving Capnocytophaga ochracea and Schaalia odontolytica (formerly Actinomyces odontolyticus), both of which are rare pathogens typically found in the oral cavity and mucosal surfaces of cats, dogs and humans.

Management involved thorough history taking, pathogen-directed antimicrobial therapy, image-guided drainage of hepatic abscesses, and IUCD removal. The patient showed marked clinical improvement post-interventions, with continuation of long-term oral antimicrobial therapy.

This case underscores the importance of considering polymicrobial etiologies involving commensal mucosal organisms despite no overt immunosuppression. It also highlights the diagnostic value of advanced microbial identification techniques in the background of empirical antimicrobial treatment, multidisciplinary management and pursuing time-critical interventional radiological intervention.

In summary, bedside review, clinical correlation, effective timely source control and individualised targeted treatment were crucial to patient’s good clinical outcome.

76: Escherichia coli as a Rare Cause of Coronary Mycotic Aneurysm: Insights from an Unusual Case and Literature Review

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Background: Mycotic coronary aneurysm (MCA) is a rare but serious condition, with significant associated morbidity and mortality. Understanding of risk factors, presenting features, and optimal management is limited.
Case: A 64-year-old male presented to hospital with recurrent chest pain, on a background of general malaise. Co-morbidities included eosinophilic granulomatosis with polyangiitis, diabetes, atherosclerosis and renal calculi. He remained afebrile, however blood tests showed neutrophilia and elevated C-reactive protein. Electrocardiogram demonstrated changes consistent with ischaemia leading to a working diagnosis of non-ST elevation myocardial infarction. Coronary angiography revealed a ruptured right coronary artery aneurysm. He underwent surgical exclusion of the aneurysm with coronary artery bypass grafting. Pus was evident intra-operatively, leading to the diagnosis of MCA. Escherichia coli and mixed anaerobes were isolated from intra-operative tissue cultures, and intravenous antibiotics were commenced. He completed 10 days of piperacillin-tazobactam, followed by temocillin and then transitioned to oral ciprofloxacin to complete six weeks of antimicrobial therapy , with clinical resolution.
Discussion: Literature search identified 115 reported MCA cases. Fever and chest pain were the most common symptoms (70% and 36% respectively) and common risk factors included atherosclerosis (68%), coronary stents (40%), renal failure (20%) and immunosuppression (10%). The most common pathogens were Staphylococcus aureus (69%) and Streptococcus species (19%). E. coli was reported twice, related to haematogenous spread from another nidus. This unusual case highlights the need for awareness and consideration of MCA in patients presenting with cardiac ischaemia and systemic inflammation, and the relevant risk factors and presenting features of this condition.

80: Q-Fever-Associated Infective Endocarditis: A Case Report

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Introduction:
Infective endocarditis is a serious infection of the heart inner lining specifically the valves. Due to the high association of mortality and morbidity accurate identification of the cause of infection is imperative. Q-fever endocarditis is caused by the bacterium Coxiella burnetii, a zoonotic disease, transmissible from animals to humans.
Case study: A 67-year-old man presented unwell after a tissue valve replacement for aortic stenosis. He has a history of immunosuppressive treatment for immune thrombocytopenia. Further investigation into clinical history identified he had visited Thailand 4 months prior staying with his daughter and her pet dog. An initial Echocardiography scan showed vegetation on the aortic valve. Due to a serial number of negative blood cultures, Libman-Sachs endocarditis, a form of non-bacterial thrombotic endocarditis was suspected. A Computed Tomography Coronary Angiography (CTCA) subsequently showed a small aortic root abscess. Based on negative cultures serum samples were referred for Q-fever PCR which confirmed as positive. He was started on Doxycycline 200mg BD & Hydroxychloroquine 200mg BD dual therapy with a recommend period of 18 months in cases of prosthetic valve endocarditis.
Conclusions
The patient was probably infected in the UK; many cases come from the southwest and whilst there is often no source identified; the major transmission route of the bacterium is airborne spread from infected livestock.
Q-fever remains an uncommon cause of endocarditis but it should always be considered in patients with negative cultures particularly those on immunosuppressants.

100: Neurosurgical device infection with Cryptococcus neoformans

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Background: Cryptococcal meningoencephalitis typically affects immunocompromised hosts. Infection of neurosurgical devices is rare; a 2020 review identified nine cases, most following shunt placement for pre-existant cryptococcal hydrocephalus.

Case History: A 62-year-old woman underwent subtotal resection of a pineal tumour and insertion of a Rickham reservoir, followed by radiotherapy. Nine months later she presented with fever, cough and confusion. Initially treated as community-acquired pneumonia, she deteriorated (Glasgow Coma Scale 11) and was transferred for neurosurgical review. Reservoir CSF contained 11×10^{6}/L cells, grew Cryptococcus neoformans, and had an antigen titre of 1:1280. Thoracic CT revealed pulmonary embolism and a 17 mm left-upper-lobe nodule, a presumed cryptococcoma.

Management: Induction therapy with liposomal amphotericin-B 4 mg/kg plus intravenous fluconazole (IV flucytosine unavailable) was commenced, adopting HIV guidelines as surrogate evidence. Conscious level improved briefly to GCS 14. Endoscopic ventricular washout, reservoir removal and replacement were performed. After fourteen days she switched to voriconazole for five days, then high-dose oral fluconazole to complete a six-month course. She was discharged with GCS 13 and remains stable; relapse risk persists because the new device may develop cryptococcal biofilm.

Discussion: Cryptococcus is inhaled from the environment, making the antecedent respiratory illness a likely inoculation. Biofilm formation can localise infection to hardware, explaining a modest pleocytosis and reported false-negative antigen tests. Device-confined disease may require combination therapy rather than the single-dose amphotericin regimens validated for advanced HIV. This case highlights the diagnostic value of CSF culture and supports combined antifungal therapy with device exchange in cryptococcal hardware infection.

106: Learning Points from a Case of Very Severe Tetanus in the UK

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Case summary

A farmer in his 80s presented to the Emergency Department with mild trismus and dysphagia seven days after sustaining superficial lacerations to his forearm from an animal horn. A clinical diagnosis of tetanus was made and he was initially managed with antibiotics, IVIg, and surgical debridement. Two days later the patient deteriorated, becoming diaphoretic and dysarthric, with more limited jaw movement, and recurrent spasms causing marked cervical spine extension. The intensive care unit was contacted for support with management, and he was subsequently sedated, intubated and ventilated. He continues to recover at the time of submission, eight weeks after admission.

Discussion

Tetanus, caused by the neurotoxin produced by Clostridium tetani, is a vaccine preventable disease. Previous infection does not confer immunity. Booster doses of vaccine may be recommended for tetanus-prone wounds but such wounds are often innocuous. Risk factors for disease include older age, where there is likely to be immunosenescence or missed primary vaccination. Tetanus is increasingly rare globally, and very rare in the UK with fewer than 10 cases per year. As such, clinicians remain unfamiliar with the care of these sometimes complex patients, and UK guidelines are limited beyond early stage management.

Learning points

Here we present learning points from a Grade 3 (severe - very severe) case in the UK, including lessons on diagnosis, wound debridement, management of autonomic dysfunction, vaccination schedules and duration of recovery.

112: A Case of Disseminated Campylobacter Infection; Gastroenteritis, Prosthetic Joint Septic Arthritis, Bacteraemia, and Associated Small Vessel Vasculitis

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This report describes an interesting case of disseminated campylobacter infection in a 74 year old immunocompromised male with liver cirrhosis secondary to non-alcoholic fatty liver disease. He initially presenting to hospital with a 3 day history of abdominal pain, diarrhoea, fever and a fall resulting in trauma to his right prosthetic knee. He had raised inflammatory markers and was pyrexial on admission, with pain and swelling to his right knee.

Campylobacter Jejuni was isolated from his admission blood and stool cultures, and from a subsequent right knee aspiration the following day. He was therefore treated for Campylobacter jejuni gastroenteritis, bacteraemia and prosthetic joint septic arthritis with a combination of surgery and antibiotics. He underwent a Debridement, Antibiotics, and Implant Retention (DAIR) procedure which went well with no surgical complications. He was initially empirically treated with intravenous ceftriaxone and teicoplanin. This was then rationalized to clarithromycin, initially intravenously, and then switched to oral clarithromycin to complete a 12 week course.

During his treatment course, he developed a prominent non-blanching painless purpuric rash on his shins. This was reviewed by the dermatology team who felt the presentation was in keeping with small vessel vasculitis secondary to Campylobacter infection and advised treating the patient with mometasone and epaderm moisturizing cream. After completing the 12 week course of antibiotics, the patient felt much better. He had regained full range of movement in his knee and was systemically well. His rash was still present but was much fainter and had significantly improved in appearance.

117: Lyme Disease Presenting as a Recurrent Peripheral Neuropathy: A Rare Case

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Introduction:
Lyme borreliosis, is transmitted through infected tick bites by the spirochete bacterium Borrelia burgdorferi. The disease progresses through three stages: early-localized, early-disseminated, and late disease causing neurological, and joint complications.
This report presents a 31-year-old woman with peripheral neuropathy, an unusual neurotoxic complication of Lyme disease.
Case presentation:
A 31-year-old woman with no significant medical history presented with sudden onset generalized lower limb weakness. Neurological exam showed reduced proximal lower limb power with normal ankle and knee reflexes with reinforcement, indicating possible lower motor neuron involvement. She also reported insect bites during a school drop-off. A rash was noted on left shoulder, but it was not typical of erythema migrans.
Brain and spine MRI, along with autoimmune and paraneoplastic panels, showed no abnormalities. Lyme serology indicated a positive IgM, and the immunoblot test confirmed Lyme neuroborreliosis. Although cerebrospinal fluid analysis was recommended to further confirm the diagnosis, the patient declined, which is not uncommon in clinical practice.
After consultation with Infectious Diseases and Neurology, ceftriaxone for three weeks was started, resulting in significant improvement. However, six weeks later, she returned with lower-limb weakness, pain, and a low-grade fever. A second three-week course of ceftriaxone led to complete resolution, demonstrating the potential for recovery in such cases.
Conclusion
About 20% of Lyme disease cases develop late peripheral neuropathy as a complication. This case highlights the unusual recurrent form, which poses diagnostic challenges. Treatment is recommended for approximately three weeks but may require individual tailoring beyond standard guidelines in recurrent cases.

119: Antiretroviral Therapy options in People Living with HIV and Renal Disease

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Background: There are an estimated 113,500 People Living with HIV (PLWH) in the UK, of which 5200 remain undiagnosed. Of 107,949 accessing care, >98% are on antiretroviral therapy (ART) with undetectable HIV viral load and excellent prognosis. From the Global perspective, WHO data estimate 39.9 million PLWH.
Renal dysfunction(acute or chronic) in PLWH is multi-factorial and increasingly observed in an ageing cohort. PLWH and chronic kidney disease (CKD) often have multimorbidity and polypharmacy. This poses challenges in determining optimal ART regimens, for example: drug-drug interactions, renal clearance/pharmacokinetics and required dose adjustments. ART compatibility with dialysis is an additional consideration.

Case Series: We present 5 PLWH with CKD 3-5, requiring individualised ART approaches. This includes use of tenofovir alafenamide (a novel nucleotide analogue) and fostemsavir (a first-in-class HIV attachment inhibitor), in addition to 2-drug regimens (compared to 'traditional' triple ART). In 3 of the 5, renal biopsy confirmed Focal Segmental Glomerulosclerosis. The remaining 2 have presumed renovascular disease. GFR range 11-40ml/min, and 4 of 5 have undetectable HIV viral load.

Discussion: Such novel strategies have allowed these individuals with advanced CKD to be on safe, effective and well tolerated ART.
Another recent ART option may (dependent on ART resistance profile) include Cabotegravir + Rilpivirine, a non-nephrotoxic injectable dual regimen (administered every two months intra-muscularly).
One must of course acknowledge ongoing global disparities in access to ART. Finally, a good practice point to note is as per British HIV Association guidance, 'unexplained chronic renal impairment' is an indicator condition for HIV testing.

121: A rare cause of fever of unknown origin: Left atrial myxoma mimicking infection

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Case Summary:
A 65-year-old female who presented to her GP with a 8-week history of breathlessness, drenching night sweats, myalgia and low-grade fever.
Her initial investigations were unremarkable except for a normochromic anaemia. Her symptoms progressed over the next few weeks, and subsequently admitted to ID ward due to persistent unexplained fever, myalgia weight loss and worsening anaemia.
She is an ex-smoker and has a history of recent international travel weeks before symptom onset but no sick contacts, animal exposure or obvious infection source
Her examination showed tachycardia, pallor and basal lung crepitations. CRP was above 400 and CXR showed left basal consolidation, for which she was started on empirical antibiotics.
All microbiology cultures were negative as well as VTS, BBV, autoimmune and vasculitis screen as well as a CT CAP.
On day 8 of admission, her echocardiography identified a large irregular 6 x 3cm left atrial mass suggestive of possible myxoma.
The patient was optimized medically, including blood transfusion and had myxoma excision surgery 2 weeks post-diagnosis. She made an uneventful recovery, and her fever resolved within 48 hours and was subsequently discharged home in stable condition.
Her histopathology report confirmed the diagnosis of myxoma and post operative TTE showed no residual mass and normal cardiac functions
-Conclusion:
PUO can presents a diagnostic challenge due to its broad differential, encompassing infectious , inflammatory and autoimmune causes
This case highlights the importance of considering cardiac myxoma as a cause, especially when systemic inflammation persists with no clear cause

122: A case report of a patient with pyrexia of unknown origin caused by Brucella canis

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We present a case report of a 66-year-old dog breeder, admitted with persistent fever, headache, weight loss, cough and malaise. Initial virology and bacteriology screens, tumour markers and immunology panels were negative. Radiological investigations revealed only a sclerotic right clavicle lesion on CT PET. On further investigation, serology assays were positive for Brucella canis and she was started on treatment.

Brucellosis is a zoonotic disease which can be contracted in humans through consuming contaminated animal products or interacting with infected animals. Brucella canis is a gram-negative coccobacillus originating in dogs. Reports of disease in humans are limited, causing only 1% of all human brucellosis. Delays in diagnosis occur due to non-specific symptoms and current diagnostic tools lack the specificity and sensitivity needed to achieve accurate diagnosis. There are no consensus guidelines for the treatment of B. canis, with a combination of antibiotics used to treat other Brucella species frequently being chosen (tetracyclines, aminoglycosides and rifampicin). However, relapse and antibiotic resistance are often reported. Furthermore, there is no vaccine against B. canis.

B. canis infection is an important clinical concern due to the occupational risk to breeders and veterinarians and the risk of serious complications including endocarditis and osteomyelitis. Prioritisation of funding for improved diagnostic testing, education for clinicians and those at occupational risk, as well as focus on preventative measures such as expansion of human and canine surveillance programmes, contact tracing or vaccination may prevent transmission of B. canis in the future.

133: Pulmonary Nodules: A Fluke Diagnosis?

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Incidental pulmonary nodules of unknown aetiology are common and follow up involves serial cross-sectional imaging. Acute and chronic schistosomiasis may be associated with pulmonary nodules more commonly than previously thought. Travel history is therefore relevant in all cases of pulmonary nodules, as illustrated in these two cases.

Case 1 was diagnosed with incidental pulmonary nodules following investigations into year long malaise, triggering repeat cross sectional imaging. Eight months later at ID review, travel history revealed that his symptoms were preceded six weeks earlier by swimming in Lake Kivu, DRC. He was treated for schistosomiasis (confirmed by serology) and the pulmonary nodules resolved.

Case 2 presented with fever, cough, night sweats and eosinophilia two weeks after swimming in Lake Victoria. Schistosomiasis was suspected and he was given praziquantel. Symptoms recurred five days later so he underwent chest CT, which demonstrated pulmonary nodules suspicious for fungal infection. Fungal serology and lymph node biopsy for fungal culture was pursued (both negative). Positive serology later confirmed the diagnosis of acute schistosomiasis and he was retreated with praziquantel.

Pulmonary nodules are seen in both acute and chronic schistosomiasis infection, probably more commonly than previously thought [1]. Therefore, in cases of pulmonary nodules of unclear aetiology a relevant travel history may mitigate need for further specialty involvement and surveillance. Equally, pulmonary nodules should be considered a possible manifestation of both acute and chronic schistosomiasis and this finding does not necessarily warrant further investigation in this context.

[1] Gobbi et al. Trends in Parasitology, 2020, 660-667

141: An unusual case of imported tick-borne encephalitis in the United Kingdom

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Tick-borne encephalitis (TBE) is rare in the UK with 21 cases reported between 2015 and 2023. Eighty-one percent of imported cases come from Austria, Germany and Sweden.

We present the case of a 32-year-old man who attended Addenbrooke's Hospital, Cambridge, with a three-day history of progressive lower limb weakness, paraesthesia, hyperaesthesia and fever 16 days after a tick bite sustained in Heidelberg, Germany. He reported a flu-like illness in the preceding week from which he initially improved. On examination he had mild bilateral proximal lower limb weakness and significant ataxia, with no upper limb, cranial nerve or sensory abnormalities. He had not received any travel vaccines.

Initial bloods showed mild neutrophilia (9.31x10*9/L) and lymphopaenia (0.93x10*9/L). Cerebrospinal fluid examination showed a lymphocytosis (64x10*6/L), raised protein (0.63g/L), negative gram stain and culture, and negative routine viral Polymerase Chain Reaction (PCR) testing. Brain and spine MRI revealed subtle T2 hyperintensity of the cerebellar vermis. He was treated empirically with intravenous ceftriaxone, however, antibiotics were stopped after national reference lab results confirmed evidence of TBE with CSF TBE PCR (CT 38) and CSF TBE IgG (1:10). Blood TBE PCR was not detected but serum TBE IgG was (1:100). The patient's symptoms improved over the subsequent 10 days.

This case demonstrates a typical presentation of TBE with slightly unusual imaging findings. It highlights the importance of vaccine uptake for travellers to endemic areas. TBE has been detected in the UK so it is important clinicians recognise varied presentations of this rarely diagnosed infection.

143: Case report of Hemophagocytic Lymphohistiocytosis (HLH) associated with Toxoplasmosis

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Haemophagocytic-Lymphohistiocytosis(HLH) is a rare life-threatening systemic inflammatory syndrome characterised by uncontrolled activation of lymphocytes and histiocytes leading to cytokine storm, tissue damage, multi-organ dysfunction. It can be triggered by infection, malignancy, autoimmune disorders. The clinical features are usually non-specific and can mimic signs of sepsis. However, the clinical triad of the 3 Fs(Fever, Falling blood counts and hyperFerritinaemia) guide us towards suspecting HLH.

This is a rare case of HLH caused by primary toxoplasmosis in a 72-year-old immunocompromised male patient with a background of sarcoidosis who presented with malaise, abdominal pain. Initial clinical suspicion was leptospirosis due to recent freshwater exposure. However, persistent fevers despite appropriate antibiotics, pancytopenia, elevated ferritin level(49,285µg/L) prompted early consideration of HLH biomarkers toward HScore screening. Following HLH MDT discussions, immunomodulatory therapy was initiated with anakinra, methylprednisolone along with relevant anti-infectives prophylaxis(cotrimoxazole, aciclovir, fluconazole). Further investigations revealed negative leptospirosis serology, but to our surprise the toxoplasma IgM was detected at high titres and acute toxoplasmosis was confirmed by the reference laboratory by toxoplasma IgG Dye test, IgM titre evolution on sequential samples and significant toxoplasma DNA detected in EDTA buffy coat. Later we came to know about exposure to cats. High dose cotrimoxazole(120 mg/kg in 2-4 divided doses) was given as anti-toxoplasmosis therapy for 9 weeks, with 6 weeks being after stopping steroids and reducing anakinra to low dose. Toxoplasma DNA became negative consistently. Early recognition of HLH and prompt treatment with the above mentioned immunosuppressants, antimicrobials helped this gentleman make a marked full clinical recovery.

144: Native Valve Endocarditis Caused by Staphylococcus epidermidis Following Dental Implant Infection : A Rare Case in an Immunocompetent Host

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Background:
Staphylococcus epidermidis is a coagulase-negative staphylococcus are commonly associated with prosthetic device infections. Native valve infective endocarditis (NVE) caused by S. epidermidis is extremely rare, particularly in immunocompetent individuals. We present a case of S. epidermidis NVE in a previously healthy adult, linked to recent dental implant infection.
Case Presentation:
A 67-year-old previously well woman presented with a 4-week history of fever, fatigue, loss of appetite and night sweats.
Few weeks prior to her illness, she was diagnosed to have an infected dental implant, which was managed by abscess drainage and topical antibiotics. On examination, she had a pan-systolic murmur and splinter haemorrhages in both hands. Blood tests showed raised CRP and normocytic anaemia, and she was started on empirical IV flucloxacillin.
During her admission 7 sets of blood cultures grew S. epidermidis and subsequent transthoracic echocardiography revealed 2 mobile vegetations seen on the posterior mitral leaflet
When VITEK sensitivity testing confirmed methicillin susceptibility, flucloxacillin was continued as definitive therapy given the significant clinical improvement. However, due to sever valve damage, she required an urgent mitral valve replacement which followed by uneventful recovery.
Post-operatively, she was switched to IV daptomycin by Outpatient Parenteral Antimicrobial Therapy team to complete 6-week post operative course. She made a full clinical recovery.
Conclusion:
This case illustrates the potential for S. epidermidis to cause aggressive native valve endocarditis in healthy individuals. Persistent bacteraemia, systemic clinical features and cardiac complications should prompt escalation of care. Timely surgical intervention is the key to favourable outcomes.

151: A rare case of disseminated miliary tuberculosis involving an infra-thyroid abscess in a pregnant patient

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Background:
Miliary tuberculosis (TB) involving the thyroid gland is rare, particularly during pregnancy. We report a case of a 28-year-old woman, 24 weeks pregnant, diagnosed with miliary TB following a presentation of hypothyroidism.

Case Presentation:
The patient presented with two months of fatigue, weight loss, dry cough, difficulty swallowing solids, and midline neck discomfort. She had no history of thyroid disease, comorbidities, or known TB exposure.

Examination showed submandibular lymphadenopathy but no goitre or parotid swelling. Cranial nerve and respiratory exams were normal. Laboratory results revealed new hypothyroidism (TSH 22.6, T4 5.3), microcytic anaemia, lymphopenia, and hyponatraemia. Chest X-ray showed bilateral fine centrilobular nodules; CT thorax confirmed miliary changes, a small right lung nodule, and a cystic lesion in the left thyroid lobe which was further characterised as a 3-cm infra-thyroidal hypoechoic collection on ultrasound. Although thyroid TB is very rare, TB commonly causes abscesses and we hypothesise the physiological increased thyroid blood flow during pregnancy may have promoted abscess formation.

Whilst asymptomatic neurologically, MRI brain identified six tuberculomas with low-grade abscesses and vasogenic edema. Due to seizure risk, she was started on anti-tuberculous therapy and high-dose steroids within 24 hours.
Fine-needle aspiration of the infra-thyroid abscess was positive for TB Xpert Ultra PCR (RpoB negative), smear, and culture. Bronchoalveolar lavage was culture-positive but smear- and PCR-negative. Treatment was complicated by drug-induced liver injury and challenges related to quinolone and steroid use in pregnancy.

Conclusion:
This case details the complexity of diagnosing and managing miliary TB with hypothyroidism during pregnancy.

161: Disseminated cutaneous blastomycosis acquired in Mexico: A case report

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Background
Blastomycosis is caused by species of the dimorphic fungus Blastomyces, (B. dermatitidis and B. gilchristi). It is an endemic mycosis that causes a spectrum of disease, most often pulmonary and cutaneous. It is rarely diagnosed in the United Kingdom (UK), where it is non-endemic.
Case Report
A 35-year-old immunocompetent Caucasian male presented to our hospital with a 2-week history of rash, fever and joint pain following work travel to rural Mexico. On examination he had centrally umbilicated and haemorrhagic crusted nodules on the face, nose, and extremities. Punch skin biopsy demonstrated a dermal neutrophilic infiltrate with microabscesses and an associated vasculitis. Blastomyces serology was strongly positive. He was treated with itraconazole orally with excellent clinical response.
Discussion
Blastomyces is endemic in the Eastern United States and South-East Canada, occupying an ecological niche of wooded areas with decomposing organic matter. In this case, the likely exposure was inhalation of spores, followed by cutaneous dissemination. Diagnosis was based upon positive serology without any cross-reactivity with assays for other endemic mycoses. The good clinical response to itraconazole supported the diagnosis.
Conclusion
Blastomycosis can present with disseminated skin lesions and requires a high index of suspicion to diagnose in a non-endemic setting. Our case demonstrates the importance of considering endemic mycosis such as blastomycosis, in patients who have travelled to areas not classically thought of as endemic, and the importance of a detailed travel and exposure history.

162: Extra-Pulmonary Tuberculosis Mimicking Meigs' Syndrome

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[1]Peterborough City Hospital

Introduction:
Meigs' syndrome is defined by the triad of ovarian tumour, ascites, and pleural effusion, which usually resolves after tumour removal. However, various pelvic pathologies, both benign and malignant, can mimic latter presentation, termed pseudo-Meigs' syndrome. In tuberculosis (TB)-endemic regions, tuberculosis (pulmonary/ extrapulmonary) should be considered as a differential diagnosis. We present a case of pleuro-peritoneal and tubo-ovarian tuberculosis in a young woman initially suspected of having Meigs' syndrome or intra-abdominal malignancy.

Case Report:
A 34-year-old nurse from India presented with one-month history of progressive abdominal distension, epigastric discomfort, and shortness of breath. She did not have any past medical history. Examination revealed ascites and left-sided pleural effusion. Blood tests showed elevated CA-125. Imaging showed large left pleural effusion, gross ascites, and a complex left adnexal mass pointing towards differential diagnoses of peritoneal carcinomatosis and Meigs' syndrome.
However, thoracoscopic pleural biopsy showed necrotizing granulomatous inflammation. Cytology of pleural and ascitic fluid revealed lymphocytic predominance without malignant cells. Microbiological tests, including acid-fast bacilli and PCR, were negative. Based on clinical, radiological, and histological findings, a diagnosis of extrapulmonary tuberculosis was made after multidisciplinary team evaluation.
The patient received a nine-month course of anti-tubercular therapy, resulting in initial gradual but then complete resolution of pleural effusion, ascites, and adnexal changes on follow-up imaging.

Conclusion:
Tuberculosis (extrapulmonary/pulmonary) should be considered when presenting with ascites, pleural effusion, and adnexal masses in a patient with travel/residence history from tuberculosis-endemic areas. Early biopsy and multidisciplinary evaluation are crucial to avoid misdiagnosis and ensure timely treatment.

163: Discitis caused by Staphylococcus aureus following acupuncture, a case report

Rachel Claire Austin-Hutchison[1], Dr Muhammad Ansar[1], Dr Geraldine Quintero[1], Dr Sarah Wyllie[1]
[1]University Hospitals Plymouth NHS Trust

Forty-nine-year-old male presented with a two-week history of pyrexia, generalised myalgia, sore throat and neck pain. Blood cultures demonstrated Staphylococcus aureus in two sets separated by 48 hours. A spinal MRI was performed which demonstrated a high T2 signal within the C5-6 intervertebral disc in keeping with discitis as well as a prevertebral soft tissue and epidural collection. The collections were not drained and therefore a 12 week treatment plan was commenced with 6 weeks IV flucloxacillin followed by 6 week oral clindamycin. The patient had no significant past medical history, no recent wounds or falls, however received a course of acupuncture two weeks prior to initial symptom onset, which is hypothesised to be the original portal of entry for the S.aureus as no other source could be identified.

Incidence rates in Western countries for S.aureus discitis and native vertebral osteomyelitis are 0.2-2.4 per 100,000 population with S.aureus being the most common organism. Infection are more likely to be community-acquired and associated with persistent bacteraemia, have a longer time to diagnose and are associated with high rates of mortality.

Acupuncture has very low reported serious adverse events of 1.01 per 10 000 patients with infection occurring in 1.56% of procedures. Therefore S.aureus discitis following acupuncture is a rare complication of this procedure, most cases in the literature originating from Southeast Asia where this procedure is more commonly performed.

194: An Occupational Hazard

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Introduction
Leptospirosis is the most prevalent zoonotic infection in the world and is caused by the spirochete Leptospira [1]. From January 2020 to June 2024, there were 261 documented confirmed cases of leptospirosis in England and Wales [2]. The icteric phase of leptospirosis is also known as Weil's disease.

Case Review
A 58-year-old gentleman presented to hospital with a short history of jaundice, pyrexia and diarrhoea. This was on a background of mixed aetiology advanced liver fibrosis secondary to alcohol excess, metabolic disease and H63 heterozygosity. On admission, the patient was treated for decompensated alcohol related liver disease secondary to infection and severe acute kidney injury.

Despite initial treatment with Piperacillin-Tazobactam and treatment with intravenous terlipressin plus fluid replacement, the patient continued to clinically deteriorate; eventually requiring admission to ITU for haemodialysis. Following review by the Renal team, Leptospira serology was sent to the reference laboratory and later returned as positive for Leptospira serum IgM - confirming diagnosis of Weil's disease. Subsequently a comprehensive social history revealed the patient's occupation as a builder that had required him to work in raw sewage and also that he had suffered a recent fall in contaminated river water. Escalation to antibiotic therapy with meropenem led to a marked improvement in the patient's symptoms and blood results, prior to discharge from hospital.

Conclusion
This case highlighted the importance of a thorough and detailed social and occupational history for patients presenting with disseminated disease to ensure accurate diagnosis and treatment of zoonotic disease.

203: Unusual Bacterial Causes of Native Joint Septic Arthritis Post-Corticosteroid Injection: Two Case Reports with Systematic Reviews

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Background:
Septic arthritis remains an orthopaedic emergency with appreciable morbidity; however, it is rare after joint injections. Rare, low-virulence organisms may cause diagnostic uncertainty.

Methods:
We report two cases of native septic arthritis due to Staphylococcus capitis and Streptococcus oralis, respectively. We searched four databases for similar cases systematically, with adherence to PRISMA standards.

Results:
Case 1: A male aged 66 with rheumatoid arthritis and hip osteoarthritis developed right hip pain 48 hours after corticosteroid injections. Initial synovial cultures grew S. capitis in under 48 hours; a repeat aspirate at eight days was also positive; and three intra-operative tissue specimens yielded the same within 48 hours. Due to pre-existing osteoarthritis, he underwent two-stage revision arthroplasty with negative cultures at second stage. He also received six weeks of antibiotics and recovered well.
Case 2: A female aged 68 with knee osteoarthritis presented three days post-steroid injections with right knee pain. Two synovial aspirate samples grew S. oralis within 48 hours; two subsequent arthroscopic fluid samples grew the same within 24 hours. Following arthroscopic wash-out and six weeks of antibiotics, she regained baseline function.
The systematic review identified three S. capitis and four S. oralis cases. Intra-articular injections preceded three cases. S. capitis infections were managed non-surgically with antibiotics; S. oralis infections additionally required surgery. All patients recovered well.

Conclusion:
Though S. capitis and S. mitis/oralis are unusual causes of septic arthritis, especially post-injection, rare bacterial aetiologies warrant prompt culture confirmation, targeted antimicrobial therapy, and surgery as needed, to ensure favourable outcomes.

220: The Wolf in Sheep's Clothing: Hydatid Cysts Behind the Pneumonia Mask

Dr Alina Hristu[1], Miss Caitlin Edlington[1], Mrs Alison Haigh[1], Dr Sulman Hasnie[1], Mr Richard Milton[2], David Lawrence[3], Dr Harry Bardgett[7], Dr Paul Whitaker[1], Laura Nabarro[3], Dr Alina Negut[1]
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Introduction
Cystic echinococcosis is caused by infection with E.granulosus distributed worldwide, including the former Soviet Union.

Case
A 22-year-old Eastern-European man who grew up in a household with dogs, presented in June 2024 with presumed pneumonia and received treatment. CT thorax found 2 bilateral lung lesions, the right one of 27 mm and the left of 60 mm, later interpreted as cystic echinococcosis. The patient was extensively investigated and referred to Infectious Diseases clinic for presumed hydatid disease. The serology was positive for Echinococcus granulosus.

The case was discussed in the Combined Echinococcosis MDT, UCLH in January 2025 with the plan to start Praziquantel 2100mg BD 2 weeks before the planned surgery which involved resecting the largest cyst and continued it between surgical procedures and two weeks post second surgery. The initial resection was performed without any leakage even though the cyst has increased in size compared with the latest imaging, and the right lung resection was done minimally invasive a month later. He was started on Albendazole 400mg BD on the day of his second surgery and he is being monitored under COpAT service with good progress and mildly deranged LFT.

During discussions with UCLH, it is revealed that the patient presented to UCLH in 2022 with an allergic reaction(rash) of unknown origin.

Conclusion
This case highlights the importance of performing chest X-ray when investigating unexplained allergic reactions. It is also worth mentioning that the hydatid serology is less often positive in lung disease compared to liver disease.

232: A differential diagnosis not to be sniffed at: a case of probable rhinocerebral mucormycosis in a patient with acutely progressive necrotising rhinosinusitis

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[1]Newcastle Hospitals NHS Foundation Trust

Rhinocerebral mucormycosis is a rare infection caused by filamentous fungi of the order Mucorales. These opportunistic pathogens are usually seen in immunocompromised patients, including poorly controlled diabetics. It represents a surgical emergency, and despite aggressive management mortality is still 30-70%.

We present a case of a 43-year-old male with a history of cocaine-induced vasculitis, associated destruction of the septum, and limited left alar necrosis who was admitted with acutely worsening nasal necrosis following minor trauma. He had no other co-morbidities, was not diabetic, or on any immunosuppressant treatment.

He was discussed with our Microbiologists who raised concerns of rhinocerebral mucormycosis and advised treatment with high-dose amphotericin B and broad-spectrum antibiotics. Urgent surgical debridement was also advised, with samples to be sent for both histology and microbiological culture.

Multiple samples were received for culture, but did not yield any significant pathogens. Histological examination of tissue samples did not reveal the presence of fungal hyphae or moulds. A sample sent for 18S fungal PCR was positive for Candida only.

A urine toxicology screen sent at the time of admission proved positive for cocaine and indicated use within the last 3-4 days. Given the absence of filamentous fungi on culture, histology, and PCR it was concluded that the underlying cause was cocaine-induced vasculitis. Cocaine is often ‘cut’ with the animal anti-helminthic levamisole, which is associated with a syndrome of skin necrosis which may have contributed to the presentation.

Although not the cause here rhinocerebral mucormycosis remains an important differential diagnosis to consider.

242: Severe Mycobacterium marinum infection of the hand: an unusual mimic of psoriatic arthritis

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Introduction:
Mycobacterium marinum is a marine non-tuberculous mycobacterium, which can cause granulomatous skin and soft tissue infections in humans when broken skin is exposed to an aquatic environment. Infection is rarely disseminated in immunocompetent patients.

Case Details:
A 53-year-old man presented with persistent swelling of his right hand which failed to improve with multiple courses of antibiotics. He underwent surgical washout which provided temporary improvement, and operative samples were negative on bacterial culture.

The patient was subsequently diagnosed with psoriatic arthritis and commenced on treatment with intra-articular steroids, and oral methotrexate and sulphasalazine.

His condition worsened, and he was admitted for further surgical washouts, when it was noted he was a gardener who kept tropical fish. Infectious diseases were consulted due to the concern for atypical infection.

MRI findings showed cellulitis and tenosynovitis. Samples were sent for 16S PCR, which was positive for mycobacterium marinum. The patient required further washouts via hand surgery and subsequent operative samples demonstrated moderate numbers of acid-fast bacillia via microscopy, and culture confirmed mycobacterium marinum.

The patient was treated with first-line antimycobacterial treatment as well as antibiotics for a super-added bacterial infection and improved.

Discussion:
This case illustrates the challenge of diagnosing atypical skin, soft tissue and orthopaedic infections. Many atypical organisms including mycobacteria and fungi can mimic inflammatory disease and cannot be diagnosed via standard bacterial culture, so a high index of suspicion must be maintained. Mycobacterial infection can be severe in patients who are immuncompromised, including with medications for suspected inflammatory diseases.

247: An audit of HIV-associated TB between 2020-2025 in a low incidence tertiary care centre

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[1]North Bristol NHS Trust

Background:

HIV-associated TB (HIV/TB) remains a major health challenge. 1.25 million people died from TB in 2023, including 161,000 people with HIV. (WHO, 2023). HIV coinfection was recorded in 3.5% of individuals with TB in the UK (UKHSA, 2023).

TB can be both preventable and curable, especially in high-resource settings. The British HIV Association (BHIVA) have produced guidelines on management of HIV/TB, to reduce morbidity and mortality.

Aim:

(1) Describe incidence, clinical characteristics and outcomes of HIV/TB in a low incidence setting

(2) Compare the management of HIV/TB to recommended practice in BHIVA guidelines.

Methods:

We retrospectively reviewed the electronic healthcare records of adults aged over 18 years coded as having both TB and HIV, under the care of North Bristol NHS trust. The management of patients was compared to BHIVA guidance.

Results:

We identified 8 cases of TB/HIV within our HIV cohort. This included 3 pulmonary, 4 extra-pulmonary, and 1 CNS TB.

6/8 were diagnosed within 6 weeks of HIV diagnosis. CD4 count ranged between 2 – 884 (median 51.5). 6/8 were bacteriologically confirmed. None were drug-resistant.

Median time between TB diagnosis and starting ART was 10.5 days (range 4 – 42 days). ART initiation was delayed beyond 4 weeks for 2/8 patients due to CNS infection and DILI.

3/8 developed IRIS, 2/8 experienced peripheral neuropathy and 1/8 DILI.

Conclusions:

Annual incidence of TB/HIV is low in our population. BHIVA standards were met but treatment was frequently complicated by IRIS and adverse drug reactions.

251: A diagnosis in disguise and potential catastrophic implications: Amoebic colitis masquerading as Crohn's disease

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[1]London Northwest Healthcare Nhs Trust

Case: A 57-year-old soldier with a history of Crohn’s colitis presented with persistent symptoms of loose and occasional blood-stained stools. The diagnosis of Crohn's was made 8 years prior following colonoscopy showing patchy inflammation and ulceration and histology revealing mild active chronic colitis. He was treated with azathioprine and recently presented having stopped this, due to supply issues, without significant clinical change.

Small-bowel MRI demonstrated active right-sided colitis. Colonoscopy revealed severe ulceration in the ascending and transverse colon and a suspicious 20mm raised lesion at the rectosigmoid junction concerning for neoplasia. He was commenced on prednisolone 40mg daily. However, biopsy revealed chronic active colitis with numerous invasive Entamoeba histolytica trophozoites. Review of previous biopsies revealed previously unreported amoebae in the caecum and rectum. Amoebic serology was strongly positive.

He was treated with metronidazole followed by paromomycin. Prednisolone was stopped. Fortunately, he recovered with complete symptom resolution. Sigmoidoscopy at three weeks showed mild residual inflammation but no organisms.

Conclusion: First-line treatment for IBD is usually an amino-salicylate preparation, with steroids reserved for unresponsive disease. Published data suggests potential for catastrophic outcomes when steroids are used for colitis caused by E. histolytica infection, with cases of fulminant colitis, perforation and death reported. A systematic review of 24 misdiagnosed amoebic colitis cases given corticosteroids showed that, despite antibiotics, the majority deteriorated. Histological differentiation of IBD from amoebiasis can be challenging. In cases of IBD with poor response to standard treatment and where amoebic infection is possible, empirical treatment with metronidazole may be reasonable.

264: Rezafungin: A Cataclysmic Breakthrough in Treating Sternal Infection Secondary to Candida auris!!!

Introduction:
Candida auris is a multidrug-resistant fungal pathogen linked to severe nosocomial infections with mortality rates up to 70%. Rezafungin, a novel echinocandin with a prolonged half-life (~133 hours), allows once-weekly IV dosing. In addition to delivering potent antifungal action, it enables outpatient care—reducing hospital stay, mental health deterioration, and healthcare burden—making it a transformative, patient-centered solution to a growing global health crisis.

Annette David[1], Dr David Thirukumaran, Dr Yam TatShing
[1]Wessex Deanery, [2]University Hospital of Southampton NHS Foundation Trust, [3]University Hospital of Southampton NHS Foundation Trust
Case:
A 58-year-old male underwent valve replacement for critical aortic stenosis. Postoperatively, he developed brownish-green wound discharge and sternal instability.He was taken to theatre for a wound review .
Wound swabs confirmed Candida auris. Initial empiric antibiotics were switched to IV caspofungin. The patient underwent surgical wound debridement and vacuum-assisted closure (VAC) dressing. CT imaging excluded osteomyelitis or retrosternal collection. By day seven, the patient requested early discharge due to rising anxiety and mental health concerns related to hospitalization. He was transitioned to outpatient therapy with IV rezafungin (400 mg loading dose, followed by 200 mg weekly for three months) and oral itraconazole. Weekly doses were administered during VAC dressing changes. The patient achieved complete clinical and microbiological resolution.

Discussion:
Rezafungin's pharmacokinetic profile, once-weekly dosing, and minimal drug interactions enable safe and effective outpatient management of complex fungal infections. This case demonstrates its practical application in treating multidrug-resistant C. auris, while also addressing the psychological and systemic burdens associated with long-term inpatient therapy.

Conclusion:
Rezafungin represents a paradigm shift in the treatment of invasive Candida auris infections—combining potent antifungal efficacy with holistic, patient-centered care. Its ability to improve outcomes while reducing hospitalization, stress, and system load establishes it not just as a therapeutic option, but as a cataclysmic breakthrough for future healthcare.

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269: Pyrexia of unknown origin caused by intravascular lymphoma – a rare malignancy and diagnostic challenge

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A 63-year-old, fit and well female presented with a 12-week history of fevers and general malaise, having recently returned from the Caribbean. Despite antibiotics in community, her symptoms did not settle, and she was admitted for workup.

Bloods revealed raised inflammatory markers with neutropenia. Serial cultures and broad serologies including a RIPL panel showed no evidence of infection. Positive ENA and anti-centromere antibodies were not felt significant by Rheumatology. A repeated CT abdomen and pelvis demonstrated diffuse subcutaneous fat-stranding and oedema. PET imaging demonstrated uptake in the thyroid (felt benign) and ascending colon. Colonoscopy was unremarkable. Bone marrow trephine did not demonstrate evidence of haematological malignancy on microscopy, flow cytometry or genetics.

The patient had persistent symptomatic fevers throughout multiple weeks of investigation and there was extensive discussion about the possibility of a seronegative rheumatological process and the risk / benefit of commencing steroids, however it was felt that reaching an alternative diagnosis could be impeded by this treatment. Interval PET imaging was unchanged. On repeated examination, subtle skin changes on the lower abdomen were noted and raised suspicion of intravascular lymphoma. A deep skin biopsy subsequently confirmed this diagnosis.

Whilst intravascular lymphoma is very rare, this case highlights its importance in the differential for pyrexia of unknown origin. It also emphasises the challenge of making the diagnosis, both in terms of the extensive negative testing and the subtlety of clinical findings. Finally, it underscores the conundrum of when it is appropriate to start empiric steroids without a definitive diagnosis.

273: Sweet's Syndrome: Skin manifestation of Mycobacterium Bovis reactivated by Hairy Cell Leukaemia (HCL)

Nicola Wassall[1], Urvi Patel[1], Ray Sheridan[1]
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Introduction
Sweet's syndrome (Acute Febrile Neutrophilic Dermatosis) presents with tender erythematous skin lesions and fever. Associations: malignancy, infection, autoimmune disease. 20% of cases link to haematological malignancy especially AML, rarely with HCL or Mycobacterial Infections.

Case Presentation
57-year-old male sheep farmer presented with limb pain, fever, night sweats, weight loss, and rash on extensor surfaces of all limbs. Previously had adenoid cystic carcinoma 22 years ago, and family history of TB (father) with recurrent TB outbreaks amongst the farm's cattle, hence switching to sheep farming.

Bloods – raised CRP and pancytopenia. CT – mediastinal lymphadenopathy and splenomegaly. Skin punch biopsy – superficial and deep dermatitis and neutrophilic infiltrates typical of Sweet's. PET scan – avid mediastinal and hilar nodes. Bone marrow biopsy revealed HCL. EBUS biopsy of node showed Mycobacterium Bovis.

Antibiotics for suspected pneumonia or Q fever had no impact on CRP or night sweats, which continued until anti-TB therapy commenced (rifampicin, isoniazid, pyrazinamide, ethambutol, and pyridoxine). He made a good recovery and is due to commence HCL treatment once Mycobacterium treatment established.

Discussion
Rare presentation of Sweet's syndrome due to two interacting aetiologies. His HCL (diagnosed on BMA) reactivated latent Mycobacterium Bovis (diagnosed on EBUS node biopsy).

The persisting raised CRP and night sweats suggested a second cause found via EBUS. Although he had not previously had symptomatic Mycobacterial Infection, there remained a strong suspicion.

Taking a good family and occupational history was key to the diagnosis of Mycobacterium Bovis, which was important before starting treatment for HCL.

298: No bite, no immunosuppression, yet sepsis and deafness: A rare case of Capnocytophaga canimorsus.

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[1]University Hospitals of Leicester, [2]University hospitals of Leicester , [3]University hospitals of Leicester , [4]University hospitals of Leicester

Background: Capnocytophaga canimorsus, a Gram-negative bacterium in dog and cat saliva, rarely causes life-threatening infections. Slow growth challenges the diagnosis, making molecular methods PCR crucial. While risk is higher in immunocompromised individuals, severe infections—including sepsis, meningitis, and hearing loss—also occur in healthy patients.

Case summary - We report the case of a 59-year-old man with psoriasis who presented with acute bilateral hearing loss and fever, but without classical signs of meningitis such as neck stiffness or altered consciousness. Initial laboratory tests revealed marked systemic inflammation with elevated C-reactive protein (151 mg/L), neutrophilia (7.9×10^9/L), and thrombocytopenia (28×10^9/L). Despite unremarkable neuroimaging, lumbar puncture showed a raised lymphocyte count (29×10^6/L) and elevated protein (0.56 g/L). Unexpectedly, blood cultures grew Capnocytophaga canimorsus, a Gram-negative bacillus commonly found in dog and cat saliva but rarely associated with human meningitis. The diagnosis of C. canimorsus meningitis was confirmed, and audiometry established severe to profound bilateral sensorineural hearing loss as the major clinical manifestation. This unusual presentation highlights the diagnostic challenge posed by C. canimorsus, particularly in the absence of classical meningeal features, and underscores the importance of thorough animal-exposure history and the role of molecular or culture methods in identifying slow-growing pathogens. The patient received intravenous ceftriaxone along with acyclovir and dexamethasone as per guidelines; acyclovir was discontinued following blood culture confirmation of C. canimorsus but hearing loss persisted, emphasizing that acute bilateral sensorineural deafness can represent a primary and potentially irreversible complication of Capnocytophaga meningitis.

299: A Ticky Case

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The incidence of Lyme disease has been increasing and is the most common tick-borne disease in the Northern hemisphere. Myocarditis as a complication of Lyme disease is rare, with reported rates ranging from 0.3-4.0% in Europe and 1% in the United States.
We present a case of a 28 year old patient who had travelled from their home in Canada to Germany and then to Inverness. They presented with an 18 day history of feeling generally unwell. After being admitted to the Acute Medical Receiving unit they were rapidly escalated to the Medical High Dependency unit with hypotension not responding to IV fluids and required blood pressure support. It was noted that the patients ECG showed 1st degree AV block. The patient had been camping at Kejimkujik National Park in Nova Scotia 3-4 weeks prior and then travelled around Germany camping. They had noticed a tick on their body whilst in Canada but had not noticed a tick bite or rash.
They were treated with IV Ceftriaxone and an echocardiogram showed a dilated and severely impaired right ventricle. The patient had a cardiac arrest 24 hours after admission with complete heart block and Torsade's noted, but was successfully resuscitated and commenced on Isoprenaline. They continued treatment with IV Ceftriaxone and a follow up echocardiogram 1 week in to treatment showed complete resolution and ECG returning to normal conduction. They then completed treatment with Doxycycline alone to complete 21 days in total. Serology confirmed B. burgdorferi (IgG and IgM immunoblot positive).

300: A Fatal Case of Pasteurella stomatis Infection. How Do We Prevent Delayed Presentation of Sepsis Following Dog Bites?

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Background
This case report is of a rapidly fatal Pasteurella stomatis infection, following a dog bite in a previously fit patient. There was a 12hour delay from onset of non-specific sepsis symptoms to seeking healthcare.

Case presentation
A man in his early 70s with no risk factors, presented to a hospital emergency department whilst on holiday. He presented in shock with DIC, following a dog bite to the hand 48hours prior. There was a puncture wound over the posterior aspect of his thumb. He had experienced prodromal sepsis symptoms including, vomiting, rigors, shortness of breath and confusion the day before. He was treated empirically for septicaemia with DIC, presumed due to the bite and started on IV co-amoxiclav. He deteriorated on ICU and life-sustaining treatment was withdrawn 2 days after admission. Pasteurella stomatis was isolated from the swab.

Discussion
Immediately post-bite/during the prodromal period before deterioration, the patient did not seek advice, perhaps due to the relatively superficial nature of the injury. Although prophylactic antibiotics were probably indicated in national guidance, there is room for interpretation and they may have been withheld. There was a gap between symptom onset and development of irreversible sepsis, with earlier presentation risk of mortality may have been reduced. The patient was unaware of the risk of sepsis post dog-bite and this is not a clear message in national guidance.

Conclusion
Although rare, dog bites can be rapidly fatal. Both public and clinician guidance regarding sepsis onset in the context of dog-bites is weak.

311: Indeterminate IGRA in a patient with acute severe ulcerative colitis: a diagnostic challenge

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Background:
The BSG 2025 guidelines state that patients with IBD to be started on advanced therapies require IGRA screening for latent TB. Infliximab increases the risk of reactivation of latent TB.

Clinical case:
We describe a case of an 83 year old male in rural Northern Ireland admitted to hospital with an acute, severe flare of ulcerative colitis. The patient did not respond to IV hydrocortisone, Vedolizumab or Mirikizumab and was assessed for rescue therapy Infliximab. IGRA screening came back with an indeterminate result. The local respiratory team felt an indeterminate result could be significant. In addition to upper lobe micronodularity on CT chest, the patient's main risk factor for acquisition of Mycobacterium Tuberculosis was growing up on a cattle farm. The patient was deemed high risk for empirical anti-TB therapies, most notably hepatitis from isoniazid, due to frailty and severity of ulcerative colitis. Following multidisciplinary discussion, the patient underwent subtotal colectomy with end ileostomy whilst awaiting bronchoscopy and repeat IGRA.

Discussion:
This case highlights the challenges of IGRA screening in IBD in an ageing population. This cohort of patients are more likely to take long term steroids which impacts the reliability of using IGRA to diagnose latent TB. Subsequent decisions around empirical treatment of latent TB are complicated by concurrent frailty as these patients are more likely to be affected by medication side effects. Additionally, the case highlights the importance of considering alternative risk factors for subtypes of Mycobacterium Tuberculous infection including Mycobacterium Bovis in rural communities.

314: Metronidazole-induced neurotoxicity

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Metronidazole is broadly used to treat anaerobic and protozoal infections [1]. Metronidazole-induced neurotoxicity (MIN) is a rare manifestation of prolonged metronidazole exposure and is often underestimated. The majority (90%) of affected patients have characteristic abnormalities on magnetic resonance imaging (MRI) brain which are pathognomonic for metronidazole-induced encephalopathy [3].

Here, we describe a 74-year-old female with a history of penicillin allergy who developed new neurological deterioration following an extended course of metronidazole post anterior resection for colorectal cancer. She received cumulative 63 days of metronidazole over 11 weeks period, in combination with broad-spectrum ceftazidime and daptomycin, during a protracted hospitalization. Patient developed transient dysarthria and confusion followed by new choreatic movements and decrease in level of consciousness. Subsequent septic screens including cerebrospinal fluid analysis were non-remarkable. Unexpectedly, MRI brain demonstrated the characteristic T2/FLAIR signal abnormalities within the splenium of corpus callosum and bilateral dentate nuclei which are consistent with the diagnosis of metronidazole-induced encephalopathy. Following discontinuation of metronidazole prescription patient's neurological status gradually improved.

MIN can mimic stroke and cause potentially catastrophic outcomes, as demonstrated in our case with high cumulative dosing (94.5g). The median cumulative dose reported in a systematic review of 110 cases was 65.4g (range 5g – 2000g) [3]. Diagnosis requires clinical correlation with characteristic MRI findings alongside drug history. MIN maybe reversible following cessation of metronidazole. Therefore, this case underscores the need for careful monitoring for toxicity, especially after prolonged use in elderly patients and the importance of antimicrobial stewardship in judicious prescribing and timely drug withdrawal.

316: The Cat's Out of the Bag: A Case Series of Bartonella Endocarditis Without Cat Exposure

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Bartonella spp. are intracellular gram-negative bacteria transmitted via body lice or cat fleas, and an important cause of culture-negative infective endocarditis. Clinical manifestations are akin to other bacterial endocarditides: fevers, murmur, weight loss and fatigue. Testing is based on serology (Bartonella henselae only) and PCR (Bartonella spp.) via RIPL.
We present three distinct cases of Bartonella endocarditis from a tertiary referral hospital in Southwest England. All cases were diagnosed serologically, with cases 1 and 2 also PCR (blood) positive on presentation.

Cases:
1. 74M with a bioprosthetic aortic valve presented with fever, pancytopenia, renal dysfunction and splenomegaly. Diagnosed using PET-CT and serial echocardiograms. Treated with ceftriaxone and doxycycline. Unsuitable for surgery due to frailty. Now on haemodialysis with a good quality of life.

2. 71M with TAVI and oeseophageal cancer presented with fever, new AF, AKI, anaemia and splenomegaly. PET-CT showed enhancing TAVI. Treated with cefazolin and gentamicin, then doxycycline.

3. 29M with mild cerebral palsy and VSD presented with fevers, anaemia and AKI. From Ukraine but UK resident for the last three years. Treated with ceftriaxone and doxycycline. TOE confirmed AV vegetations, and new severe AR. Underwent AV replacement with VSD closure. Recovering well. PCR on explanted heart tissue pending.

Conclusion:
All cases had pre-existing cardiac disease, however, none described a significant cat exposure. Early diagnosis through molecular and serological testing has the potential to target therapy, reduce complications and prevent the need for cardiac surgery. Bartonella therefore remains an important differential for culture-negative IE despite no classical exposures.

323: Nocardia in Question: A Culture-less Conundrum

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This case regards an immunocompetent 65 year old male who had surgical removal of a vestibular Schwannoma. His surgery was complicated by a non-healing wound, with repeated wound infections. Over the subsequent months the patient developed worsening right upper and lower limb weakness, and an MRI revealed extensive nodular leptomeningeal enhancement of the spine and intra-parenchymal tissue. The spine was biopsied and initial histology revealed an inflammatory infiltrate. The neurologists took over his care and a diagnosis of neurosarcoidosis was made; the patient was given steroids and mycophenolate for 6 months, without clinical response.

It was only when supplementary histology noted small, tangled colonies of filamentous bacteria within granulomas, most consistent with Nocardia spp, that a diagnosis of infection was considered. A repeat biopsy was not possible and despite PCR and metagenomic sequencing of CSF a microbiological diagnosis was not able to be made. An MDT involving microbiology, infectious diseases, neurology, and neurosurgery decided on empirical treatment for CNS nocardiosis.

This unusual case explores the difficulties in making a diagnosis of nocardiosis and the complexities of deciding a treatment plan for a rare disease with minimal evidence base, and no susceptibility data.

Clinical Microbiology

33: Elizabethkingia meningoseptica Infections: Clinical Outcomes and Risk Factors for 30-Day Mortality

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Background:
Elizabethkingia meningoseptica is a multidrug-resistant Gram-negative bacillus increasingly associated with healthcare-associated infections, particularly in critically ill and immunocompromised patients. Regional data from the Middle East, including Qatar, are scarce. This study assessed outcomes and risk factors for 30-day all-cause mortality.

Methods:
We retrospectively reviewed 80 cases of E. meningoseptica infection between 2016 and 2021 at a tertiary hospital in Qatar. Clinical features, complications, and outcomes were analyzed. Logistic regression identified predictors of 30-day mortality.

Results:
Complications included acute kidney injury (AKI) in 47.5%, disseminated intravascular coagulation in 12.5%, empyema in 2.5%, and endocarditis in 1.25%; 50% had no complications. Median bacteremia clearance time was 5 days (IQR 3–9). Only 12.5% received appropriate empirical antibiotics. Thirty-day mortality was 26.3%, increasing to 41.3% by day 90.

Independent predictors of 30-day mortality were vasopressor use (adjusted OR 8.08; 95% CI 1.03–63.21; p=0.047), higher Charlson comorbidity index (OR 1.55; 95% CI 1.00–2.41; p=0.050), and longer mechanical ventilation duration (OR 1.04/day; 95% CI 1.01–1.08; p=0.017). While AKI was frequent, it was not independently associated with mortality after adjustment.

Conclusion:
E. meningoseptica infections are associated with significant morbidity and mortality. Vasopressor requirement, comorbidity burden, and prolonged mechanical ventilation are key mortality risk factors. Early recognition and targeted empirical therapy are critical to improving outcomes.

77: Does blood culture performance prior to ICU admission for septic shock affect outcome, and what factors affect blood culture performance?

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Background
Timely diagnosis of causative organisms in septic shock is crucial for improving patient outcomes and guiding antimicrobial stewardship in critical illness (1). We sought to determine our own performance rates for culture prior to ICU admission, and effects on outcome.
Methods
A retrospective cohort study was conducted on patients admitted to the ICU with septic shock between January 2024 to March 2025. Comparison was made between those with blood cultures (BC) performed and those without prior to admission; with data collected on demographics, antibiotic stewardship and mortality.
Results
67 patients were identified, of whom 69% had blood cultures performed prior to ICU admission. Despite similar predicted mortality, the BC performed group had a lower hospital mortality of 20% vs 38% (p=0.11). Factors associated with non-performance of blood cultures were female sex, and higher deprivation. Of cultures taken, 21% had bacteraemia of which 64% had antibiotic resistance. Increased antibiotic use was seen in the BC performed group, with a higher proportion of WHO Watch/Reserve category utilisation.
Conclusions
Performing blood cultures prior to ICU admission for patients with septic shock is associated with lower mortality rates in our cohort. Of note; women and those from more deprived areas were less likely to have cultures performed. These findings highlight the importance of prompt blood culture performance in septic shock; and identify areas for both quality improvement and further research into factors affecting sepsis outcomes.
References
1. UK Standards for Microbiology Investigation, Sepsis and systemic or disseminated infections, UKHSA (2023) S12:1

86: Urinary Tract Infections in Systemic Lupus Erythematosus: Prevalence, Pathogens, and Antibiotic Sensitivity Profiles

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Background: Systemic lupus erythematosus, a chronic autoimmune disease marked by widespread inflammation and autoantibody production, predisposes patients to infections due to immune dysregulation and immunosuppressive therapies. This study investigates the common infection sites, prevalent pathogens, and antimicrobial sensitivity patterns in SLE patients.

Methods: We conducted a prospective study involving 80 SLE patients at Mansoura University Hospitals from November 2023 to January 2025, enrolling patients based on the 1982 revised SLE classification criteria. We collected clinical and microbiological data from patients presenting with infections and analyzed it using SPSS version 26.0. Descriptive statistics summarized patient characteristics and infection types. Chi-square tests assessed associations between infection type and clinical parameters (significance threshold: $p < 0.05$).

Results: Urinary tract infections were the most frequent infections (67.5%), with Escherichia coli being the predominant pathogen. E. coli exhibited the highest susceptibility to piperacillin-tazobactam (92%), followed by meropenem and ceftriaxone. No significant correlations were found between infection site and age, gender, or disease duration ($p > 0.05$).

Conclusion: UTIs, primarily caused by E. coli, are the most common infections in SLE patients. Given its high antimicrobial efficacy, piperacillin-tazobactam may be a suitable empirical treatment option. Routine infection monitoring and targeted antibiotic strategies are crucial in managing infections in SLE patients.

102: Hospital-Acquired Infections in Vascular Surgery Inpatients: A Single-Centre Retrospective Cohort Study and Outcomes Analysis

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[1]BCUHB

This study was carried out to assess the incidence and impact of new hospital acquired infections (HAIs) on the patients admitted to vascular surgery ward.

METHODS
A retrospective study was conducted at the North Wales Vascular Centre, including all vascular surgery inpatients from 1st June 2020 to 31st July 2021 who developed new HAIs during admission. Patients with diabetic foot sepsis or Clostridium difficile were excluded.

Patients were stratified into:
Group A: UTI and/or chest infection (n=122)
Group B: Other infections (n=35)

RESULTS
157 patients were found to develop new infections post admission in the vascular department. 55% of these new infections involved males vs. 45% happened in females.
Age groups involved mainly 61 - 70 years old (29.9%) and 71 - 80 years old (29.3%).

Infections were more common in emergency vs. elective admissions ($p < 0.001$).
Males were more likely to receive active intervention ($p = 0.02$).
Conservative management was more common in females (71%) and associated with shorter LOS but higher mortality

Group A (n=122): Patients with both UTI and chest infection (n=14) had significantly prolonged LOS (mean = 43 days) vs. single infections ($p < 0.001$). 30-day mortality was 28.7%.
Group B (n=35): Bacteraemia patients had the longest LOS (mean = 40 days).

CONCLUSION
HAIs affect over 1 in 6 vascular inpatients, particularly following emergency admissions. Dual-site infections and bacteraemia significantly prolong hospitalisation and increase mortality risk. Female patients were more likely to receive conservative management, with implications for equity of care.

111: Investigation of an Unusual Yersinia enterocolitica Prosthetic Hip Infection: Not just going through the motions….

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Introduction:
Yersinia enterocolitica is an unusual cause of prosthetic joint infection This is more frequently associated with acute self-limiting gastroenteritis but may also mimic appendicitis. Septic or reactive arthritis has also been reported, but fewer than 10 cases of prosthetic joint infection have been reported for this organism (1).

Case presentation:
An 84-year-old lady with a known history of iron deficiency anaemia, chronic kidney disease, and recurrent UTI, presented with a suspected right prosthetic hip joint infection following episodes of rigors and chills two days prior. She had no history of acute gastrointestinal symptoms, animal contact, or travel history; she had received iron infusion for her anaemia. Blood cultures on admission cultured Y.enterocolitica, but became sterile after starting antibiotics. Fluid aspiration of her hip on day two also isolated Y.enterocolitica. Stool samples requested were also positive by PCR for this organism.

DAIR was performed, followed by a two-stage revision 3 months later. Intraoperative tissue samples from DAIR cultured Y.enterocolitica but not from subsequent procedures. Initial treatment was with intravenous ceftriaxone, which switched to oral cotrimoxazole following the second-stage procedure.

Conclusions:
This is an unusual cause of PJI, given no history of gastroenteritis or risk factors, other than recent iron infusion.

Identification of the source of Y.enterocolitica in this case was enabled by use of PCR. Use of stool PCR instead of conventional culture in clinical practice is now significantly increasing the detection rates of Yersinia sp. in samples from patients who would previously had a negative stool culture.

120: The burden of Neisseria gonorrhoeae infection, Antimicrobial susceptibility pattern, and Associated Risk Factors among Sexually Transmitted Infections in a Resource-Limited Setting Area of Addis Ababa City, Ethiopia

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Introduction: N. gonorrhoeae is the cause of gonorrhea, which is one of the most common public health problems among sexually transmitted infections. Highest incidence of disease occurs in less developing countries
Objectives: To assess the burden of Neisseria gonorrhoeae, Risky Sexual Behavior, and Associated Risk Factors among Sexually Transmitted Infections in a Resource-Limited Area of Addis Ababa City, Ethiopia.
Methods: A health institution-based cross-sectional study was conducted from April 2023 to December 2024 in Addis Ababa City. A convenient sampling method was used to collect endocervical and urethral sample swabs from 571 study subjects. Samples were cultured onto Thayer Martin Luther agar, and Gram staining and biochemical tests were used to confirm the presence of gonococci. Descriptive and logistic analyses were computed.
Results: Of the total study subjects, 62.2% were females, and 61.6% were urban residents. The prevalence of N. gonorrhoeae among STI patients was 17.33%, and risky sexual behavior was 56.9%. The odds of N. gonorrhoeae infection were 1.55 higher among chat users than the non-chat users (AOR= 1.55, 95% CI: (1.32-1.95)). Similarly, the odds of risky sexual behavior were 10.95 (AOR= 10.95, 95% CI (5.75-20.84)) times higher than among STIs who had a new sexual partner than their counterparts. N. gonorrhoeae isolates were showed high resistance to ciprofloxacin (67%), Tetracycline (93%), and penicillin (99%), and they were sensitive to ceftriaxone (99%), cefiximne (96%), and azithromycin (57%).
Conclusion: The prevalence of N. gonorrhoeae and risky sexual behavior among STI patients were high.

125: Beyond E. coli: A study highlighting the role and prevalence of Enterococcus faecalis in Mid-Stream Urine (MSU) cultures of pregnant women with suspected Urinary Tract Infections (UTIs) at the Princess Royal University Hospital (PRUH)

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Introduction:
UTIs in pregnancy can lead to serious complications if untreated. Escherichia coli (Ec) is classically the most frequently isolated organism, with Enterococcus faecalis (Ef) an overlooked, less common cause.

Objective:
To compare the bacterial profile of MSU samples between pregnant and non-pregnant women, and their role in causing UTIs during pregnancy.

Methods:
Two culture-positive MSU sample groups were identified via EPIC between 1/4/2024 and 31/3/2025:

Pregnant Group (PG): attendees of PRUH Maternal Assessment Unit. (n=188)
Non-Pregnant Group (NPG): community samples from age-matched women received by the laboratory. (n=246)
PG clinical notes were reviewed.

Results:
Ec was more common in the NPG (180/246; 73.2%) than PG (47/188; 25%) ($\chi^2(1) = 99.12$, $p < 0.0001$), whereas Ef was more frequent in the PG (94/188; 50%) than NPG (18/246; 7.3%) ($\chi^2(1) = 101.4$, $p < 0.0001$).

Indicators of UTI reviewed within the PG:
Symptoms: 86 (45.7%) were symptomatic; Ec and Ef were isolated in 32.6% and 40.7% of this, respectively. 59.6% of Ec samples were from symptomatic patients, compared to 37.2% of Ef isolates.
MSU Culture: 69 (36.7%) cultures grew >100,000 CFU/ml; Ec and Ef accounted for 30.4% and 42.7% of this, respectively.
Microscopy WBCs: Seen in 74.5% and 43.6% of Ec and Ef samples, respectively.

Conclusion:
While Ec remains a key pathogen, Ef was more frequently isolated in symptomatic pregnant women. Contamination may account for some, however its frequent isolation within the symptomatic PG and high colony counts suggest it may be a more prominent pregnancy-associated UTI pathogen than currently recognised.

135: The burden of Neisseria gonorrhoeae infection, Antimicrobial susceptibility pattern, and Associated Risk Factors among Sexually Transmitted Infections in a Resource-Limited Setting Area of Addis Ababa City, Ethiopia

TESFAYE Andualem[1], **Professor Gurja Belay**[1], **Dr Helen Nigussie**[1]
[1]Addis Ababa University,

Introduction: N. gonorrhoeae is the cause of gonorrhea, which is one of the most common public health problems among sexually transmitted infections. The highest incidence of disease occurs in less developing countries.
Objectives: To assess the burden of Neisseria gonorrhoeae, Risky Sexual Behavior, and Associated Risk Factors among Sexually Transmitted Infections in a Resource-Limited Area of Addis Ababa City, Ethiopia.
Methods: A health institution-based cross-sectional study was conducted from April 2023 to December 2024 in Addis Ababa City. A convenient sampling method was used to collect endocervical and urethral sample swabs from 571 study subjects. Samples were cultured onto Thayer Martin Luther agar. Descriptive and logistic analyses were computed.
Results: Of the total study subjects, 62.2% were females, and 61.6% were urban residents. Moreover, 183 (32.0%) were in the age of >35 years followed by 170 (29.8%) in the 30-34 years old. The prevalence of N. gonorrhoeae among STI patients was 17.33%, and risky sexual behavior was 56.9%. The odds of N. gonorrhoeae infection were 1.55 higher among chat users than the non-chat users (AOR= 1.55, 95% CI: (1.32-1.95)). Similarly, the odds of risky sexual behavior were 10.95 (AOR= 10.95, 95% CI (5.75-20.84)) times higher than among STIs who had a new sexual partner than their counterparts. N. gonorrhoeae isolates were showed high resistance to ciprofloxacin (67%), Tetracycline (93%), and penicillin (99%), and they were sensitive to ceftriaxone (99%), cefiximne (96%), and azithromycin (57%).
Conclusion: The prevalence of N. gonorrhoeae and risky sexual behavior among STI patients were high.

137: Streptococcus anginosus bacteraemia, a 5-year review in Scottish hospital setting

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[1]NHS Lothian

Background: There is limited data on Streptococcus anginosus bacteraemia in Scottish hospital setting despite its ability to cause deep abscesses as part of the milleri Streptococcus group.

Methods: Retrospective review of S. anginosus bacteraemia cases between January 2019 and December 2024, with follow-up data collected through June 2025. We aim to assess patient demographics, infection sources, clinical management (including microbiology advice) and outcomes in terms of infection resolution.

Results: 67 patients with S. anginosus bacteremia were identified(22 female & 45 male) with a median age of 58.5 years.

All cases received medical microbiology input. The most common source of infection were gastrointestinal & hepatobiliary,(50.7%, n=34), followed by soft tissue,(12%, n=8), bone & joints,(9% ,n=6), infective endocarditis,(6% ,n=4), others,(9%,n=6) and unidentified (13.4%, n=9).

Thirty-two patients (47.8%) underwent source control procedures, while 35 (52.2%) were managed conservatively. Outcomes included resolution in 36 cases (53.7%), complications in 8 (11.9%), death in 15 (22.4%), and loss to follow-up in 7 (10.4%). One case was deemed a contaminant, and the patient remained well without treatment.

41 patients (61%) had a repeat peripheral blood culture within 14 days; there was no recurrence of Strep anginosus bacteraemia in these samples. However, clinically there were complication of infective endocarditis & hepatic abscess, septic arthritis leading to spondylodiscitis and diabetic ulcer linked to osteomyelitis requiring prolonged treatment.

Conclusion: Streptococcus anginosus bacteraemia can arise from diverse sources although majority in our cohort were from gastrointestinal & hepatobiliary origins. Timely identification and appropriate follow up is important to ensure resolution.

212: Management of Community-Acquired Brain Abscess in the UK

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European Society of Clinical Microbiology and Infectious Diseases (ESCMID) guidelines on management of brain abscess were recently published but there is considerable variation in practice.

Methods:
We invited all UK neurosurgical centres to participate in a survey of their practice in the management of community-acquired brain abscess.

Results:
We received responses from 63 consultants in infection specialties, 59/63 (93.7%) with >5 years specialty experience, representing 27/37 (73.0%) of UK neurosurgical centres. Consistent with ESCMID guidelines, 63/63 (100%) recommend cefotaxime/ceftriaxone as first line antibiotic treatment for brain abscess, 57/63 (90.5%) adding metronidazole. While most, 49/61 (80.3%), prefer >6 weeks of IV antibiotics for conservatively treated brain abscesses in line with ESCMID guidance, 31/61 (50.8%) recommend <6 weeks IV antibiotics in aspirated brain abscesses, and 40/61 (65.6%) recommend <6 weeks in excised brain abscesses, with 18/61 (29.5%) considering <4 weeks in this context, all shorter than ESCMID recommendations. Dependent on the clinical picture, 32/63 (50.8%) consider a 2 week IV duration, with 10/63 (15.9%) reporting 1 week as their minimum duration. Clinicians stepping down to oral antibiotics before 6 weeks mostly (30/45, 66.7%) determine oral treatment duration by IV treatment duration, typically aiming for 6 weeks total therapy. A notable area of discordance was the use of steroids: 25/59 (49.2%) respondents consider steroids in selected brain abscess patients, while 17/59 (28.8%) avoid steroids.

Discussion:
UK infection specialists prefer treatment durations of IV antibiotics shorter than the ESCMID recommendations, particularly following neurosurgical intervention, The use of steroids in this context remains divisive.

214: A single centre retrospective one year study of blood culture contamination rates and coagulase negative staphylococci bacteraemia cases in Worthing Hospital, Sussex

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Background- Coagulase-negative staphylococci (CNS) isolates in blood cultures generally represent contamination with skin commensals though they are often implicated in line related blood stream infections, especially in the immunocompromised. CNS are often methicillin resistant, empiric treatment generally consists of a glycopeptide.

Methods- All positive blood cultures for patients at Worthing Hospital between April 2024 and April 2025 were evaluated retrospectively. Clinical significance of each isolate was based on the clinical notes written by the microbiology team on WinPath Enterprise.

Results- Between April 2024 and April 2025 at Worthing Hospital there were 1341 positive blood cultures, 608 (45.3%) were deemed contaminants, 645 (48.1) were deemed significant and 88 blood cultures (6.6%) were of unclear significance. 408 (30.4%) of the positive blood cultures were CNS. Of these CNS isolates only 25 (6.1%) were deemed clinically significant, belonging to 15 patients. 10 patients (66.6%) had S.epidermidis isolates, 3 patients (20%) had S.capitis isolates and 2 patients (13.3%) had S.haemolyticus isolates. All 15 patients had isolates sensitive to vancomycin, however only 7 (46.7%) were teicoplanin sensitive. All patients had either a permanent pacemaker or long line.

Discussion- Though teicoplanin is often preferred by clinicians due to convenient dosing and monitoring, this report suggest that the empiric treatment for line infection in this patient cohort should be vancomycin.

217: Not Quite Immune: Making Sense of Equivocal Varicella IgG Results

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Introduction & Objectives:
UK guidelines recommend post-exposure prophylaxis (PEP) to non-immune pregnant (IgG <100 mIU/mL) and immunocompromised individuals (IgG <150 mIU/mL) following Varicella-Zoster Virus (VZV) exposure. The BioMérieux VIDAS® VZV IgG test value (TV) define ≥ 0.90 = immune, 0.60 – 0.89 = equivocal (RCOG and UKHSA guidelines recommend quantitative testing +/- clinical decision on whether to offer PEP).
This audit provides real-world data comparing quantitative IgG titres with TV.

Methods:
Multi-site retrospective review of 385 equivocal cases (2016–2025), comparing VIDAS TV to quantitative IgG titres (LIAISON® XL assay, Severn Pathology (Bristol)).

Results:
Of 192 equivocal TV, 2.1% <100 mIU/mL (4), 97.9% >100 mIU/mL (188), 85.9% >150 mIU/mL (165).
Of 166 negative TV, 77.1% <100 mIU/mL (128), 88.5% <150 mIU/mL (147), 11.5% >150 mIU/mL (highest 385.2 mIU/mL).
Of 27 positive TV, all >150 mIU/mL (lowest 347.9 mIU/mL).
(Currently under statistical analysis.)

Conclusions:
In this data set 27/192 equivocal cases would have been non-immune at the 150 mIU/mL level but only 4/192 (2.1%) at the 100 mIU/mL cut-off. Clinicians can use this data when assessing risk and making decisions on whether to start PEP pending quantitative titre results, taking into account the exposure and immunity histories which are frequently vague and not completely reliable – e.g. in a pregnant individual with vague contact history and an equivocal result, a decision to wait for quantitative titre may be appropriate given the low risk of the titre being <100 mIU/mL in this group.

235: A 10 year Retrospective Analysis of Invasive Campylobacter Infections within Scotland's Largest Health Board

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Introduction
Invasive Campylobacter infection is uncommon. This review aimed to characterise such cases, including presenting symptoms, risk factors, complications and outcomes.
Methods
Using a list generated from positive laboratory reports across three laboratories, we reviewed electronic records for all patients with Campylobacter species isolated from a sterile site between 2015 and 2024.
Results
Eighty-six cases of invasive Campylobacter infection were identified. Fifty percent of patients were male, with a median age of 64 years (interquartile range: 52–76 years). The species distribution was as follows: C. jejuni (67%), C. ureolyticus (15%), C. fetus (8%), C. rectus (3.5%), C. coli (2%) and C. upsaliensis (2%).
Among C. jejuni cases, 86% of patients reported concurrent gastroenteritis. Notable comorbidities included cancer (21%), diabetes (22%) and other forms of immunosuppression (9%). Five percent of cases were classified as complicated infections. The 30-day mortality rate was 5%.
In contrast, only 5% of C. ureolyticus cases were associated with gastrointestinal symptoms. Nearly 40% were polymicrobial and complicated, with a 30-day mortality rate of 31%.
Patients with C. fetus infection did not present with gastroenteritis. Fourteen percent had cancer and 43% had diabetes. Complications occurred in 71% of cases and included septic arthritis, mycotic aneurysm and myopericarditis. The 30-day mortality rate was 14%.
Conclusion
In our population, invasive Campylobacter infection most commonly affected older adults, often with underlying malignancy or diabetes. C. ureolyticus was frequently polymicrobial and associated with collections. C. fetus infection was associated with complex clinical cases and complications but not with gastrointestinal symptoms.

270: Cefazolin: A potential alternative to Beta-lactam antibiotics in treating patients with Infective Endocarditis

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Our Quality Improvement project reviewed adverse reaction events to Beta-lactam antibiotics used in treating patients with Infective endocarditis with an aim to consider the role of Cefazolin as a potential alternative for better patient outcomes. Authors: Dr. Jayesh Singh, Dr. Sumita Pai (Department of Microbiology, Royal Papworth Hospital, Cambridge)

IE is associated with high morbidity and mortality if not treated promptly and often requires prolonged intravenous antibiotic therapy for 6 to 8 weeks. The choice of antibiotics is guided by organism, susceptibility, and patient factors.

We performed a retrospective cohort audit including 67 patients diagnosed with definite or possible infective endocarditis (native/prosthetic/device related) according to modified Duke's criteria, being treated with beta-lactam antibiotics over the last 2 years documenting and analysing adverse events related to betalactams antibiotics. 51 out of 67 patients were treated with beta lactams (Benzylpenicillin, FLucloxacillin etc.) experienced adverse reactions such as anaphylaxis, pyrexia, eosinophilia, deranged liver and kidney function, neutropenia and rash. In the 16 patients where no beta-lactams were used most adverse reactions were associated with Vancomycin.

Audit results show betalactams are associated with increased adverse reactions; hepatotoxicity and nephrotoxicity. Recent research developments (SNAP trial) and ESC guidelines suggest Cefazolin has a better side-effect profile, considered non-inferior to flucloxacillin in MSSA bacteraemia with lower AKI rates and early mortality. We are waiting for SNAP and CloCeBa results but there is increasing evidence for Cefazolin as a potential alternative where source control has been achieved and there are concerns of adverse events and intolerance to beta-lactams.

282: Microbial and Visual Outcomes of Postoperative Endophthalmitis: A Ten-Year Review

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Background:
Postoperative endophthalmitis (POE) is a rare and sight-threatening complication of intraocular surgery. This study assessed the incidence and outcomes of POE at the Royal Victoria Eye and Ear Hospital (RVEEH), Dublin, Ireland.

Methods:
All consecutive patients who underwent vitreous and/or aqueous sampling at RVEEH between July 2012 to July 2022 were identified, and patients who received intravitreal antibiotics and/or antifungals for presumed POE were included. Cases were classified as microbiologically-confirmed infection, presumed infection, or likely inflammatory/non-infectious. Demographic, clinical, microbiological, and visual outcome data were analysed. Incidence rates were calculated for post-intravitreal injection (IVI) procedures and post-phacoemulsification surgery.

Results:
A total of 149 POE episodes occurred in 147 patients: 70 (47%) confirmed, 66 (44.3%) presumed, and 13 (8.7%) likely inflammatory. 63 cases were culture-positive, while an additional 7 were PCR-only-positive. Of cultured organisms, 55 (87.3%) were Gram-positive, 6 (9.5%) were Gram-negative, and 2 (3.2%) were fungal. S. epidermidis was the most common organism cultured (n=28). Median final visual acuity (VA) was worse in post-IVI cases than in post-phaco cases (1.0 vs 0.4 logMAR, p = 0.004). Independent predictors of poor visual outcome included confirmed infectious POE (OR 5.5, 95% CI 1.7–17.6) and worse presenting VA (OR 1.4 per 0.2 logMAR, 95% CI 1.1–1.8). The incidence of POE was 0.04% after IVT and 0.1% after phacoemulsification.

Conclusions:
Despite the sustained rise in IVI use, phacoemulsification and IVIs contributed a comparable number of POE cases, with post-phaco cases achieving better visual outcomes. Microbiologically-confirmed infection and poorer presenting VA independently predicted worse prognosis.

332: Streptococcus gallolyticus bacteraemia and its association with colorectal neoplasia: A move towards appropriate investigation

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Background
Streptococcus gallolyticus bacteraemia is associated with colorectal pathology, including malignancy. Previous data has used small sample sizes, and there is no clear guidance as to the appropriate investigation of patients found with this organism in their blood, who are often recommended to undergo colonoscopy. qFIT testing is sensitive for colorectal malignancy and could be used as a first-line test initially.

Aims/Objectives:
To establish the prevalence of colorectal neoplasia in patients with streptococcus gallolyticus bacteraemia and assess its utility as trigger for colorectal investigation and visualisation.

Methods
Data concerning 143 blood culture samples positive for streptococcus gallolyticus in NHS Lothian were extracted from the clinical microbiology IT system. This concerned 104 patients over a 10 year period between October 2014 and April 2024. Data extracted included age, gender, date of positive culture, presence of repeat positive cultures, clinical details, endoscopy and pathology reports, antibiotic therapy, length of stay and 1 and 5 year survival. These data were then analysed statistically.

Results
Colorectal neoplasia (adenoma or carcinoma) was found in 14/104 patients(13.5%). 4/104 (3.9%) had an identified colonic malignancy at the time of positive culture. 3 of these were new diagnoses found as a result of the bacteraemia, 1 was already known.

Conclusions
The use of streptococcus gallolyticus bacteraemia as a trigger for investigation for colorectal cancer appears limited, given 3/104 resulted in a new diagnosis. Given the sensitivity of qFIT for detecting colorectal malignancy, this could be an appropriate first step for these patients rather than moving straight to colonoscopy.

Collaboration and networks

92: High Consequence Infectious diseases (HCID) designation process

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Background
During the 2014 West Africa Ebola outbreak, healthcare workers (HCWs) were 21–32 times more likely to be infected than the general adult population. In response, the UK established the High Consequence Infectious Disease (HCID) programme in 2015 to strengthen national preparedness through defined protocols for managing HCID cases in designated facilities—minimising healthcare-associated transmission and protecting HCWs.
Aims
To describe the UK's HCID designation and derogation process, using mpox as a case study, and to highlight the importance of evidence-led policy in infectious disease management.
Review
A narrative review was conducted on the process for assigning pathogens within the HCID framework. In February 2025, the evidence for clade I mpox was reviewed against HCID criteria amid sustained community transmission in several African countries and travel-associated cases globally, including the UK. An Expert Assessment Group, including public health representatives from all four UK nations and subject matter experts, evaluated available evidence against HCID criteria. Findings were presented to the Advisory Committee on Dangerous Pathogens (ACDP), which recommended derogation of all clade I mpox. This recommendation was accepted by the Chief Medical Officers of the four nations, resulting in mpox's removal from the HCID classification.
Conclusions
This case highlights the critical need for regular, evidence-based reassessment of HCID classifications. Static lists risk misalignment with the current epidemiological landscape. Timely updates based on evolving data ensure that public health measures remain proportionate, practical, and scientifically justified—maintaining both clinical safety and system-wide efficiency.

Decontamination

241: Evaluation of duodenoscope contamination via microbiological sampling at University Hospitals of Leicester (UHL) NHS Trust

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Background:
Flexible endoscopes have been frequently linked to outbreaks of infection. This was demonstrated in UHL where existing surveillance methods were unable to detect an outbreak of Pseudomonas aeruginosa derived from contaminated cystoscopes.

Objectives:
To assess the quality of current endoscope decontamination procedures in UHL via microbiological sampling.

Methods:
Nine Olympus TJF-Q290V duodenoscopes were screened using an adapted version of a published sampling protocol. Samples were collected from the suction/biopsy channels and the forceps elevator and inoculated onto R2A agar. Bacterial colonies were enumerated and identified using MALDI-TOF mass spectrometry. Organisms from the gastrointestinal tract or oral cavity, Pseudomonas aeruginosa, and Stenotrophomonas maltophilia were considered significant.

Results:
Pseudomonas aeruginosa was isolated from channels of two duodenoscopes. One remained contaminated after reprocessing which indicated presence of biofilm. This scope was quarantined and sent to a public health laboratory in Hamburg which confirmed this result. Our findings prompted review of electronic patient records to assess possible transmission; no confirmed Pseudomonas infections were identified. Due to the retrospective nature of this study, it did not include surveillance for gastrointestinal colonisation by this organism following endoscopy.

Discussion:
At present, there are no accredited services which offer microbiological sampling of endoscopes, nor is there a national surveillance program for infections following endoscopic procedures in the UK, despite multiple reports of outbreaks. This study highlights the need for improved reprocessing of endoscopes, proactive screening for decontamination failures, and improved surveillance of endoscopy-related infections.

276: Healthcare professionals' awareness, knowledge and perspectives of antimicrobial surfaces within healthcare settings in the UK

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Introduction: Antimicrobial surfaces represent a promising approach for preventing HCAIs by reducing microbial contamination via fomites. Limited data exists regarding healthcare professionals' (HCPs) awareness of antimicrobial surfaces in UK healthcare settings.

Methods: A 31-item online questionnaire was developed, piloted and distributed to HCPs with infection prevention and control interests across UK healthcare settings via professional organisations including the Healthcare Infection Society, the British Infection Association, and the Infection Prevention Society. The questionnaire examined demographic characteristics, knowledge of fomite transmission and antimicrobial surfaces, implementation perspectives, and barriers to implementation of antimicrobial surfaces. Ethical approval was obtained from the Faculty of Medicines, Health and Life Sciences, QUB (Reference: MHLS 24_165). Data were using SPSS v29, with free-text responses undergoing thematic analysis.

Results: Seventy-seven HCPs completed the questionnaire between March - July 2025: nurses (74%), pharmacists (16%), doctors (8%). Participants were predominantly from Northern Ireland (58%) and England (23%), working mainly in hospital/acute care settings (78%). While 83% correctly identified fomite transmission definitions and 82% understood antimicrobial surface concepts, only 3% reported current implementation in their facilities. Despite 79% rating antimicrobial surfaces as moderately to extremely important for infection control, 55% anticipated decision-maker resistance to implementation, with reported barriers including cost concerns and implementation challenges.

Conclusions: This study revealed a critical gap between HCPs' knowledge of antimicrobial surfaces and their implementation in UK healthcare settings. Despite good theoretical understanding and perceived value, organisational barriers significantly limit adoption. Future research should focus on developing cost-effectiveness evidence and implementation frameworks to bridge this knowledge-practice gap.

Diagnostics

12: Forced choice questions as a pre-analytical tool in the blood culture requesting

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Objectives
Blood culture requests come with clinical information that forms part of the risk stratification for analysis, particularly the travel history as per Control of Substances Hazardous to Health guidance, as well as the post-analytical interpretation by clinicians.
Methods
This was a Qualitive Improvement Project that aimed to improve the accuracy of antimicrobial exposure and travel history. We modified the questions from a default answer to a forced choice question; the requester would be required to select an option, even if “not on antimicrobials” and “no foreign travel” were appropriate. Data was collected for one month before and after the change. Analysis on proportional change, chi-squared test for significance and Wilcoxon Ranked sum test for non-parametric analysis on the antimicrobial options chosen.
Results
The proportion of requests with an antibiotic listed increased from 39.5% to 47.1% (chi2 17.22 p: <0.0001). There was an increase in all antibiotics being requested, with a Wilcoxon Ranked sum statistic of (W = 175, p: 0.88), suggesting that no single antibiotic was picked more often. The proportion of requests with a travel history listed increased from 0.5% to 11.7% (chi2 201.88 p: <0.0001).
Discussion
By only changing the style of the question we have elicited more information from requesters. This can provide further information to clinicians in the post analytical phase of blood culture processing. Our Biomedical scientists have implemented the changes to the travel question for all sample types.
Conclusion
Forced choice questions is an easy method of increasing information transfer.

48: Verification of the Serosep Entericbio® CPE Assay for Detecting GES and Other Carbapenemase genes

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Introduction and Aims
The latest framework of actions to contain carbapenemase-producing Enterobacterales (CPE) increases the demand to screen patients for CPE. Culture-based methods are not able to meet this demand in large centres. Molecular CPE screening methods can offer increased capacity and reduced turnaround times. We aimed to verify the use of Serosep Entericbio® CPE PCR assay for detection of NDM, KPC, OXA-48-like, VIM, IMP and GES carbapenemases. Our centre has a unique GES carbapenemase population. This unique organism library provided a more comprehensive evaluation of the GES primers when compared to the manufacturer's validation and previous works.

Methods
The performance of Serosep Entericbio® CPE PCR was compared to use of CHROMID® CARBA SMART in conjunction with Cepheid GeneXpert® Carba-R. In total, 59 isolates and 211 rectal swabs were evaluated, including 21 GES positive samples.

Results
The assay demonstrated a sensitivity of 100% sensitivity and 90% specificity. The assay falsely detected a Pseudomonas aeruginosa producing GES-4 ESBL as a carbapenemase. We established the assay cannot distinguish between GES ESBL variants and that of carbapenemase producers.

Conclusions
When implementing the Serosep Entericbio® CPE assay users should be aware of the limitations. We have highlighted the need to confirm GES targets to be carbapenemases variants. Ultimately, Serosep Entericbio® CPE PCR offers a rapid, high-throughput, sensitive assay for the screening of CPE. When compared to culture alone, the assay had improved sensitivity providing greater reassurance to the screening pathway.

89: Risk stratification for Invasive Candidiasis: Diagnostic performance of BDG and Candida risk score in the ICU

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Background
Serum 1,3-beta-D-glucan (BDG) and Candida risk scores (CRS) aid risk stratification for invasive Candidiasis (IC) in intensive care unit (ICU) patients but are limited by low positive predictive values (PPV) 1-4. We assessed the diagnostic performance of combining BDG with a local CRS for IC diagnosis.

Methods
ICU patients prescribed empirical antifungal therapy between October 2022 and October 2024 were identified via the hospital's informatics team. A local CRS assigned points for unexplained systemic infection, prolonged antibiotic use, host risk factors, and multifocal Candida colonisation; scores ≥3 were considered positive. Proven IC was defined by positive sterile site cultures. Data were analysed using R software.

Results
88 patients were included (median age 59) and 14 patients were ultimately diagnosed with IC. BDG had a sensitivity of 78.6% (95% CI 57%–100%), specificity of 77.0% (95% CI 67%–87%), PPV 39.3% (95% CI 21%–57%) and NPV 95.0% (95% CI 89%–100%) for proven IC. Combining a positive BDG and positive CRS greatly improved sensitivity for proven IC from 78.6% to 100% (95% CI 100%–100%) and PPV from 39.3% to 83.3% (95% CI 74%–100%), whilst maintaining a high specificity of 96.4% (95% CI 92%–100%) and NPV of 100% (95% CI 100%–100%) when both tests are negative.

Conclusion
Combining BDG with a local CRS substantially improves diagnostic performance. This may enhance risk stratification for invasive Candidiasis in critically ill patients and could ultimately aid early initiation of empirical antifungal therapy.

97: Feasibility of long-read metagenomic sequencing, using Oxford Nanopore Technology, to support diagnosis and management of urinary tract infection in older adults: preliminary data

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Background:
In 2022/23, urinary tract infections (UTIs) led to 147,285 hospital admissions in England, with adults aged 80-84 years representing most cases. Standard diagnostics (urine microscopy, culture, and sensitivity — MC&S) can take up to 72 hours, prolonging hospital stays and delaying targeted antimicrobials. Often, no causative pathogen is identified. Long-read metagenomic sequencing (MGS) using Oxford Nanopore Technology (ONT) offers a rapid, culture-free alternative, generating comprehensive DNA data directly from urine for faster pathogen identification and antimicrobial resistance (AMR) gene mapping. However, high rates of asymptomatic bacteriuria in older adults may make interpretation of MGS results more challenging. We aimed to assess the feasibility of conducting long-read MGS on older hospitalised patients with and without a UTI.
Methods:
With HRA ethical approval, we recruited nine hospitalised patients over 80 years old with UTIs confirmed by standard tests at Norfolk and Norwich University Hospital. Each provided a mid-stream urine sample used to develop a protocol for bacterial DNA extraction. One UTI case and one control (hospitalised, over 80, no UTI) then underwent long-read MGS using the ONT MinION platform.
Results:
The protocol generated high-quality metagenomic data. The UTI case produced 16.15Gb of data with an N50 read length of 8.43kb, sufficient for reliable pathogen identification and AMR gene mapping. The highest proportion of reads were assigned to Escherichia coli, consistent with culture results. The control sample generated far fewer reads, reflecting low bacterial load seen on culture. We are now expanding this work by sequencing 20 UTI cases and 20 controls.

105: A 20-Year Review of 16S PCR on the management of patients with pyogenic central nervous system (CNS) infections

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[1]NHS Lothian

Background: Pyogenic CNS infections have high mortality and significant complications, despite available antimicrobial therapy and surgical interventions. Empiric antibiotic therapy is often initiated before sampling. With over 147 bacterial taxa reported including fastidious organisms, culture-based methods cannot always detect organisms, necessitating molecular methods. This study evaluates the value of broad range 16S PCR and targeted PCR in diagnosing pyogenic CNS infections and its impact on patient management.
Methods: CNS samples referred for 16S PCR and targeted PCR to external reference laboratories by NHS Lothian Microbiology between June 2002 and July 2022 were reviewed. We compared the diagnostic performance of 16S PCR with targeted PCR and culture, assessed turnaround times, and evaluated changes in antimicrobial therapy as a result of these tests.
Results: A total of 236 samples from patients with suspected or confirmed pyogenic CNS infections were referred for testing. Of these, 16S PCR was performed on 166 samples (70.3%), yielding a positivity rate of 40.4% (67/166). Agreement between 16S PCR and targeted PCR was high (88.7%, [102/115]), while agreement with culture was lower (56%, [93/166]). 16S PCR identified organisms in culture-negative samples in 27.2% of patients (28/103), and 20 patients had discordant results between culture and 16S PCR. Antibiotic regimens were adjusted in eight cases, typically to target unusual pathogens or narrow antibiotic coverage.
Conclusion: 16S PCR is a valuable diagnostic tool for detecting bacteria in pyogenic CNS infections, especially when culture results are negative. Reducing turnaround times would enhance its clinical utility by enabling earlier, targeted antimicrobial therapy.

140: Optimising diagnostics for acute respiratory infection (ARI): swapping 'PCR' for 'POC' in the emergency department (ED). Faster. Smarter. Cheaper.

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Background:
Point-of-care (POC) antigen testing for acute respiratory infection (ARI) offers an alternative to polymerase-chain-reaction (PCR) with established diagnostic accuracy and faster turn-around-times at lower cost. North Middlesex University Hospital, London, fields 180,000 new ED patient attendances per year and processed 5437 rapid-PCR tests in 2024. Our aim was to transition to POC as the primary diagnostic modality for adults during peak influenza season.

Methods:
We introduced a new diagnostic algorithm at pace in January 2025 recommending adults, presenting with ARI, be screened with the LumiraDx SARS-CoV-2/Flu A/B platform. Full IT connectivity to the Laboratory Information Management Systems (LIMS) and Electronic Patient Record (EPR) was already in place. The project was operationally managed with dedicated resources over the implementation period. Testing modalities were monitored and cost-efficiencies calculated.

Results:
Between 7th January and 25th May 2025, 2133 LumiraDx tests were performed, of which 216 were positive. Within 1 week of intervention, LumiraDx became the primary testing modality for ARI in ED. Using a comparable pre-intervention period, approximate cost savings of £200,000 were realised.

Conclusion:
Rapid roll-out of LumiraDx is feasible when supported by IT interconnectivity with strong clinical and operational engagement. Potential benefits include optimised patient flow, management and treatment pathways, including impact on 'decision to admit' and real-time infection control actions. Significant cost-saving was achieved. Continued review of diagnostic accuracy and a better understanding of behavioural factors affecting algorithm adherence, is planned.

145: How should we use TB PCR in the diagnosis of tuberculous meningitis? An audit of practice in East London

Daniel Pope[1], **Dr Georgia Lamb**[1], Dr David Ball[1], Dr Ximena Gonzalo[1], Dr Jonathan Lambourne[1], Dr Sakib Rokadiya[1,2]
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Tuberculous meningitis (TBM) is associated with high mortality and morbidity and is challenging to diagnose. WHO recommends CSF PCR, a rapid and more sensitive diagnostic tool than culture, as the first-line test for patients with suspected TBM.

An audit of CSF TB PCR use in an NHS trust serving one of the highest TB incidences in Europe was undertaken from August 2017 to September 2023.

100 CSF samples were sent for TB PCR from 92 patients. 35 patients were treated for TBM, of whom 8 (23%) had microbiological confirmation. 0/14 samples tested with Xpert were PCR-positive; 1/14 was culture-positive. 7/86 samples tested with Xpert-Ultra were PCR-positive; 5/86 were culture-positive (all concordant with PCR).

Overall, 8.0% (95/1,248) of CSF samples sent for TB culture were also sent for TB PCR. Five samples were sent for PCR but not culture. 38% of CSF samples sent for culture were in cases with no clinical suspicion of TBM.

Higher CSF volumes increase culture and PCR sensitivity and Xpert-Ultra's manufacturer recommends a 2ml minimum sample volume. One-third of samples in our cohort were ≥2ml. Strikingly, 5/7 PCR-positive samples were <2ml.

Despite WHO endorsement and widespread adoption of TB PCR in low-income settings, we demonstrate under-utilisation of CSF TB PCR. Whilst our data suggest that Xpert-Ultra can detect TB in low-volume samples, the sensitivity of TB PCR in this cohort may be underestimated given the high proportion of <2ml samples. Education is needed to encourage appropriate utilisation of TB PCR, and optimise samples for TBM diagnostics.

166: Evaluation of the Human PVL Rapid Test (Senova Immunoassay Systems, Germany) and the Clearview PBP2a kit (Abbott, USA) as a rapid dual screening test for Staphylococcus aureus to determine PVL and methicillin-resistant status

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[1]Airedale Nhs Foundation Trust

Panton-Valentine Leucocidin (PVL) is an important virulence factor produced by some strains of Staphylococcus aureus (SA). The toxin leads to the formation of pores in the membrane of white blood cells, leading to cell death and tissue necrosis. PVL can be present in both methicillin-resistant SA (MRSA) and methicillin-sensitive SA (MSSA), and each require different antibiotics to treat. Current diagnostic testing at Airedale and Bradford hospitals involves sending suspected PVL SA isolates to the UKHSA reference laboratory for PCR, which can take days to weeks for results. A rapid in vitro test is needed to speed up diagnosis to enable better patient outcomes. The Senova Human PVL Rapid Test and the Clearview PBP2a test were evaluated together to form a dual rapid screening test (both within 30 minutes) for PVL and methicillin-resistant status. Control strains [ATCC-43300 (PVL-negative SA), BAA-1747 (PVL-positive SA), NCTC-12493 (MRSA), ATCC-29213 (MSSA)], 40 SA isolates from UKHSA (10 PVL-positive MRSA, 10 PVL-positive MSSA, 10 PVL-negative MRSA, 10 PVL-negative MSSA), and 38 patient SA isolates with unknown PVL status from deep-seated infections were tested. For the control strains and 40 UKHSA isolates, all results returned by the two testing kits came back concordant with the expected phenotypes. Of the 38 patient isolates, there were 5 positive PVL results (3 MSSA, 2 MRSA). 3 were confirmed PVL-positive by UKHSA and 2 results are pending. A rapid dual screening test for PVL and methicillin-resistant status on SA isolated from deep-seated infections can improve turnaround times and antibiotic treatment choices.

179: Systematic review of dried blood spot (DBS) testing for human immunodeficiency virus (HIV), Hepatitis B (HBV), Hepatitis C (HCV) and Tuberculosis (TB) diagnosis in community settings worldwide

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Background:
Dried blood spot (DBS) testing is a minimally invasive, validated point-of-care technology for HIV, HBV and HCV diagnosis, with emerging potential for TB detection via IP-10 biomarkers. This systematic review evaluates DBS use in non-traditional settings, with emphasis on target population, implementation settings and linkage to care.
Methods:
PsychINFO, EMBASE, BNI, Medline, CINAHL, HMIC, HBE and AMED were searched for studies reporting DBS-based diagnosis of HIV, HBV, HCV or TB in community settings. Extracted outcomes included testing rate, infection yield, and linkage-to-care data (referral/attendance).
Results:
33 studies, encompassing 28,128 samples, were included. No studies assessed community TB screening. Target populations included people with drug misuse backgrounds (37.0%), sexual risk groups (18.7%), ethnic minorities (12.4%), infection contacts (0.1%) and undefined-risk online users (31.9%). Testing was conducted in pharmacy (11.7%), outreach (50.0%) and home (38.3%) settings. HCV was most commonly tested (71.4%), followed by HBV (47.8%) and HIV (40.9%). Combination testing occurred in 49.1%, with triple testing (11.8%) exclusively undertaken in drug misuse populations, who showed the highest positivity rates (HIV 13.7%, HBV 15.9%, HCV 43.9%). Confirmatory testing was often missing for HBcAb-positive (76.1%) and HCV Ab-positive cases (86.6%). Linkage-to-care data were inconsistently reported. Where available, follow-up attendance ranged from 63.8–100% in pharmacies, 57.4–58.3% in outreach, and 13.3–100% in home testing settings.
Discussion:
DBS testing has potential to enhance infection screening and access to care for underserved populations. Pharmacies and home testing show promise as non-traditional settings for DBS use. Priorities include TB biomarker validation, confirmatory testing, and improved linkage-to-care reporting.

204: Clinical Impact of a Multiplex PCR Assay for Diagnosing Joint Infections

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Background and Aim:
The BioFire® Joint Infection Panel (the Panel) targets 31 pathogens and eight resistance markers by multiplex PCR for the diagnosis of septic arthritis (SA) and periprosthetic joint infections (PJI). However, it lacks targets for certain pathogens.
We assessed the clinical impact of the Panel to determine its place in the diagnostic pathway of joint infections.
Materials and Methods:
Synovial fluids of consecutive patients meeting pre-defined diagnostic criteria for joint infections were tested by the Panel in addition to standard procedure (culture and 16S PCR) over a year. Clinical impact was measured by time to focusing treatment and source control, and at 90 days: relapse, acquisition of multidrug-resistant organisms (MDROs) and/or Clostridioides difficile infection (CDI), and all-cause mortality.
Results:
Fifty-seven samples from 53 patients were tested (28 positive, 28 negative, 1 invalid; 38 SA and 15 PJI). Positive and negative percent agreements with composite reference standard of culture, 16S PCR and clinical diagnosis were 79% and 96% (SA: 70% and 95%; PJI: 93% and 100%) respectively. Only the Panel yielded an aetiological diagnosis in five cases and identified mixed aetiologies in further two (one confirmed by culture).
Median time to focusing treatment was 2d (range: 2.5h-30d). Twenty-six underwent surgical source control, median time to this being 72h (range: 4h-30d). At 90 days, no cases relapsed or acquired MDRO/CDI, and all-cause mortality was 5.7%.
Conclusions:
Used in conjunction with culture in cases with high pre-test probability of joint infection, the Panel enabled quick focusing of treatment and source control.

253: A personalised risk predictor for bacteraemia to target additional blood culture sampling

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Introduction

The yield of blood culture for bacteraemia is low despite modern techniques, necessitating repeated sampling to improve diagnostic sensitivity, which in turn challenges our local laboratory capacity. A predictive model for bacteraemia could help target repeat sampling.

Methods

In this single-centre service evaluation, all unique patient care episodes with blood culture samples taken within 72 hours of emergency admission over a 5-year period (2019-2024) were included (n= 43,560). Bacteraemia was defined by isolation of specified pathological bacteria in any blood culture during the episode. We developed and validated a logistic regression model in non-neutropenic patients to predict bacteraemia, using internal-external cross-validation to evaluate performance across time points within the development cohort, before validation in held-out data.

Results

Bacteraemia was diagnosed in 4.9% of patients. Blood culture yield was 5.1% (2,666 of 52,782). Yield increased with the number of cultures taken: 4.6% with a single culture, 6.6% with two and 7.6% with three cultures.

In the development cohort (n=37,675), twelve variables were selected into the model: age, systolic and diastolic blood pressure, pulse, temperature, oxygen saturation, haemoglobin, platelet, neutrophil and lymphocyte count, urea and c-reactive protein. In held-out validation data (n=2,593), the model demonstrated good discrimination (area-under-the-receiver-operator-characteristic curve (AUROC) 0.82 (95%CI 0.77-0.87), calibration slope (1.00 (95%CI 0.78-1.22)) and calibration-in-the-large (0.00 (95%CI -0.25-0.25)). In patients with a confirmed bacteraemia but negative first blood culture, the AUROC was 0.73 (95%CI 0.66-0.80).

Conclusions

The model has good predictive accuracy for bacteraemia in our setting and shows promise for targeting our blood culture sampling.

278: Implementing a novel Lateral Flow Device based system for triple lateral flow testing to improve patient management and alleviate winter pressures

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Introduction:
Like many acute trusts, we experience a significant increase in patients presenting with respiratory infections each winter. Post-COVID, there has been reduced use of single lateral flow devices and greater reliance on PCR testing for influenza, COVID-19, and RSV. This approach adds time and cost to diagnosis, delaying appropriate isolation and increasing the risk of cross-transmission.
Methods:
To address this, we introduced the Sterilab ComboResp 4-in-1 lateral flow test across the trust. This point-of-care device detects influenza A, influenza B, COVID-19, and RSV from a single sample.
Results:
The new lateral flow test was validated in-house using legacy samples from the paediatric department. Results showed 100% concordance with PCR-positive cases, and an overall specificity of 81.25%.
Discussion:
The introduction of this rapid, multi-pathogen test improved early identification of respiratory infections in the emergency department and on inpatient wards. Prompt detection enabled faster isolation decisions and reduced reliance on costly and time-consuming PCR testing. At £3–£5 per lateral flow test compared to £45–£70 for PCR, depending on the platform used, the potential cost savings are significant, alongside the added benefit of improved patient flow and reduced nosocomial transmission.

290:Ultra-Rapid Low Cost Phenotypic Antimicrobial Susceptibility Testing – Preliminary Results from UK Pivotal Clinical Study

Dr Toby King
[1]Ifast

Impedance-based AST (iFAST®)1 determines antibiotic susceptibility by analysing the electrical properties of thousands of individual bacteria at high speed. The method mirrors traditional liquid-based ASTs, but only requires a short antibiotic exposure step. The electrical properties of bacteria exposed to antibiotics change rapidly and significantly for susceptible organisms. Samples are incubated at the breakpoint concentrations of antibiotics for two hours and the electrical properties measured for 30 seconds in an automated reader. No labels or expensive reagents are needed. This enables same day prescribing of targeted antimicrobial therapy. The preliminary data analysis from the pivotal UK regulatory study will be presented, prior to UK launch at the end of 2025.

Method: Blood bottles containing both clinical samples and spiked with a range of Gram-negative bacteria were processed with the Sepsityper protocol (Bruker Daltronics), across three clinical sites, then exposed to EUCAST breakpoint concentrations of 16 frontline antibiotics, for 2 hours. Following incubation, each sample was measured in an iFAST automated reader. The results were compared with triplicate broth microdilution, in accordance with ISO 20776, for both qualitative (SIR) and quantitative (MIC) assessments. Reproducibility testing was also performed by testing 10 different strains, each in triplicate, at each site.

Results: Results from a total of 420 Gram-negative organisms will be presented, across 7 species, selected for a range of resistance and susceptibility. We will present the sensitivity and specificity and time to result in addition to reproducibility, for the first time globally. We will also discuss cost per test and throughput.

309: Pituitary and Pulmonary Lesions Mimicking Tuberculosis: An Unusual Case of Granulomatosis with Polyangiitis

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Granulomatosis with polyangiitis (GPA) is a rare multisystem autoimmune vasculitis that can closely mimic tuberculosis (TB), particularly in endemic populations. We report an unusual case of GPA presenting with features strongly suggestive of TB, resulting in diagnostic uncertainty and treatment delay.

A 23-year-old woman of Indian ethnicity presented with severe unilateral headaches, haemoptysis, weight loss, and night sweats. The MRI brain showed a mixed cystic-solid pituitary lesion with suprasellar extension, whereas the chest imaging indicated a cavitating pulmonary lesion. The combination of systemic symptoms, pituitary tumour, and lung cavitation raised strong concern for disseminated TB, thus the patient began antituberculosis treatment and corticosteroids. Despite this, sputum samples, bronchoalveolar lavage, cerebrospinal fluid analysis, and mycobacterial cultures all were negative.

A multidisciplinary review highlighted several key features: The presentation was uncommon for GPA, with pituitary involvement similar to macroadenoma or tuberculoma; repeated negative TB microbiology made infection less likely; and positive PR3-ANCA resulted in the diagnosis of vasculitis. Following transsphenoidal resection of the pituitary lesion, histopathology excluded infection. A final diagnosis of GPA was made, TB treatment was discontinued, and the patient was commenced on cyclophosphamide under rheumatology care.

This case illustrates the diagnostic overlap between GPA and TB, particularly when pituitary and pulmonary lesions coexist. Clinicians should maintain a high index of suspicion for vasculitis in atypical or microbiologically unconfirmed TB presentations to avoid delays in initiating life-saving immunosuppressive therapy.

312: Point-of-care testing improves antibiotic targeting in children and adults with sore throat: analysis of 75,975 patients accessing the Wales Sore Throat Test and Treat (STTT) pharmacy service

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Background:
Point-of-care tests for Group A Streptococcus (GAS) are embedded in community pharmacy sore throat services in Wales and Northern Ireland, but not yet adopted in England. NICE recommends clinical prediction rules (CPRs) to guide prescribing, but their performance in differentiating viral from streptococcal aetiology, particularly in children, is of concern. This study presents the first age-stratified validation of FeverPAIN and Centor CPRs, alongside an evaluation of rapid antigen detection tests (RADTs).

Methods:
Retrospective analysis of patients ≥6 years attending the Welsh Sore Throat Test and Treat service (2019-2024). Diagnostic accuracy of FeverPAIN and Centor was assessed against RADT results using Area Under Receiver Operating Characteristic (AUROC) curves.

Results:
One third of RADTs used in STTT consultations (26,946/75,975; 35.5%) were GAS-positive. Highest prevalence was in children aged 6-10 years (45.8%), peaking at ~60% for age 6-10 years during the 2022 GAS surge.

Using FeverPAIN ≥4 alone to direct prescribing would have missed ~50% of GAS-positive patients, while ~23% GAS-negative patients would have been inappropriately prescribed antibiotics. Children aged 6-10 years would have been at high risk of under-treatment (~46%), whereas adults were more likely to be overprescribed antibiotics (~25%). Overall discrimination of CPRs was limited (AUROC 0.64 Centor; 0.72 FeverPAIN), with poorest FeverPAIN diagnostic performance observed in children (AUROC 0.70).

Conclusion:
CPRs perform poorly in identifying GAS across age groups. Wider adoption of RADTs in England could reduce inappropriate prescribing, improve antibiotic targeting, and reduce transmission of potentially life-threatening infections.

328: Candiduria in Candidaemia: Signal or Noise?

Kirsty Harvey[1], Doctor Vanessa Wong[1]
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Background:
Candiduria is common, but its clinical significance in relation to candidaemia remains uncertain. The Sysmex UF-5000 urine analyser automatically reports yeast-like cells, creating an opportunity to examine whether quantitative yeast counts are meaningful in candidaemia.

Methods:
Candidemia episodes (first-positive blood culture within 30 days) between 06/2024-08/2025 and the nearest urine before/after were identified. Sysmex UF-5000 urinary parameters extracted included white and red cell counts, epithelial cells, casts, yeast and bacterial counts, and culture. A comparative analysis was performed with eight culture-positive urines.

Results:
Thirty-one candidaemia episodes were included. Urine was cultured in 27/31 (87%), with Candida growth in 3/27 (11%). Median yeast counts varied by source: urinary (3.0/ul), line-associated (21.2/ul), intra-abdominal (889.1/ul), unclear (2206.8/ul), hepatobiliary (1.8/ul). Higher counts (>103/ul) were observed across urinary and non-urinary sources. Sysmex yeast detection exceeded culture sensitivity: urines with many yeast-like cells yielded “no significant growth”. Collection times of the urine varied: 7/31 (23%) samples preceded candidaemia (up to 9 days earlier), 11/31 (35%) were same day, and 13/31 (42%) (up to 12 days later). Comparator urines all detected yeast, including cases with bacteria (E.coli, Enterococcus). Two comparator urines grew C.albicans with high counts.

Conclusion:
Automated yeast detection in urine is common in candidaemia but lacks specificity for urinary source, with high counts also observed in bacterial infections. Candiduria occasionally preceded candidaemia, suggesting possible early warning in some cases. Comparator samples reinforce the sensitivity but non-specificity of Sysmex yeast detection. More work is required to define its diagnostic utility in candidaemia.

Education and training

54: Educate them early; Antimicrobial Stewardship In Schools

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Background:
Antimicrobial Resistance is a growing threat to public health globally. The UKHSA national action plan recommends a focus on public engagement and education on the risk of exposure to antimicrobials.

Objectives:
Establishment of a pilot programme of antimicrobial education for primary school children in Aberdeen, taught by medical and post-graduate students from the University of Aberdeen.

Methods:
A one hour in person training session was provided to University students. E-bug was used as a lesson plan. Schools from within the local catchment area of the highest prescribing GP practices were targeted. £1000 Funding was received from the University of Aberdeen Development Trust Student Fund, to provide lesson resources, and branded uniform.

Results:
17 volunteers were trained, and 12 went on to complete visits. 5 primary schools and one secondary school were visited. 12 classes across the schools were taught, reaching approximately 300 pupils. Volunteers enjoyed the sessions and found them useful and rewarding. School teachers found the lessons informative and enjoyable for the pupils, and volunteers would be welcomed again.

Conclusions:
Using the e-bug resource is relatively easy, straightforward and enjoyable to both teachers and pupils. Community outreach led by NHS antimicrobial teams is feasible, and incorporating medical students to provide the teaching is a success. The pilot is set to continue in future years.

81: Don, Doff, Deliver – Lessons from implementing new HCID assessment PPE in NHS Lothian

Jan Engel-Morton[1], Dr Sarah Clifford[2], Dr Callum Mutch[2], Ms Michelle Wiseman[2], Dr Oliver Koch[2]
[1]Medical Education Directorate, [2]Regional Infectious Diseases Unit

Background

NHS Lothian's Regional Infectious Diseases Unit (RIDU) adopted new High-Consequence Infectious Diseases (HCID) assessment Personal Protective Equipment (PPE) guidelines in May 2025, based on recommendations from HCID Training UK. This replaced previously utilised PPE and necessitated the fast upskilling of a large cohort of staff. This poster reports on the local implementation of new HCID assessment PPE, including challenges and learning points.

Methodology

From May 2025 onwards, nursing and medical teams were trained in safe donning, doffing and sampling using the HCID Training UK protocols. Simulation-based Mastery Learning (SBML) methodology has been shown to be effective in HCID-PPE teaching and was utilised during sessions in the hospital's simulation suite. Pre- and post-course surveys were used to gather qualitative and quantitative feedback on the sessions, in addition to informal discussions with participants after each session.

Results

Feedback from the RIDU medical and nursing staff on teaching sessions indicates that learners felt confident with the PPE changes after SBML teaching sessions. Learners noted that fewer steps and items in the protocol increased their confidence in donning and doffing safely. Key challenges related to quickly upskilling a large cohort of learners. Steps of the new protocol with which learners struggled were successfully addressed through deliberate practice according to SBML principles. Body type-specific considerations emerged with the new PPE, highlighting challenges in maintaining the safety-critical integrity of PPE while ensuring equity and inclusion in the workplace.

Conclusion

New HCID assessment PPE was effectively implemented in NHS Lothian using SBML, highlighting important learner-specific considerations.

88: Utilising innovative methods of education and training to deliver teaching on antimicrobial stewardship: a quality improvement approach

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[1]Imperial College Healthcare NHS Trust

Background

Education and training forms a fundamental pillar of antimicrobial stewardship (AMS) programmes. A review on AMS educational delivery was undertaken at our institution. The objective was to develop a dynamic and innovative teaching programme to help standardise information and ensure greater awareness and accessibility to AMS principles. One of the quality improvement project's aim was to determine how effective a new in-house video would be and understand its wider application.

Methods

A 20 minute bespoke video was piloted in pharmacy to support routine training. Following positive feedback and to facilitate wider organisational uptake, the video was hosted on the hospital's digital learning platform and promoted through various forums. Viewers were requested to score the video on a feedback form with 9 questions, incorporating a 5-point Likert scale.

Results

Between June 2024-May 2025, 97 healthcare professionals accessed the video. 71% (69/97) subsequently completed the feedback form. The results from the feedback form demonstrated 64% (44/69) of viewings were non-mandatory (25 hours of additional unplanned education). Nurses were identified to be the second highest viewers (36%, 25/69), behind pharmacists (38%, 26/97).

Results showed baseline AMS knowledge was rated 3/5, and improved to 5/5 after the content was viewed.

Conclusion

The bespoke video is an effective intervention tool to improve areas of poor AMS practice. It provides several benefits, such as saving time on routine delivery of AMS education and allowing focus on targeted face-to-face teaching, greater accessibility, completion certification for managers, and the opportunity to refresh knowledge at any given time.

156: Quality improvement project (QIP) investigating the impact of teaching interventions on the incidence of endotracheal tube-induced pressure ulcers (ETT PUs)

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Introduction
Previous audits in hospitals across England have revealed that ETT PUs caused by ETT fasteners over the lips and mouth-adjacent skin are underreported and persistent within the critical care area (CCA). Effective education of ward staff is critical to the reduction in incidence of these highly preventable PUs. We aimed to create teaching interventions and evaluate their impact on the incidence of ETT PUs at our trust.

Methods
During the first audit cycle, we conducted 3 weeks of on-ward teaching for doctors and nurses, explaining methods of using gauze to prevent ETT PUs. The second audit cycle comprised presentation of the teaching at the CCA mortality and morbidity meeting and newsletter to capture the remaining staff members who were not reached during the first cycle. Weekly prevalence of reported ETT PUs in the CCA was documented in the weeks before, after and during interventions.

Results
During the intervention period of the first cycle, 116 CCA doctors and nurses received on-ward teaching, which resulted in a rise of up to 5% above baseline ETT PUs reported, reflecting raised awareness. However, this rise was followed by a marked decrease in the weeks after, reflecting a decreased incidence of PUs (0% following an initial peak of 7.32%). This decrease was sustained following the second intervention.

Conclusion
We saw an overall reduction in the prevalence of ETTPUs. This highlights the importance of repeated educational interventions in the background of high staff turnover, which should be applied more widely in the prevention of PUs.

171: Culturing Education in Microbiology

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Objectives:
The microbiology department in Aberdeen Royal Infirmary recognised a gap in the training needs of biomedical scientists, medical microbiology trainees, and clinical scientists. The department proposed implementing a weekly 'bench round' education session to combat this.

Methods:
A specialty registrar and senior BMS training led on implementing the new education session, on a trial basis, with informal feedback requested. The sessions were planned once weekly, for 20-30 minutes.

Results:
The department responded positively to the implementation of a new education session. Both biomedical scientists and medical microbiology trainees identified interesting cases and unusual organism growth to bring to the bench round. Between 10-20 staff members attend the education session on a weekly basis, and the programme has now been running consistently for six months.

Discussion
Informal feedback has been overwhelmingly positive. Medical trainees felt the sessions useful for FRCPath exam revision, and biomedical scientists found their work more rewarding knowing the clinical impact it had. Initial issues arose with finding a suitable time to fit the work load, and ensuring it did not impact on the work flow, but the short nature of the sessions and once weekly frequency allowed everyone to attend without issue.

Conclusion
The implementation of a short bench round to discuss cases not only increases education opportunities and meets training needs of the multi-disciplinary microbiological team, but also has hidden benefits of improving job satisfaction, enhancing communication between laboratory and medical staff, and identifying areas of improvement within the laboratory (such as work flow processes).

250: Going fungal: a medical mycology podcast series aimed at UK clinicians

Dr. Alyssa Hudson[1,4], Dr Callum Mutch[2,4], Dr Jame McCrae[3,4], Professor Malcolm Richardson[5]
[1]Royal Devon University Hospital NHS Foundation Trust, [2]Department of Medical Microbiology, NHS Lothian, [3]Department of Infectious Diseases, NHS Forth Valley, [4]ID:IOTs podcast, [5]British Society of

Medical Mycology

The impact of fungal disease on human health is huge, yet medical mycology is often under-represented in UK infection training. Infectious diseases (ID) podcasts are growing in number and popularity, as a convenient and accessible way to access a diverse range of topics. Infectious Disease Insight of Two Specialists (ID:IOTs), the UKs first ID podcast, is releasing a mycology series of episodes.

Objectives:

To raise awareness of fungal infection and promote education in medical mycology and among UK clinicians, ID:IOTs has collaborated with the British Society of Medical Mycology to produce a mycology series of podcast episodes.

Methods:

A comprehensive programme of episodes has been curated to cover key fungal pathogens, diagnostics and treatments. Recordings feature expert guest speakers from across the UK.

Results:

6 mycology episodes were released throughout March, April and May 2025. Topics included an introduction to fungal infection (1), fungal diagnostics (2) and Candida (3). To date there have been a total of 13,150 downloads with an average of 2192 downloads per episode (range 1874-2421). The majority of listeners are from Europe (48%), followed by North America (31%), Oceania (10%), Asia (6%) and the remainder from Africa and South America. A further 10 have been recorded, for release later this year, and 8 more are planned.

Discussion:

The series is proving popular, both with UK listeners and beyond, and will continue to cover yeasts, including Cryptococcus, Pneumocystis and rare yeast infections, before moving on to moulds, dimorphic fungi and antifungal drugs and novel antifungal agents.

275: Mind The Gap- Improving Blood Culture Fill. A Quality Improvement Project

Kirsten Winterburn[1], Dr Louise Wooster[1], Dr Azhar Tarbhai[2]
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Abstract.
This quality improvement project was developed following an audit into blood culture (BC) volume of fill. Acute Oncology/Haematology service (AOHS) was identified as a key service user.

Background.
AOHS severely underfill BC bottles (average 4ml). Following on from a previous QIP into this process with emergency medicine- could this pathway lead to increased education/awareness and sustained change of practice?

Methods.
Questionnaire developed and distributed
Teaching delivered to both medical and nursing staff.
Tik tok-style video shared.
BC volumes monitored over a prolonged time frame.

Results.
Following teaching, BC fill rates drastically improved to within the 8-10ml target. This has been sustained for all of 2025 so far with an average of 8.1ml respectively.

Discussion.
This QIP has proven effective and sustained practice change has been seen, with an underlying educational element. It was clear from questionnaire and teaching that more support from infection specialists is needed.

Conclusion.
This package can be utilised at induction and an all-Wales infographic highlighting the key principles can be developed and disseminated across all sites within Wales.

286: Strengthening Infection Prevention and Control (IPC) Capacity for Pandemic Preparedness in Indian Tertiary Healthcare Facilities

Vijaydeep Siddharth[1], Dr Charan Raj Mede[2], Dr Narinder Kumar[3], Dr Paavan Gopathoti[1], Dr Tilotma Jamwal[1], Dr Tony Joseph[1], Dr Ranjith Raam Kumarr[1], Dr Kshitija Singh[1], Dr Megha Richariya[1], Dr Ananth Naveen Reddy[1], Dr Kirti Garg[4], Dr Sara Alisha Khan[1], Ms Evangeline Vasanth[1], Ms Betty Maria Banu[1], Dr Abdul Hakim Choudhary[1], Dr Parmeshwar Kumar[1], Dr Hitender Gautam[1], Dr Gagandeep Singh[1], Dr Prem Singh[4], Dr Vineet Kumar Srivastava[4], Dr Somesh Kumar[4], Dr J N Srivastava[5], Dr Sidhartha Satpathy[1], Dr D K Sharma[1]
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Background:
Infection Prevention and Control (IPC) play a critical role in limiting the transmission of infections during pandemics. Recognizing the need for a unified approach, a standardized IPC guidance document tailored to the Indian healthcare context was developed to enhance pandemic preparedness.
Materials and Methods:
From 2022 to 2023, the All India Institute of Medical Sciences (AIIMS), New Delhi, led a national capacity-building initiative under the guidance of the Ministry of Health & Family Welfare, Government of India. A National Expert Advisory Group developed a standardized IPC guidance document and an accompanying training aid, synthesizing current scientific literature and incorporating lessons from the COVID-19 pandemic. A cascade training model was employed to disseminate knowledge and build capacity.
Results:
The guidance document outlines key IPC strategies during pandemics. A comprehensive training aid—including training methodologies, tools, and job aids—was created to support trainers. A one and half day Training of Trainers (ToT) program was designed, consisting of one day of didactic sessions and a half-day of hands-on skill-based training. Using this model, two national ToT programs were conducted for doctors and nursing officers from 31 institutions across 15 states and union territories. These master trainers are now responsible for training healthcare professionals in their respective regions.
Conclusion:
This national capacity-building initiative enhanced pandemic preparedness in India through the development and dissemination of standardized IPC guidance, practical training methodologies, and the implementation of a cascade training approach.

295: Knowledge And Attitude Of Medical Doctors And Chief Medical Officers In The United Arab Emirates About Prescribing Antibiotic Prophylaxis Against Infective Endocarditis

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Background: For invasive dental procedures, antibiotic prophylaxis (AP) is recommended for patients at highest risk of developing infective endocarditis (IE). While numerous studies are focused on dentists, limited research exists on the knowledge and attitude of Chief Medical Officers (CMOs) and Medical Doctors (MDs), who play a key role in healthcare settings. This study aims to assess the knowledge, attitudes, and practices of CMOs and MDs regarding AP for the prevention of IE and explores factors influencing their behavior.
Methods: A cross-sectional survey was conducted using a self-reporting questionnaire with the participation of 16 CMOs and 51 MDs practicing and residing in the United Arab Emirates (UAE). For CMOs, the focus was on assessing the awareness and implementation of relevant clinical guidelines in their institute while for MDs, we assessed their psychological capability, practice and attitudes toward AP for at risk group of IE.
Results: 16 CMOs and 51 MDs participated. Most CMOs (62.5%) indicated that the American Heart Association (AHA) guidelines are implemented in their institutes. While the British Society for Antimicrobial Chemotherapy (BSAC) was most preferred among MDs (41.2%). Most CMOs indicated the need for professional education (87.5%) and expressed that access to local guidelines is limited. MDs demonstrated deficient knowledge on AP (mean score: 38.2%), with no significant association between knowledge and region, qualification, or experience.
Conclusion: The findings show that improved training, continuous education and clear guidelines are essential to enhance AP knowledge and practices among CMOs and MDs.

Environment

9: Lessons learned from implementing water-safe care to control Serratia marcescens acquisition in critically ill adult neurosurgical patients at an acute tertiary hospital in Singapore

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Background
Serratia marcescens (SM) is a known cause of healthcare-associated infections in critically ill and immunocompromised patients. Aquatic environments often serve as reservoirs for outbreaks. Implementing water-safe patient care has proven effective in controlling waterborne pathogens. This paper outlines successful strategies for reducing SM acquisition in adult neurosurgical (NES) critically ill patients through the targeted use of water-safe practices.

Setting and Method
Our NSICU (NES intensive care unit) comprises eight single rooms, while NSICA (NES intermediate care area) has a four-bedded and five-bedded room. Since September 2023, an increase in SM acquisitions among adult NSICU and NSICA patients was observed, despite no identifiable spatial-temporal link. Infection preventive measures were strengthened, including hand hygiene, environmental disinfection, and water-safe care.

Results
Despite interventions, SM cases persisted between January and March 2024, with a median acquisition time of 7 days. Initial environmental sampling showed 17.9% positivity, all from NSICU sinks, prompting their sealing in March 2024. Further investigations found SM on a water dispenser, prompting additional measures in late July 2024, including using boiled water for oral medications and extensive environmental disinfection. These measures reduced SM incidence from 12.8 to 2.9 per 10,000 patient-days though the improvement is statistically insignificant, likely due to the short monitoring period.

Conclusion
Water-safe patient care has been increasingly recognized as an effective strategy for controlling the spread of waterborne pathogens in inpatient settings. This paper emphasizes the need for a holistic approach to implementing water-safe care, particularly in the prevention of SM acquisition among critically ill patients.

124: Environmental Persistence and Clonal Spread of Carbapenemase-Producing Enterobacterales in Hospital Sinks

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Background:
In August 2019, a 600-bed secondary care hospital in South Korea implemented enhanced surveillance and infection control following a hospital-wide outbreak of carbapenemase-producing Enterobacterales (CPE). Despite these efforts, CPE cases continued across multiple wards through 2020–2021, prompting investigation into environmental reservoirs.
Methods:
Three rounds of environmental sampling were conducted in 2021. The first round (February–June) involved 558 samples from 15 wards and 2 ICUs. The second (August) and third (December) rounds included 167 and 55 samples, respectively, from previously contaminated wards. Infection control measures—including daily sink disinfection and drain replacement—began in June 2021. Whole-genome sequencing (WGS) was performed on selected isolates.
Results:
CPE was detected in 5.4% (30/558) of first-round samples from 11 wards and 2 ICUs. Contaminated sites included nurse station sinks (n=19), disposal room sinks (n=5), ICU hemodialysis machines (n=2), patient room sinks (n=3), and one pantry sink. NDM-1 producers (56.7%, n=17) predominated, particularly Enterobacter asburiae (n=13). In the second round, CPE was found at 10 sinks (5.9%) in 7 of 13 sampled wards/ICUs, and in the third round at 3 sinks (5.4%) in 2 of 7 wards/ICU. NDM-1-producing E. asburiae persisted in sinks of oncology and nephrology wards, which shared a plumbing system. WGS revealed that clonal relatedness among seven environmental E. asburiae isolates and a patient isolate from the nephrology ward.
Conclusions:
Hospital sink contamination contributed to prolonged CPE transmission. Persistent colonization by NDM-1-producing E. asburiae despite interventions highlights the need for innovative strategies to eliminate environmental reservoirs.

192: Persistent Environmental Contamination and Clonal Circulation of Pseudomonas aeruginosa Demonstrated by Whole-Genome-Sequencing Reveals Complex Transmission Dynamics and Unrecognised Reservoirs in a Hospital Ward

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Background
Pseudomonas aeruginosa (PA) is a prevalent opportunistic pathogen with healthcare water systems serving as a persistent source of contamination. UK guidelines (HTM-04-01) require bi-annual monitoring; however, PA contamination continues to emerge and disseminate.

Methods
Environmental surveillance was conducted in a six-bedded augmented-care ward where point-of-use (POU) filter barriers were in-situ. Twenty-nine PA isolates were recovered from potable waters, drain, air, and fomites (e.g. keyboard) between 2019-2024.
The isolates underwent short-read whole-genome-sequencing with a 2x150 paired-end configuration, targeting 100x depth (Illumina NovaSeq_Xplus; GENEWIZ GmbH) and analysed using the IDEM bioinformatics platform (Genpax technologies).

Results
Genomic analysis revealed eight distinct genetic clusters, indicating considerable diversity.
Concurrent longitudinal surveillance demonstrated increasing PA contamination levels in water, escalating from low-level detections in 2019 to very high-level contamination by 2023.
A PA isolated from air (Dec 2024) was highly related (5 Single Nucleotide Variant difference) to a water isolate from 2019, suggesting potential long-term persistence or transmission from unrecognised reservoirs even where POU-barriers are in-situ. However, 2024 water and drain isolates were genetically distinct from the concurrent air sample, and no water contamination was found proximal to the air sampling location at the time indicating alternative modes of aerial dissemination.

Conclusions
These results highlight the complex and dynamic nature of PA in the healthcare-built environment, including the sporadic detection of related strains across different years and environmental sources even with POU filters in place. Advanced molecular surveillance and environmental trend analysis is crucial to monitor transmission pathways and support infection control in critical care.

284: Impact of Water, Sanitation, and Hygiene (WASH) on the Health of Elementary School Children in Sharg Elnile, Khartoum, Sudan (2019–2020)

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Background
Access to safe water, sanitation, and hygiene (WASH) reduces waterborne diseases, improves child health, and decreases time burdens for families. Data on WASH-related practices and health outcomes among school-aged children in Sudan remain limited.
Methods
A cross-sectional study was conducted in two girls' schools in Sharg al Nile, Khartoum (urban and rural settings). Stratified random sampling yielded 479 participants (366 urban, 113 rural). Data were analyzed using SPSS with descriptive statistics and chi-square tests at a 5% significance level.
Results
Rural students reported higher use of school latrines and higher rates of open defecation compared to urban peers. The prevalence of reported infections included: typhoid (4.8%), dysentery (5.5%), cholera (0.6%), malaria (23.5%), urinary tract infection (1.9%), trachoma (0.2%), and other infections, including respiratory disease (17.1%). No significant associations were found between handwashing practices (before eating, after toilet use) and disease occurrence.
Conclusion
The study highlights gaps in health knowledge and the persistence of preventable infections among schoolgirls in Khartoum, linked to unsafe water, poor sanitation, and hygiene practices.
Recommendations
Targeted WASH interventions are needed, including provision of functional latrines, improved waste disposal, and regular health education on hand hygiene and safe water use. Future studies should evaluate sustainable approaches beyond soap distribution, including water quality and sanitation infrastructure interventions.

Fungal infections

17: An unwanted souvenir: case report of delayed diagnosis of a coccidioidomycosis prosthetic joint infection

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Background
Coccidioides spp. are dimorphic fungi found in arid regions of the Americas that cause coccidioidomycosis.. Although the majority of infections are mild or sub-clinical, disseminated coccidioidomycosis can occur, typically affecting immunocompromised individuals. This report describes a decades-long undiagnosed case of disseminated coccidioidomycosis.

Case report
A retired Caucasian female presented to the A&E Department of a UK hospital with fever, chills, vomiting, and joint pain. On examination she was febrile and hypotensive, with a clear chest and unremarkable cardiovascular and abdominal exams. Her past medical history was extensive, involving rheumatoid arthritis and sarcoidosis (treated with a range of immunosuppressive agents), and knee swelling and pain, that persisted after a unilateral total knee replacement.

During the most recent presentation, a range of microbiology samples were collected, including a knee aspirate (inoculated into a blood culture bottle). A fungus was isolated which was later identified as Coccidioides immitis. The patient received dual-antifungal therapy and remains on lifelong suppressive fluconazole (alongside steroids), under regular follow up.

Conclusion
Despite extensive travel to endemic areas and compatible symptoms, the diagnosis was missed for many years. Diagnosis was finally confirmed through recent laboratory tests, though it was challenging due to missing travel history and limited diagnostic tools.

This case highlights diagnostic challenges of coccidioidomycosis in non-endemic regions, emphasizing the critical role of a detailed travel history, the occupational risks associated with handling Coccidioides in the laboratory, and the need for increased awareness of rare pathogens, particularly in immunocompromised patients with relevant travel histories.

30: Disseminated Candida glabrata in an immunocompetent host – a case report

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Candida species, typically commensal organisms, are recognized causes of invasive candidiasis. Risk factors include immunocompromise, intravenous drug use and antimicrobial exposure. A recent systematic review of Candida vertebral osteomyelitis identified additional risk factors including diabetes and autoimmune conditions. The lumbar spine is the most affected site (52.6%).

We report a case of disseminated Candida glabrata infection in an immunocompetent 70-year-old, with a history of diabetes on empagliflozin. He underwent radical prostatectomy for T2NoMx prostate carcinoma. Two months postoperatively, he presented with fever and back pain. CT imaging revealed residual inflammatory changes in the suprapubic region, and distal oesophageal distension. Blood cultures grew Candida glabrata – treated with IV fluconazole and caspofungin.

MRI whole spine showed discitis at L2-3 with epidural extension and canal compromise. Pelvic MRI suggested osteomyelitis involving the anterior pubic rami. Endoscopy revealed extensive oesophageal candidiasis. Transthoracic echocardiogram showed thickened tricuspid valve leaflets, raising suspicion for endocarditis; however, lack of valvular uptake on PET-CT made this less likely.

He received 127 days of fluconazole before surgical treatment with posterior laminectomy decompression. Postoperatively, dual therapy fluconazole and anidulafungin were given, before discharge on fluconazole and caspofungin, completing a further 10 months. Subsequent anterior lumbar corpectomy and reconstruction was performed - postoperatively, he was switched to caspofungin & voriconazole for 33 days. He completed treatment and remains well on suppressive fluconazole.

This case is notable for the severity of infection in an otherwise immunocompetent host. Further research may be indicated into association between SGLT2 inhibitors and invasive fungal infection.

37: Uncommon Fungi, Uncommon Response: How a Rapid Infection Control Response Averted a Crisis in a Haem-Onc Unit

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Background
Rare fungal pathogens are frequently isolated from environmental sources especially where building work is on-going. These rare fungi can cause invasive fungal infections in immunocompromised patients especially those with hematological malignancies resulting in high morbidity and mortality.

Cases description
Within a few days three rare fungal pathogens were identified in three immunocompromised patients with hematological malignancies. Two of these patients passed away soon after the rare fungi were identified (a Mucor and Magnusiomyces clavatus). The third case was identified as Magnusiomyces capitatus. The Trust Infection Control Doctor convened an urgent multidisciplinary meeting, which concluded in reassessment of positive pressure room effectiveness, strict & effective implementation of IPC precautions, increased frequency of damp cleaning in haematology wards especially of heightened areas till building work continues, early initiation of combination antifungal therapy where indicated, ensure that the antifungals used have drug levels done & urgently discussed with the duty Microbiologist - if out of reference range.

Results
Rapid & strict Infection Control measures averted a crisis in the Haem-Onc unit & early accurate diagnosis along with standardized treatment promoted the recovery of the third patient. This victory was not just a milestone but a foundation for future resilience in infection control.

Conclusion
The prompt response of the IPCT, in collaboration with clinical teams, effectively prevented the progression and spread of rare fungal pathogens. Vigilant infection control and timely antifungal management are critical in protecting vulnerable patients -especially those with neutropenia or acute myeloid leukemia - from life-threatening invasive fungal infections.

83: Antifungal stewardship in candiduria: experience from two NHS hospitals

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Introduction: Asymptomatic candiduria usually represents colonisation, and antifungal therapy is generally not recommended unless the patient is at high-risk of dissemination, per the 2016 IDSA Guidelines for Candidiasis. This study aims to examine appropriate fluconazole prescribing across two acute NHS hospitals (London, UK).

Methods: A retrospective review of all hospitalised patients with positive urine culture for yeasts or Candida between 01/04/2024-31/03/2025. Those who received at least 1 dose of fluconazole within 2 weeks of the positive culture were analysed. Patients who received fluconazole for non-urinary infections were excluded. Case-note review was conducted for these patients to assess appropriateness of antifungal prescription in accordance with the IDSA guidelines (adapted into local guidelines).

Results: 42 patients received fluconazole within 2 weeks of candiduria. 5/42 (12%) patients also received echinocandin or polyene antifungals, either immediately before or after fluconazole. The median duration of fluconazole was 8 days (IQR 5-14). 35/42 (83%) patients received appropriate antifungals, with indications including: urologic manipulation (n=24), symptomatic UTI (n=7), candidaemia (n=3), and very low birth weight infant (n=1). There were no neutropenic patients. 7/42 (17%) patients were deemed to have received unnecessary antifungals in the absence of risk factors for dissemination. Of those, 2 patients were prescribed fluconazole after discussion with an infection specialist.

Discussion: Compliance with IDSA and local guidelines for appropriate antifungal prescribing in candiduria was 83%. While this indicates a high level of adherence, there remains room for improvement. Further work should focus on standardising antifungal course durations and minimising unnecessary antifungal prescribing in candiduria.

98: The candida risk score as a predictor of invasive candidiasis in ICU patients on empiric echinocandin therapy

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Background
Invasive candidiasis (IC), comprising candidemia and deep-seated candidiasis, carries a high mortality. Candida Risk Score (CRS) is a tool used locally, adapted from published scoring systems to assess IC risk by assigning points for: sepsis, prolonged antibiotic use, host risk factors, multifocal Candida colonisation; CRS≥3 is deemed high-risk. We aimed to evaluate the association between CRS and incidence of IC among participants enrolled in the CandiRes study (ISCRTN 14165977) on treatment for suspected IC in intensive care (ICU).

Methods
CandiRes is a prospective observational cohort study evaluating relationship of antifungal exposure to Candida resistance emergence in ICU. CRS was calculated for all enrolled patients on empirical treatment January 2022-June 2024. We explored the predictive value of CRS≥3 at study enrolment and development of proven IC (per EORTC criteria) during ICU admission. Data were analysed using 'R'.

Results
5/103 patients on empirical treatment developed IC. Those developing IC had a mean CRS of 3.00 (SD 0.71) whilst those with no IC had a mean CRS of 2.02 (SD 0.90). Patients with CRS≥3 had higher odds of developing IC than those with CRS<3 (OR 4.84; Fishers exact test p-value 0.18). The NPV of the CRS>3 was 98.2%.

Discussion
In patients identified as high risk for IC (CRS ≥3), there is a clinically meaningful increase in risk of developing IC. This supports a role for the CRS in stratifying use of empirical antifungal therapy as a stewardship tool in the ICU, either standalone or alongside diagnostic biomarkers.

158: A 5-year review of culture and susceptibility trends of samples submitted for the investigation of vulvovaginal candidiasis in a tertiary referral centre

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Introduction

Vulvovaginal candidiasis (VVC) affects 75% of women at least once, with frequent symptomatic recurrences for many. British Association for Sexual Health and HIV (BASHH) guidelines recommend culture and antifungal susceptibility testing (AFST) in recurrence. While azole resistance is considered uncommon, surveillance of resistance is poor.

Aim

To review all laboratory results from genitourinary samples over a 5-year period, describing current laboratory practice and assessing against BASHH recommendations.

Methods

All samples from 2020-2024 were included. AFST was performed in-house using the Sensititre®YeastOne®system, and interpreted using Clinical & Laboratory Standards Institute Breakpoints. Non-susceptibility was confirmed via referral to UK reference laboratories.

Results

Of 28,206 samples in the study period, 6,234 cultured yeasts (22.1%). 211 Candida isolates (from 200 patients) were identified to species level, and 170 had AFST. 97.1% which had indications for AFST had it performed.

82.4% of isolates with AFST were Candida albicans, with a non-susceptibility rate (SDD or R) to fluconazole of 36.4%, which increased over time (0%-42%, p=0.02). 59 isolates were sent to the reference laboratory to confirm non-susceptibility. Unexplained discordance was rare, with only 4 for fluconazole (1.9%), and 1 each for voriconazole and posaconazole (0.5%). Turnaround times for referred isolates were prolonged (median 34 days, interquartile range 23-42).

Conclusions

The overall rate of speciation was low. Amongst clinically indicated samples, speciation and AFST exceeded the BASHH performance standard of 90%. Given few discordant results, all over-calling non-susceptibility rather than false susceptibility, reporting interim in-house non-susceptible results, or ceasing referral, may improve turnaround times for clinicians.

198: Selection of patients for blood 18s polymerase chain reaction for the diagnosis of fungal infection

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Introduction: 18s polymerase chain reaction (PCR) on blood is a useful tool to help in the diagnosis of invasive fungal infection, however it comes with significant costs, contamination, and test use is limited by service constraints. We reviewed blood 18s PCR tests, blood galactomannan (GM) and beta-D-glucan (BDG) results at Great Ormond Street Hospital (GOSH).

Method: We reviewed all 18s PCR tests performed on blood from the start of this service; July 2019 to May 2025 at GOSH. We excluded samples sent from external hospitals, quality assurance samples, inhibitory samples, those sent to identify the organism in blood cultures flagged positive.

Results: There were 13 positive 18s PCR tests that were not contamination. Only 3 of these patients had an associated positive culture that agreed with the 18s PCR result and confirmed the diagnosis. All 18s tests that detected Aspergillus spp. (3) had an associated positive GM taken within 1 day of the 18s sample, but only 1 of these had an associated culture identifying Aspergillus. 5 of the 13 positive 18s tests had an associated positive BDG (Aspergillus fumigatus (x2), Candida parapsilosis (x2), Clavispora lusitaniae).

Conclusions: 18s PCR on blood is a useful tool for identifying fungal infection to a species level, particularly in absence of positive cultures. GM, and BDG can predict positive 18s PCR results. Given 18s PCR contamination and our data on BDG and GM, service costs could be reduced by selecting patients for 18s PCR testing based upon a positive BDG or GM.

199: Clinical outcomes with rezafungin or caspofungin in adults with invasive infections due to non-albicans Candida: pooled analysis from STRIVE and ReSTORE trials (including extension phase data)

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Objectives
Emergence of azole-resistant Candida species (particularly non-albicans species) represents an increasing burden. The STRIVE (Phase 2: NCT02734862) and ReSTORE (Phase 3: NCT03667690) trials examined treatment outcomes with once-weekly rezafungin or daily caspofungin in candidaemia and/or invasive candidiasis (C/IC). The current analysis reports pooled data from STRIVE and ReSTORE, including the ReSTORE extended phase in China.
Methods
STRIVE and ReSTORE were multicentre, double-blind, randomised trials. Adults with C/IC received intravenous (IV) rezafungin once-weekly (Week 1: 400 mg; Weeks 2–4: 200 mg) or caspofungin once-daily (Day 1: 70 mg; Days 2–28:
50 mg) for at least 14 days and up to 4 weeks. A step down to oral therapy was allowed for patients who met relevant criteria after ≥3 doses of IV therapy (rezafungin arm: placebo; caspofungin arm: fluconazole).
Results
Day 30 ACM in patients with NAC infections ranged between 5.6–20.6% with rezafungin and 0–35.7% with caspofungin
Range of mycological response for NAC infections
Rezafungin arm: 40.0–77.8% (Day 5) and 40.0–82.5% (Day 14).
Caspofungin arm: 59.5–66.7% (Day 5) and 64.3–100% (Day 15).
Conclusion
Subanalysis of pooled data from the STRIVE and ReSTORE trials (including the extension phase in China) showed that adults with C/IC treated with rezafungin and caspofungin demonstrated varying rates of Day 30 ACM according to
baseline NAC species.
• Mycological response rates were high with both echinocandins from Day 5, although rezafungin recipients achieved numerically higher rates for C. parapsilosis, C. glabrata and C. tropicalis compared with caspofungin.

200: Two decades of Trichophyton species isolates in Beaumont Hospital. Time to Tri to evaluate the North Dublin fungal dermatophyte landscape

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Background
Trichophyton species, a group of arthrophilic dermtophytes, are the leading cause of superficial fungal skin infections in humans. Keratin is required for growth in host tissue, meaning that trichophyton species infect the skin, hair and nails. Infection is highly prevalent globally, transmitted by person-to-person contact, with associated risk factors such as close contact, moist environment and pre-existing skin conditions. Their prevalence and species distribution in the greater North Dublin area has not previously been studied.

Objectives
To undertake a microbiological and epidemiological review of Trichophyton isolates in Beaumont Hospital focussing on species distribution and clinical significance.

Methods
Positive Trichophyton species laboratory results between 2000 and 2020 were extracted from the Beaumont Hospital Information System(BHIS). Data analysis was performed using Microsoft Excel, where specimens were categorised according to specimen type and site of sampling.

Results
2193 trichophyton positive specimens from 2112 patients were studied. This included inpatient and outpatient sources. 54.9% of patients were male, 44.7% female and 0.4% unassigned. Positive results were categorized by specimen type (nail clippings: n=1686, skin scrape: n=478, hair: n=9, unspecified: n=14, swabs: n=3, tissue: n=2, skin lesion: n=2). Median age of patients was 45 years. Trichophyton rubrum was the most prevalent pathogen (65%: n=1446) followed by Trichophyton interdigitale (25.95%: n=569). There was no invasive disease.

Conclusions
Trichophyton species infections represent a significant clinical challenge due to their prevalence, variety of presentation and potential for recurrence. Understanding the epidemiological distribution of these infections is important from a public health perspective to guide effective prevention strategies.

210: Resolution of clinical signs in adults with invasive candidiasis and/or candidaemia treated with rezafungin or caspofungin: ReSTORE and STRIVE trial pooled analysis

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Introduction
Rezafungin is a next-generation, once-weekly echinocandin approved for use in candidaemia and invasive candidiasis treatment in the United States, European Union and United Kingdom. Efficacy and safety outcomes with rezafungin have been evaluated in the setting of candidaemia and invasive candidiasis in two prospective, randomised clinical trials: STRIVE (Phase 2; NCT02734862) and ReSTORE (Phase 3 NCT03667690). .
Methods
STRIVE and ReSTORE were multicentre, double-blind, double-dummy, randomised, controlled trials. Adults with candidaemia and/or invasive candidiasis, diagnosed by systemic signs of active infection and mycological confirmation, received intravenous (IV) rezafungin once-weekly (Week 1: 400 mg; Weeks 2–4: 200 mg) or caspofungin once-daily (Day 1: 70 mg; Days 2–28: 50 mg) for at least 14 days (up to 4 weeks).
The analysis reported pooled data for the modified intention-to-treat (mITT) population, comprising all patients included in the STRIVE and ReSTORE trials who received ≥1 dose of study drug and had documented Candida infection within 96 hours before randomisation.
Results and Conclusion
Adults with candidaemia and/or invasive candidiasis included in the ReSTORE and STRIVE trials demonstrated high rates of resolution of systemic signs and symptoms by Day 5 with rezafungin and caspofungin treatment. The proportion of patients achieving resolution of systemic signs and symptoms at Day 14 was significantly greater with rezafungin compared with caspofungin

234: Acquired fluconazole resistant Candida parapsilosis endocarditis

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A 60-year-old gentleman presented with 2-week history of lethargy, malaise and fever. He had a background of Candida parapsilosis endocarditis of a native aortic valve managed with 6 weeks high dose fluconazole before switching to lifelong suppressive fluconazole 400mg OD 3 months prior. This was acquired secondary to a chyle leak and/or TPN use.

On this admission, blood cultures again grew Candida parapsilosis, and high dose fluconazole was started for relapsed fungal IE. A transoesophageal echo confirmed a large mobile vegetation on the aortic valve. Fluconazole was changed to IV caspofungin, on the advice of the microbiology team when the species identification of C. parapsilosis returned, sensitive to fluconazole and echinocandins. Unfortunately, he remained pyrexial and persistently fungaemic. As such, a tissue aortic valve replacement was performed for source control. He was changed to liposomal amphotericin B on the suspicion that echinocandin resistance had developed.

The explanted aortic valve also grew C. parapsilosis, and e-tests performed locally indicated resistance to both fluconazole and anidulafungin. The patient is currently stable and about to complete a 6-week course from first negative blood cultures. Reference laboratory results confirmed fluconazole and voriconazole resistance, but broth microdilution showed anidulafungin sensitivity, demonstrating a marked difference in using e-tests and broth microdilution. The ongoing plan is for 12 weeks of suppressive of resafungin.

Further work including the identification of the resistance mutations will be available at the time of presentation.

252: Study design: phase 2, multicentre, open-label, randomised, active-controlled trial to evaluate the efficacy and safety of rezafungin adjunctive therapy in HIV-associated Pneumocystis jirovecii pneumonia

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[1]Napp Pharmaceuticals

Introduction
Pneumocystis jirovecii pneumonia (PCP) is an important cause of morbidity and mortality among people with advanced HIV, particularly in sub-Saharan Africa. Echinocandins have demonstrated activity against the cyst form of Pneumocystis jirovecii with retrospective studies reporting improved outcomes. The next-generation echinocandin, rezafungin, has shown effectiveness in immunosuppressed animal PCP models, with the advantage of once-weekly dosing.
Methods
Six study centres in South Africa aim to recruit 50
HIV-positive adults with definite, presumptive or clinically
suspected PCP.
Subjects are randomised 1:1 to receive:
• Daily co-trimoxazole (trimethoprim 15–20 mg/kg/day;
sulfamethoxazole 75–100 mg/kg/day) through Day 21.
• Once-weekly intravenous rezafungin (Day 1: 400 mg;
Days 8 and 15: 200 mg). The rezafungin group also
receives co-trimoxazole on Days 1–7.
Results
Six participating study centres have screened 33 patients and enrolled 29 participants to date (March 2025) in South Africa.
No major safety signals have been reported to date.
Conclusion
The study has recruited 58% of the planned enrolment target and recruitment is intended to continue.
This trial will provide high-quality data on the potential use of adjunctive echinocandins for PCP, paving the way for future
phase 3 studies in this clinical area

261: Impact of achieving early mycological eradication with rezafungin on all-cause mortality and ICU length of stay

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Introduction
Rezafungin is a next generation echinocandin with a differentiated PK/PD profile, enabling front-loaded, once-weekly dosing to optimise early efficacy in candidemia treatment. A hit fast, hit hard approach is recommended to reduce mortality, prevent dissemination of infection and minimise resistance development
Methods
A global, double-blind, double-dummy, 1:1 randomized, controlled, non-inferiority trial was conducted in adults with IC/C. Patients received intravenous QWk rezafungin (Wk 1: 400 mg; Wks 2–4: 200 mg) or QD caspofungin (Day 1: 70 mg; Days 2–28: 50 mg (if <80 kg) with optional step-down to oral fluconazole)
Results
65 (77.4%) patients treated with rezafungin and 60 (68.2%) with caspofungin achieved D5 ME. D30 ACM was 29.8% (25/84) for rezafungin and 29.5% (26/88) for caspofungin. For candidemia-only patients who achieved D5 ME, D30 ACM was 21.5% (14/65) with rezafungin and 28.3% (17/60) with caspofungin (treatment-group difference [95% CI] -6.8 [-22.1, 8.4]). Among those discharged from the ICU during the trial, the median ICU LoS was 9 days shorter in rezafungin arm compared to the caspofungin arm.
Conclusion
This subgroup analysis showed that a greater percentage of patients receiving rezafungin achieved D5 ME compared with caspofungin. ICU LoS and mortality were also numerically lower with rezafungin. These differences may be due to the differentiated PK/PD profile of rezafungin and front-loaded dosing.

263: Extracorporeal Membrane Oxygenation for Pneumocystis Pneumonia: A Multi-Site Case Series and Service Evaluation

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Background
Extracorporeal membrane oxygenation (ECMO) is a rescue therapy for severe acute respiratory failure. Previous literature has reported mixed outcomes for patients undergoing ECMO for pneumocystis pneumonia (PCP).

Aims
To clarify the natural history of PCP requiring ECMO in UK centres, including potential predictors of favourable outcomes.

Methods
A systematic search was performed in Medline/Embase to inform design of a standardised data collection form for PCP ECMO cases. All UK ECMO centres have been invited to contribute data on patients undergoing ECMO for PCP between January 2017 – December 2024, inclusive; to date, three of eight centres have agreed to participate. Eligible patients have been identified through national surveillance systems (UKHSA SARI Watch). Data will be analysed, summarised and visualised in R, and compared to published literature; insights to improve existing patient care will be sought thereafter.

Results
Literature searching returned 51 results, of which 34 were deemed relevant. Identified themes from the systematic literature search included cause of immunosuppression, barotrauma and baseline comorbidity/physiology scores (SOFA, APACHE-II, Murray, RESP) as potential predictors of outcome. Preliminary data from a single ECMO centre (n = 2) highlights pharmacokinetic variability of commonly used PCP-directed antimicrobials, and suggests potential differences in predictive performance of physiology scores.

321: Rhodotorula fungaemia. Lessons in empiric therapy

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We describe a patient with a prolonged admission for sepsis who developed Rhodotorula spp. fungemia associated with multiple long-term central venous lines. Management was complicated by a suspected reaction to liposomal amphotericin B (Ambisome), potentially precluding its use.
Given the rarity of Rhodotorula bloodstream infections and the pathogen's intrinsic resistance profile, antifungal treatment options were limited. Ambisome is regarded as the most reliable agent, with flucytosine as an alternative. However, flucytosine cannot be used as monotherapy and would need to be combined with an azole such as voriconazole, to which resistance is variably reported.
Multiple discussion involving the treating team, microbiology, allergy, and the Bristol Antifungal Reference Unit were used to guide management. The patient underwent specialist allergy review and was determined not to have a true allergy, enabling continued use of Ambisome.
This case highlights the clinical challenges of managing unusual fungal bloodstream infections where evidence-based treatment options are scarce. It underscores the importance of early multidisciplinary input, including allergy assessment and specialist reference advice, to optimise patient outcomes.

327: Paws for thought

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Introduction
Here we describe a case of a returning traveller from Marrakesh presenting with an extensive itchy rash, where a detailed travel history was key in revealing the diagnosis.

Case
A 41 year old gentleman presented for rabies post-exposure-prophylaxis 4 days after returning from a holiday to Marrakesh, reporting contact with a stray cat. He described a progressive itchy rash which started as small spots, evolving into extensive annular lesions affecting his head, torso, arms and legs over 48 hours. Further history identified that the patient and his partner had adopted a stray kitten in Marrakech which slept in their bed overnight, approximately 6 days prior to presentation. His partner described an identical clinical syndrome. Both were systemically well. Rabies PEP was given. Blood borne virus, Toxoplasma, Bartonella and Rickettsial tests were negative. Skin scrapings for fungal microscopy identified dermatophyte species. Clinical diagnosis was of extensive dermatophytosis, likely Microsporum canis. Although culture of Microsporum was not successful. He was treated with oral itraconazole and topical terbinafine for 2 weeks with complete resolution of symptoms, although there was a plan to extend therapy to 6 weeks if symptoms were ongoing.

Conclusion
This case highlights the importance of a detailed travel history. In this instance it is likely that a heavy inoculum led to a dramatic manifestation of a usually limited infection. Topical terbinafine is first line treatment but may be combined with itraconazole in widespread infection or if there is concern of resistance.

General

18: Impact of Ultraviolet-C technology in equipment disinfection on MDROs (Multidrug-Resistant Organisms) Acquisition at an acute tertiary hospital in Singapore

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Background
UV-C irradiation's effectiveness in environmental disinfection is well-studied, but its clinical impact on equipment disinfection remains underreported. This study evaluates the effects of integrating routine UV-C technology into equipment hygiene programmes on MDRO acquisition in a 1,850-bedded hospital.

Method
UV-C irradiation was introduced biweekly as an adjunct measure to equipment disinfection in March 2023, increasing to weekly in April 2024. Effectiveness was evaluated based on healthcare-onset (HO) VRE (vancomycin-resistant Enterococci), MRSA (methicillin-resistant Staphylococcus aureus), and CP-CRE (carbapenemase-producing carbapenem-resistant Enterobacteriaceae) cases, with statistical significance set at $p < 0.05$. Infection prevention compliance was compared pre- and post-implementation to identify potential confounding effects from other prevention programmes.

Results
Results demonstrated a statistically significant decline in HO-VRE incidence (p=0.001), with mean decreasing from 17.64/10,000 days pre-implementation (June 2023 to Mar 2024) to 13.12/10,000 patient-days post-implementation (May 2024 to Mar 2025). Non-statistically significant reductions were observed in HO-MRSA and CP-CRE incidence. Terminal discharge cleaning effectiveness improved from 75.4% to 91.4% (p=0.013), with no changes in compliance of hand hygiene and other infection prevention practices.

Discussion, Limitation and Conclusion
The study established weekly UV-C irradiation's effectiveness in preventing VRE acquisition through medical equipment. However, it showed limited impact on other MDROs, possibly due to differences in surface survival characteristics. Despite limitation in the absence of a UV-C treatment tracking system, the findings support UV-C irradiation as an effective complement to equipment and environmental hygiene in reducing the risks of healthcare-associated VRE transmission.

38: The Impact of Steroids & Immunosuppression on Outcomes in Patients with Pneumocystis Jirovecii Pneumonia (PJP): A Retrospective Analysis at a Large Tertiary Centre

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Background:
Pneumocystis jirovecii pneumonia (PJP) is a significant opportunistic infection in immunocompromised patients. This study explores whether steroid use or underlying immunosuppression influences the likelihood of developing PJP and affects clinical outcomes.

Methods:
A 5-year retrospective analysis was conducted of patients diagnosed with PJP between 2019-2024. Data collected included age, comorbidities (Charlson Comorbidity Index), lymphocyte count, steroid use and duration, immunosuppression status, number of hospitalisations, and total days spent in hospital. Mortality data were recorded.

Results:
73 patients were diagnosed with PJP pneumonia in the time period and the mean age was 65 years. 58% (n=42) died during or after their admission with PCP. 35% (n=25) were oncology patients. 62% of patients received a form of immunosuppressive therapy, and 66% received OCS specifically. Immunosuppression and steroid use showed a moderate correlation ($r = 0.30$). A weak correlation was observed between immunosuppression and mortality ($r = 0.10$), with negligible correlation between steroid use and mortality ($r = 0.02$). No strong linear relationship was observed between steroid duration and hospital stay or mortality. moderate positive correlation ($r = 0.34$) was found between Charlson Comorbidity Index and mortality, suggesting that higher comorbidity may increase mortality risk. Neither steroid use nor immunosuppression was significantly associated with mortality in logistic regression ($p > 0.05$).

Conclusion:
In patients with PJP, neither immunosuppressive therapy or OCS showed a strong linear association with mortality or morbidity. Comorbidity index and age were identified as stronger predictors of mortality.

58: Infective Endocarditis at Sultan Qaboos University Hospital: A 13-Year Retrospective Study of Clinical Characteristics, Risk Factors, Pathogens, and Outcomes

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Background
Infective endocarditis (IE) is a serious and life-threatening infection with reported mortality ranging between 10% and 30%, yet regional data from Oman remain scarce. This study aimed to describe the clinical characteristics, microbiological spectrum, risk factors, and outcomes of IE at Sultan Qaboos University Hospital (SQUH) over a 13-year period.
Methods
A retrospective cohort study was conducted at SQUH from 2011 to 2024. Patients aged ≥13 years with a confirmed diagnosis of IE were included. Demographics, risk factors, microbiological findings, echocardiographic features, and clinical outcomes were reviewed.
Results
Ninety-nine patients were identified (mean age 45.4 ± 17.5 years; 96% Omani). Major risk factors included intravenous drug use (42.2%), pre-existing valvular disease (26.3%), previous IE (25.3%), and prosthetic valves (16.2%). Most cases (85.9%) were community-acquired. Blood cultures were positive in 94.9%, with Staphylococcus aureus (41.4%) as the leading pathogen, followed by Enterococcus spp (15.1%) and Streptococcus spp (13.1%). Pseudomonas aeruginosa accounted for 10.1% of cases, with rare cases of candidemia, Brucella spp, Coxiella burnetii (Q fever), and non-tuberculous mycobacteria identified. The mitral (36.4%), tricuspid (23.2%), and aortic (15.2%) valves were most frequently involved. Complications included valvular dysfunction (84.8%), cerebral emboli (27.3%), cavitary pneumonia (24.2%), and heart failure (19.2%). In-hospital mortality was 16.2%.
Conclusion
Staphylococcus aureus was the most common causative pathogen of IE in this cohort, with intravenous drug use as the major risk factor, and the mitral valve being the most frequently affected. Prompt diagnosis, effective antimicrobial therapy, and timely surgical intervention are essential to improve outcomes.

64: Three questions in time saves nine – 3 questions at index colonoscopy could identify patients at risk of TB colitis in people presenting with inflammatory bowel disease-like symptoms and abnormal colonoscopy findings

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Intestinal TB is a rare but difficult to diagnose differential of inflammatory bowel disease. Cases usually present to non-ID physicians and timely diagnosis requires the clinician to have a high index of suspicion to ensure appropriate tests are taken.
A 5-year review of intestinal TB cases at Sheffield Teaching Hospitals identified significant delays to diagnosis. There were 9 cases, of which 2 were diagnosed from non-bowel specimens due to disseminated disease at presentation. Of the remaining 7 patients, 5 were erroneously managed as Crohn's disease for a median of 4 months (range 3-34 months) before TB was correctly identified. Unnecessary treatments included steroids, biologics and in 2 cases, colectomy.
2/7 patients had TB cultures appropriately requested at index colonoscopy. In both cases the requester was an ID physician. 3 had to have repeat colonoscopy specifically for TB culture, adding an average delay of 79 days. 2 patients were retrospectively diagnosed from colectomy samples.
We are investigating the acceptability of three screening questions to identify patients in whom samples should be sent for TB testing at colonoscopy.
1)Have you previously had TB?
2)Have you ever been in contact with someone who had TB?
3) Have you ever lived outside of Western Europe for >3 months?
When applied retrospectively to the 5 cases where TB was missed, these questions would have accurately identified 100% of cases.
We propose 3 simple questions should be asked at colonoscopy by the non-specialist to assess the need to consider TB as a differential.

104: Opt-out Emergency Department screening for blood-borne viruses and syphilis in an area of lower HIV prevalence: a case for reviewing the screening programme?

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Since 2022 around 80 emergency departments (ED) have participated in NHSE-funded opt-out blood-borne virus (BBV) screening programme in England. EDs in areas of lower HIV prevalence, but high hepatitis C (HCV) prevalence, were not selected. Alternative funding sources have enabled BBV screening JCUH ED since 2024 for a pilot evaluation, with additional syphilis screening given high levels in Teesside.
Using the same opt-out model for national BBV screening, people aged 18-75 attending the JCUH ED who didn't opt out were screened for BBVs and syphilis. Due to a low pick-up rate hepatitis B screening was discontinued after 9 months.
Up to May 2025, of 6,774 people screened 12(0.17%) tested HIV-positive (5[0.07%] new diagnoses); 163(2.4%) tested HCV-positive (83[1.2%] HCV-RNA+) and 93(1.4%) tested syphilis-positive (41 [0.6%] requiring treatment). Those with new HIV diagnosis were all African migrants. People with new HCV diagnoses were 97% white and 78% male. People with syphilis were 95% white, 75% heterosexual and 40% female; significant numbers of these (45%) were unknown to SHS. Compared to national ED screening data, HIV prevalence in JCUH ED was equivalent and the prevalence of both IgG+ and RNA+ HCV significantly higher.
In conclusion, our evaluation shows screening for both HIV and HCV to be worthwhile. It's also likely that adding syphilis, via opt-out ED screening, is an effective tool in tackling syphilis outbreaks and possibly cost-effective. We demonstrate value for selective BBV +/- syphilis screening in areas of the UK with lower HIV prevalence, but higher levels of HCV and/or syphilis.

109: The Night Shift Challenge: How Delayed Blood Culture Reporting Influences Patient Outcomes

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Introduction

Timely and appropriate antimicrobial therapy is critical for reducing mortality in patients with bloodstream infections. As more clinical laboratories transition to 24-hour operations amidst ongoing workforce constraints, the management of blood cultures that flag positive out-of-hours presents an increasingly important clinical and operational challenge.

Method

A retrospective study was conducted to examine the impact of delayed communication of positive blood culture results outside of standard working hours on the timely administration of appropriate antimicrobial therapy and its association with patient mortality.

Results

Fifty-one blood cultures flagged positive between 17:00 and 09:00 during the study period and were included in the analysis. Of these, 53% (n=27) were deemed to be clinically significant.

Among the significant cases, 93% (n=25) of patients were receiving antibiotics at the time of culture positivity, with appropriate initial antimicrobial therapy administered in 92% (n=22). In three cases, initial therapy was inappropriate; two were subsequently adjusted following microbiology review during working hours, while one patient died shortly after blood cultures were collected, and prior to culture positivity.

Microbiology input during standard hours led to changes in antimicrobial therapy in 30% (n=8) of significant cases. The delay between blood culture positivity and initiation of appropriate therapy ranged from 4 to 17 hours (mean: 9 hours). Importantly, these delays did not increase mortality, with no deaths recorded at 30 days.

Conclusion

The findings suggest that early empirical administration of broad-spectrum antimicrobials and increased clinical vigilance mitigate the impact of delayed microbiological input of positive blood cultures during out-of-hours periods.

149: Citizen science on a shoestring? How we characterised a rare ESBL+ Klebsiella pneumoniae ST628 strain with an unusually large plasmid, which caused an extensive outbreak in a local District General Hospital (Poole, Dorset)

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We demonstrate how the democratisation of WGS is bringing complex genomic analysis within the reach of DGH-based Microbiologists.
A year-long hospital-wide outbreak in 2018 was only controlled with aggressive IPC measures, with 69 clinical cases (10 bacteraemia, 59 UTI) and 166 colonised patients identified by rectal screening. The ESBL+ strain was resistant to several antibiotic groups, showing exceptional persistence and rapid spread.
NHS staff partnered with Bournemouth University through a local initiative, securing a £25k industry grant. Long-read Oxford Nanopore sequencing was used, with Illumina short-read data for confirmation and hybrid assembly.
We found the strain – undetected previously in England by PHE's VNTR typing – to be ST628. It carried a ~247 kb FIB(K) plasmid encoding 11 resistance genes including blaCTX-M-15 and multiple persistence/virulence factors. The earliest ST628 isolate in Poole dated to late 2017; limited global comparisons available suggest this lineage—and its plasmid—have been circulating internationally for longer.
Similar ST628 strains were reported in Barcelona (2012) and California (2015), and possibly linked to imported Vietnamese lettuce in Switzerland. Since our initial work, newly available databases have improved understanding of the outbreak strain's epidemiology, revealing structurally similar plasmids occasionally associated with carbapenemase genes.
In 2022, we analysed organisms with similar antibiograms, confirming a community-acquired ST628 case. Mixed E.coli and K.pneumoniae ST1564-1LV from a CSU both carried genetic elements from the plasmid.
We have now received an additional grant to collaborate with Southampton University, enabling us to undertake further Klebsiella work and contribute to an international bacteriophage biobank.

167: “It's all about the diagnosis - that was getting really very late and I was scared” - qualitative exploration of contributors and impact of diagnostic delay in active tuberculosis (TB) from the perspective of patients and healthcare providers

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Background and Aims: Each year, almost a third of UK patients with pulmonary TB start treatment >4 months after developing symptoms(1). This study explored patient- and healthcare-related barriers to early care-seeking and timely diagnosis, including why some patients seek TB care abroad.

Method: Semi-structured interviews and focus groups were conducted with adults treated for active TB and patient-facing healthcare workers (HCWs) in Leicester. Thematic analysis of transcripts was performed using NVivo.

Results: Sixteen patients and thirteen HCWs (from TB support workers to senior consultants) participated. Median delay from TB symptom onset to treatment in the patient group was 14.5 weeks (IQR 8–25.5). Key care-seeking barriers included lack of TB symptom awareness, denial and normalisation of symptoms. Healthcare-related delays e.g. repeated primary care and emergency visits, feeling dismissed, multiple antibiotic courses and delayed investigations, led some to lose trust in the NHS. Importantly patient-centred approaches provided by TB services helped restore trust, improving future willingness to engage with healthcare. Five patients interviewed sought diagnosis abroad, citing family pressure and delayed investigations in the UK. HCW interviews helped triangulate patient accounts and highlighted opportunities for intervention.

Conclusion: Healthcare-related TB diagnostic delays can lead to trust erosion towards the NHS, but this may be rebuilt through positive individualised patient-HCW interactions. Lack of awareness about TB among patients and HCWs is a key modifiable driver of diagnostic delays, and with rising TB numbers in the UK, new ways of engaging public and educating clinicians should be explored.

Reference:
1:https://www.gov.uk/government/publications/tuberculosis-in-england-2024-report/tuberculosis-diagnosis-and-microbiology-england-2023

231: Prescribe with Caution: Enhancing Fluoroquinolone Safety Through Better Counselling

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Introduction:
The Medicines and Healthcare products Regulatory Agency (MHRA) has issued guidance advising that fluoroquinolone antibiotics should only be used when other options are unsuitable1. This is due to the risk of serious, long-lasting, and potentially irreversible side effects. Clinicians are also reminded to inform patients to stop treatment immediately if they experience serious adverse reactions (SARs). This project aimed to assess how often patients were being counselled about these risks when prescribed fluoroquinolones at an NHS District General Hospital. It also assessed prescription appropriateness, including penicillin allergies.

Methods:
All fluoroquinolone prescriptions issued in October 2024 were reviewed. Patients were excluded if records were incomplete (25), no fluoroquinolone was prescribed (3), or due to confidentiality concerns (1). A total of 46 patients were included in the final analysis.

Results:
Only 9% (4 out of 46) of patients had documentation showing they were counselled about SARs. Just 43.5% had a recorded penicillin allergy. 71.7% were over 60 years old, a group at higher risk of SARs. The most common reasons for prescribing were genitourinary tract infections, followed by respiratory tract infections.

Conclusion:
Counselling patients on the risks of fluoroquinolones is rarely documented, despite national safety guidance. With most patients being older and therefore at increased risk, this represents a significant gap in safe prescribing practice. Improvements in clinician education and documentation are needed. We are currently reassessing following clinical governance meetings and delivery of targeted teaching sessions across specialties.

References:
1. Drug Safety Update volume 17, issue 6: January 2024: 2

254: Adjunctive steroids to reduce complications in patients with abdominal tuberculosis: a case series

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Background

Abdominal tuberculosis (TB) typically affects the peritoneum, gastrointestinal (GI) tract, or abdominal lymph nodes (LN) and causes significant intra-abdominal inflammation. Complications include bowel obstruction, perforation, and strictures, requiring hospital admission and, at times, surgical intervention. Steroids can be used to reduce complications, but evidence supporting their use is lacking.

Methods

A retrospective analysis of all patients with abdominal TB treated with adjunctive steroids between August 2023 and February 2025 at London North West University Healthcare NHS Trust was conducted. Patients receiving steroids for reasons other than abdominal TB were excluded.

Results

Of 39 patients treated for abdominal TB, 9 received steroids. 6/9 were male and 7/9 originated from the Indian subcontinent. 5/9 had culture/PCR confirmed diagnosis: 3 fully sensitive and 2 Lineage 1. 7/9 patients had intestinal disease, 7/9 had peritoneal involvement, and 6/9 had intra-abdominal LN disease. 2/9 had strictures and associated bowel obstruction. 5/9 also had extra-abdominal TB; 5/9 had pulmonary/pleural disease, 2/9 CNS tuberculomas, and 2/9 pericardial disease.

All patients received prednisolone. 4/9 received IV hydrocortisone/methylprednisolone prior to oral switch. 1 patient had adverse effects from steroids (facial swelling). 3/9 received IV TB treatment, 2/9 required a Ryles tube, 4/9 required parenteral nutrition (PN). None required surgery and no patients died; 8/9 have now completed treatment.

Conclusion

Patients in our cohort treated with adjunctive steroids required supportive treatment including IV TB therapy, bowel rest, and PN. Surgical intervention was avoided and all survived. Randomised controlled trials are needed to definitively determine steroid efficacy, agent and dosing.

Healthcare-associated infection

11: Association of risk stratification and treatment response in Clostridioides difficile infection (CDI): a retrospective study

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Objective
We aimed to determine the risk factors, and outcomes of treatment for first episode and recurrent / relapse CDI among patients in a district general hospital in the East of England.
Methods
A retrospective study was conducted on CDI cases from April 2023 to August 2024. Data was collected on patients age, gender, episodes and severity of CDI, risk factors, treatment response and 30 days all-cause mortality.
Results
Of 124 the CDI cases , 105(84.7%) were first presentation, 18(14.5 %) were second and 1(0.8%) was a third occurrence. Relapse of CDI occurred in 16 cases (12.9%) and recurrence in 3(2.4%).
Treatment response in CDI episodes showed that 6(9%) relapses and 2(4%) recurrences were noted with oral vancomycin followed by 1(50%) relapse with metronidazole. Recurrence with combination of oral vancomycin and metronidazole observed in 3(25%) episodes. Neither relapse nor recurrence were observed with fidaxomicin treatment in second episodes of CDI.
In all cases, multiple or prolonged admission was the predominant risk factor 92(74%) followed by broad-spectrum antibiotics 88(71%), proton pump inhibitors 61(49%), gastrointestinal disease 39(31.4%) and malignancy 30(24%) and these risk factors were noted in relapses and recurrent cases. The 30-day mortality rate of CDI was 9 (7.3%).
Conclusion
It is imperative to use antibiotics judiciously in patients who have underlying risk factors for developing CDI. Fidaxomicin can be considered as first line treatment for patients with risk factors including multiple or prolonged admission, gastrointestinal disease and malignancy to prevent further episodes of CDI.

75: Model to predict number of healthcare-associated infections expected by number of beds in a hospital, and how many could be prevented by using proactive Whole Genome Sequencing (pWGS)

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[1]Genpax

Background
The concerning rise in healthcare-associated infections (HCAIs) in the UK is highlighted by the 2023 UKHSA point prevalence survey, which found that 7.6% of hospital patients in England were affected; up from 6.6% in 2016(1). This results in approximately 21% of NHS beds being used by patient with HCAI at any time(2). A substantial proportion, perhaps 30%, are due to potentially avoidable healthcare transmitted infection (HCTIs). This is despite increased infection prevention and control (IPC) measures, including enhanced surveillance, environmental decontamination, antimicrobial stewardship programmes, and reactive WGS (investigation of otherwise recognized or suspected outbreaks).
In recent years, several studies have modelled or investigated pWGS (3-6) (used for discovery, definition, containment, and avoidance of outbreaks), consistently demonstrating its potential to support early outbreak detection, transmission tracking, and improved IPC outcomes.
Method
Building on one of these studies, a simplified, adaptable model was developed to estimate the expected number of HCTIs in an institution based on bed numbers, project the potential reduction in infections with pWGS, and calculate both setup costs and potential financial savings under varying assumptions.
Results
For example, in an 800-bed hospital, the model estimates 6,989 HCTIs annually at a cost of £24.9million. With pWGS in place, this could fall to 5,661 HCTIs at a cost of £20.9million (including sequencing costs)—representing a predicted saving of £4million (after sequencing costs) and prevention of approximately 46 deaths.
Conclusion
This tool offers practical, data-driven support for the development of business cases for the implementation of pWGS in healthcare settings.

95: Identifying risk factors for mortality in Enterococcus faecalis and faecium bacteraemia: A Retrospective Cohort Study in England, 2019-2024

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Background
The Enterococci bacteraemia burden is increasing in England and associated with high mortality. We explored risk factors for 30-day mortality in adults with Enterococcus faecalis (Efc) and faecium (Efm) bacteraemia in England, 2019-2024.

Methods
Laboratory-confirmed Enterococcus isolates from blood specimens from UKHSA's laboratory system were linked to ONS mortality and Hospital Episodes Statistics clinical data. We examined risk factors for 30-day all-cause mortality using Cox proportional hazards models, adjusting for sociodemographics, hospital/community onset, glycopeptide resistance, co-infections (+/-2 days), comorbidities and procedures.

Results
Efm had higher 30-day mortality than Efc bacteraemia (32.0%, N=21,333 vs. 20.6%, N=19,172). Older age increased mortality risk in both species while glycopeptide resistance (%GRE, Efc:2.0%; Efm:20.6%) did not.

Over 90% had at least one comorbidity (median Charlson Cormorbidity Index, Efc:3, Efm:4), with lower gastrointestinal disease the most prevalent (Efc:57.5%, Efm:67.3%). Moderate/severe liver disease (aHR, Efc:1.99, 1.73-2.29; Efm:1.84, 1.70-2.00), metastatic solid tumor (Efc:2.32, 2.10-2.57; Efm:2.15, 2.01-2.31), hospital onset (Efc:1.17, 1.08-1.27; Efm:1.39, 1.27-1.53), and critical care onset (Efc:2.07, 1.77-2.41; Efm:2.87, 2.56-3.22) increased mortality risk.

Nearly a third were polymicrobial (Efc:32.3%, Efm:28.5%), with Escherichia coli the predominant co-infection (Efc:10.9%, Efm:10.5%), followed by Klebsiella pneumoniae (Efc:3.8%, Efm:4.1%) and Proteus mirabilis (Efc:4.4%, Efm:0.8%). Co-infections with Staphylococcus aureus, P. mirabilis, and K. pneumoniae increased mortality risk in both Enterococcus species.

Conclusion
Co-infections and comorbidities, rather than glycopeptide resistance, significantly contribute to mortality in Enterococcus bacteraemia. The differing epidemiology and mortality risk profiles of Efc and Efm highlight the need for a species-specific approach to clinical management, with targeted interventions to improve outcomes.

160: The association between hospital-associated Clostridioides difficile infections and antimicrobial consumption in Belgian hospitals from 2014 to 2023

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Background
Clostridioides difficile infections (CDI) are closely linked to antimicrobial consumption (AMC), posing a significant challenge for hospitals.
Objectives
This study examined the association between hospital-associated (HA)-CDI and AMC in Belgian hospitals from 2014 to 2023.
Methods
We conducted a retrospective observational study using two national surveillance datasets (CDI and AMC). Hospital-level AMC was stratified into low, moderate, and high consumption groups per year based on quartiles, both for overall antibiotic consumption and for consumption of antibiotic classes associated with increased CDI risk. A negative binomial mixed-effects regression model with hospital as a random intercept, adjusting for hospital type and region, was used to investigate these associations.
Results
No significant association was found between overall antibiotic consumption, beta-lactam/beta-lactamase inhibitors, cephalosporins (2nd, 3rd, and 4th generation), clindamycin, and fluoroquinolones and HA-CDI incidence. In contrast, the level of consumption of carbapenems was significantly associated with HA-CDI: incidence rate ratios (IRRs) were 1.24 (95%CI 1.10-1.40) and 1.32 (95%CI 1.13-1.55) for moderate and high consumption, respectively (reference: low consumption, both p-value = 0.001). Glycopeptides showed a similar association, with IRRs of 1.32 (95%CI 1.17-1.49) and 1.34 (95%CI 1.32-1.34) for moderate and high consumption groups, respectively (both $p < 0.001$). Secondary hospitals exhibited higher HA-CDI rates compared to primary hospitals, even after adjusting for AMC and region.
Conclusion
These findings suggest that while some AMC is a key driver of HA-CDI, other facility-related factors likely contribute. Strengthening antimicrobial stewardship and infection prevention and control measures is essential to reduce HA-CDI and antimicrobial resistance.

180: Clinical and Microbiological epidemiology of hospital acquired infections in intensive care unit of Geriatric center

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Objectives- This study focuses on the clinical profile of HAIs, the organism profile with antibiotic susceptibility patterns, clinical outcomes in the ICUs of a critically ill ageing patients in geriatric center. Patient outcome were measured in terms of mortality (survival index), morbidity, length of stay to ICU/ward.

Methodology: A retrospective analysis of prospective surveillance data of patients was done over a period of twelve months (April 2024-March 2025) in the ICU of National centre of ageing, AIIMS New Delhi. A modified NHSN definition of HAIs was used. Microbiological processing and antibiotic susceptibility profile was done based on standard guidelines.
Results: A total of 513 patients were included in the study, accounting for 2259 patient days and 1,396 ventilator days, 2,166 central line days, 2,899 catheter days. Total 94 episodes of HAIs were developed (VAP;51 episodes, CLABSI; 27episodes,CAUTI; 16 episodes). VAP rate of 36.5/1,000 ventilator days (VD), CLABSI rate 12.4, CAUTI rate 5.5. The average length of stay (LOS) of patients was 25.9 days. There was a significant relationship between VD and the development of VAP. Gram-negative organisms (97.8%) dominated the pathogen profile. Among them most common were Acinetobacter baumanii (34%), Klebsiella pneumoniae (28.7%). The crude mortality was 45.4%.

Discussion: Elderly patients are highly susceptible to hospital acquired infections (HAI; VAP, CLABSI, CAUTI,) as devices are life saving measures often required for their management.

Conclusions: Surveillance of HAIs with analysis of the organisms and the antibiotic susceptibility trend will help improve infection prevention practices and antibiotic stewardship programs in elderly patients.

190: Device-Associated Infections in Belgian Acute Care Hospitals: Findings from the 2022 National Point Prevalence Survey

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Background
Device-associated infections (DAIs) are major contributors to healthcare-associated infections (HAIs), particularly in intensive care units (ICUs). This study presents findings from the 2022 national point prevalence survey (PPS) focusing on the burden and microbiology of DAIs across Belgian acute care hospitals.

Methods
A total of 10,142 patients were surveyed across Belgian acute care hospitals using the standardized methodology of the European Centre for Disease prevention and Control (ECDC) PPS. HAIs were identified according to ECDC definitions and stratified by association with a device.

Results
Of the 2,190 patients with at least one invasive device, 494 (22.6%) developed a HAI, compared to 4.2% of patients without a device. Overall, 821 HAIs were reported, resulting in a prevalence of 8.1% (95% CI: 7.1–9.1%), among which 188 (22.9%) DAIs. Central line-associated BSI (CLABSI) represented 49.1% of BSIs, Catheter-associated UTI (CAUTI) represented 45.8% of UTIs, and ventilator-associated pneumonia (VAP) represented 29.7% of pneumonia. The burden of DAIs was highest in ICU (66.2% of HAIs) and medical specialties (23.0%), with far lower proportions in other wards (<10%).
Among DAIs, 29 microorganisms were identified, with Escherichia coli (16.8%), Staphylococcus aureus (11.5%), Pseudomonas aeruginosa (9.9%) and Klebsiella pneumoniae (9.4%) being the most common. Gram-positive cocci predominated in CLABSI (60.7%), while Gram-negative bacilli and Enterobacterales were predominant in CAUTI (64.0%) and VAP (41.8%).

Conclusions
DAIs represent nearly one-quarter of HAIs in Belgian hospitals, with a disproportionate impact in ICUs. These findings support targeted surveillance and infection prevention strategies focused on device use and ward-specific risks.

206: Shunt-related Ventriculitis: A retrospective observational study of microbiology and outcomes in a single neurosurgical centre in the UK.

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Background

Incidence of infections of ventricular-peritoneal and ventricular-atrial shunts is between 4-17%, with significant morbidity and mortality. The evidence for the diagnosis and management of these infections is limited. It is salient to assess the outcomes of a cohort of patients with shunt-related infections to better understand these infections.

Methods

In a single neurosurgery referral centre in London, UK, we retrospectively analysed all patients who had a ventricular shunt-related infection between May 2019 and February 2024, using the electronic patient record. Local ethics approval was given.

Results

22 patients were included. At time of infection, the median age was 54 (IQR 37.5-58.5), 59.1% (13/22) of which were women. Median Charlson score was 1 (IQR 1-2). Three patients received only revision surgery, while the remainder had removal and/or replacement of the shunt. 8/18 (44.4%) had polymorphic CSF at diagnosis. The most common organism identified was Staphylococcus aureus (6/26, 23.1%), with coagulase-negative Staphylocccus (5/26, 22.7%) and Cutibacterium acnes (5/26, 22.7%) representing the next most common. 16/22 (72.7%) received intraventricular antimicrobials in addition to intravenous. Median duration of antimicrobials was 14.5 days (IQR 11-17.8). 5/22 (22.7%) required repeat surgery within 1 year, and 2/22 (9.1%) died within 90 days of infection.

Conclusion

Polymorphic cell count was not a specific marker of infection in this cohort. Median duration of antimicrobials was towards the higher end recommended by IDSA guidelines. These results are limited by the cohort size and retrospective nature; larger prospective studies may help to improve management of these infections.

207: Healthcare-associated infections in Belgian long-term care facilities: a one-year follow-up study

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Objective: To estimate the 12-month incidence of healthcare-associated infections (HAIs) among residents in Belgian long-term care facilities (LTCFs).

Methods: As part of a large study coordinated by the European Centre for Disease Prevention and Control (ECDC), a Belgian cohort of LTCF residents, selected through convenience sampling, was studied between mid-March 2022 and mid-March 2023. Inclusions were not replaced if discharged or deceased during follow-up. Data were collected using questionnaires at institutional, resident, and infection level. HAIs were defined according to ECDC standard algorithms for point prevalence surveys in LTCFs, with additional definitions for COVID-19.

Results: A total of 260 residents from three nursing homes and one psychiatric home were included. In total, 486 HAIs were recorded. Only 23% of residents remained infection-free. The overall annual crude HAI incidence was 186.9 per 100 residents (95% CI: 163.0–211.0), with a median infection duration of 9 days (IQR: 6-14). The most common HAIs were respiratory tract infections (58.1/100 residents/year; 7 days (5-10)), COVID-19 (41.1/100 residents/year; 10 days (10-14)) and urinary tract infections (31.5/100 residents/year; 7 days (6-9)). Sixty-four residents were hospitalised at least once, accounting for 100 hospitalisations overall. Forty-seven residents died during the study. In 11 cases, an infection contributed to death. Five residents permanently left the LTCF.

Conclusion: This study provides valuable insights into the high burden of HAIs in LTCFs. Despite key challenges, including high workload, limited electronic documentation and difficulties in applying standardised infection definitions, the findings highlight the urgent need for tailored infection surveillance strategies in LTCFs.

228: Enhancing Cleaning Standards to reduce Clostridioides difficile cases: A Multi-Ward Intervention at Oxford University Hospitals

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Background:
Environmental cleaning is vital for reducing healthcare-associated infections like Clostridioides difficile, as supported by the CLEEN study(1). In response to rising C. difficile cases, a 12-month project was launched across six acute medical wards in Oxford University Hospitals to improve cleaning standards, auditing, and accountability.

Methods:
Starting in 2023, the project included baseline assessments, targeted staff training on equipment cleaning, and monthly audits with ward representation. Inter-ward peer reviews encouraged collaboration, while real-time issue escalation ensured timely resolution. Infection prevention spot checks provided ongoing feedback. Audit and infection data were analysed and shared with stakeholders.

Results:
Across 175 audits, cleaning scores improved from 94.6% (SD=3.4) to 96.1% (SD=2.5) ($p=0.002$), with consistent improvements across all wards (interaction p values testing for differences by ward >0.22). Audit failures (scores <95%) dropped from 52% to 26%. Interrupted time-series analysis showed a decline in C. difficile cases from 6.5 to 3.1 per 10,000 bed-days ($p=0.01$) on intervention wards, with no significant change on others (2.2 to 2.8; $p=0.12$).

Conclusions
The project improved cleaning standards and reduced C. difficile rates. Success factors included consistent audit participation, ward ownership, and responsive issue management. Future plans involve scaling the approach, embedding it into routine care, expanding peer reviews, integrating training, and ensuring leadership and resource support.
(1) Browne K et al, Lancet Infect Dis. 2024

246: Faecal lactoferrin as a biomarker for Clostridioides difficile infection and severity

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Background:
Lactoferrin is an intestinal inflammation biomarker. The presence of this marker in stool may help differentiate between asymptomatic colonisation of C. difficile and significant infection.

Methods:
The study included adult patients in a tertiary hospital who tested positive for C. difficile on routine PCR testing. Samples were tested for Lactoferrin using the CerTest C. difficile GDH + Toxin A + B + Lactoferrin enzyme immunoassay.
A retrospective chart review was completed by a clinical microbiologist to determine case severity. A second reviewer assessed unclear cases. Both were blinded to the Lactoferrin results.

Results:
58 PCR-positive samples were included. 20.7% (12/58) were not a case. Of the patients with C. difficile infection (CDI), 60.8% (28/46) were non-severe, 23.9% (11/46) were severe, and 15.2% (7/46) were severe-complicated.

The was a significant relationship between CDI and positive Lactoferrin test (p=0.005). This produced a sensitivity of 73.9% (95% CI 58.6-85.2%) , specificity of 75% (95% CI 42.8 – 93.3%), positive predictive value of 91.9% (95% CI 76.9-97.8%), and negative predictive value of 42.8% (95% CI 22.5-65.5%).

There was a significant association between Lactoferrin positivity and case severity (p=0.003). All severe-complicated cases were Lactoferrin positive. A significant relationship was also observed between case severity and lactoferrin positivity when combined with GDH and toxin results (p=0.041).

Conclusion:
In this study there was a significant relationship between Lactoferrin and CDI presence and severity. This demonstrates a possible use of Lactoferrin as a diagnostic tool for CDI and in risk stratification for the development of severe infection.

256: Evaluating the role of a digital decision support system in managing clinical Clostridioides difficile infection (CDI) in acute hospitals

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Background
Clostridioides difficile infection (CDI) is a leading cause of healthcare-associated infection (HAI) with associated morbidity and mortality[1]. UKHSA reported CDI increased nationally by 33% since 2021[2]. Chelsea and Westminster NHS Foundation Trust (CWFT) reports a similar rise. This audit evaluates use of digital CDI prompt checklists compared with incident review outcomes, to assess accuracy of CDI sampling and identification of risk factors.
Method
A retrospective dual-centre audit conducted at CWFT reviewed reportable HAI CDI cases between April-September 2024. Digital checklist data extracted from electronic patient records was cross-referenced with incident documentation to assess data accuracy and concordance of testing criteria. Descriptive statistics were applied using predefined audit criteria.
Results
43/43 CDI cases showed 100% compliance with checklist completion prior to specimen collection. 79% of checklists were completed by doctors at Site A; 67% by nurses at Site B. Key findings included:

- 43%samples submitted without suspicion of infectious diarrhoea
- 34%samples had no current antimicrobials documented as risk factor
- 19%cases where patients had laxatives administered
- 23%cases had documentation of gastrointestinal conditions
- 16%cases not consistent with CDI

Discussion
Digital CDI checklists can support decision-making by adjusting pre-test probability; however, clinical effectiveness depends on accurate, multidisciplinary input. This audit identified recurring data quality issues that risk undermining their purpose. The lack of accountability for incomplete or incorrect entries further limits diagnostic value. Optimising checklist design to support appropriate testing and reinforcing oversight and shared responsibility across the MDT may improve diagnostic accuracy to help drive down CDI rates.

306: Post Infection Review and Change Implementation Following a Case of Line-Associated MRSA Bacteraemia in our Out-Patient Antibiotic Therapy (OPAT) Unit

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Background
A 22 year old female on adalimumab sustained a line-associated MRSA bacteraemia and provoked infected basilic vein thrombus whilst receiving intravenous antifungal therapy on our out-patient antibiotic therapy (OPAT) unit. She was treated with teicoplanin and clindamycin before being switched to dalbavancin to complete a four-week course of curative therapy. The case was flagged as a healthcare-associated bacteraemia and full duty of candour was enacted.

Methods
Action was taken both immediately and after discharge: The case was discussed in our staphylococcus aureus bacteraemia MDT. A morbidity and mortality report was generated and presented at our quarterly meeting. Complaint remediation was undertaken and a multidisciplinary Post-Infection Review (PIR) meeting and report generated.

Actions from the PIR saw alternative MRSA decolonisation practices identified within our organisation and best practice meetings with these departments facilitated the sharing of complementary practices. The types of line, dressings and decolonisation formulations used were reviewed and a business case was made to change decolonisation products alongside universal application. Education packages, new SOPs and competency re-review were all undertaken. Informal discussion with other OPAT units allowed practice comparison.

Results
No further MRSA bacteraemias have occurred within our OPAT unit since the changes were implemented.

Discussion
Healthcare-associated infection remains a risk for any patient accessing healthcare, however those requiring in situ lines or who are immunosuppressed experience increased risk of bacteraemia[1]. This poster highlights a case of line-associated MRSA bacteraemia in a patient in our OPAT unit. Cross-sectional root cause analysis enabled identification and implementation of practice change.

320: Haemodialysis central line associated bloodstream infections in an Irish tertiary care centre: a retrospective cohort study of the impact of the SARS-CoV-2 pandemic

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Introduction
Central line associated bloodstream infections (CLABSIs) are an important cause of morbidity and mortality for haemodialysis patients. In general patient populations, the incidence of CLABSIs increased during the SARS-CoV2 pandemic, however data on CLABSIs incidence in haemodialysis patients during the pandemic is sparse. This study aims to assess the effect of the pandemic on the incidence and nature of CLABSIs in haemodialysis patients in an Irish tertiary care centre.

Methods
This retrospective cohort study followed all adults with a tunnelled dialysis catheter attending Cork University Hospital's dialysis unit for regular outpatient haemodialysis between 01/01/2018 – 31/03/2022. Negative binomial regression modelled the difference in CLABSI incidence rates between the pre- and intra-pandemic (following implementation of enhanced infection prevention and control measures on 16/03/2020) periods. Sensitivity analysis was performed to assess the impact of changing patient risk-profiles between time periods.

Results
The 294 included patients contributed 72,956 total catheter-days. Overall, 49 CLABSIs occurred, 29 prior to and 16 during the SARS-CoV2 pandemic (corresponding to 0.397 vs. 0.198/1000 catheter-days). The incidence rate was significantly lower during the pandemic both before and after adjusting for potential confounders (adjusted incidence rate ratio: 0.676, $p<0.001$). Staphylococcus aureus accounted for 57.8% of CLABSIs. The observed difference in incidence rate could not be explained during sensitivity analysis by a change in patient demographics.

Conclusions
This study demonstrated a significant decrease in CLABSI incidence for haemodialysis patients during the SARS-CoV2 pandemic, with the finding being robust when controlling for covariates and during sensitivity analysis. This supports the hypothesis

Immunisation

49: Effect of mRNA COVID-19 Vaccines on Transmission Risk from Breakthrough Infections: A Systematic Review and Meta-Analysis of over five million study

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Introduction
Seasonal and pandemic respiratory viruses remain leading cause of global morbidity and mortality. However, there has been no trial assessing how vaccination reduces transmission which could significantly reduce the global burden of pandemic. Therefore, we conducted a systematic review and meta-analysis to quantify the impact of mRNA vaccines on SARS-CoV-2 transmission.

Methods
Database (Medline, Embase, Cochrane Library) was searched up to June 2024, for studies reporting outcomes on breakthrough infection and transmission following mRNA vaccines. Three epidemiological settings were explored; population, household and nursing homes. (PROSPERO ID:CRD42024595502)

Results
5,385,402 participants from 22 studies conducted across 13 countries were included. Those with two dose vaccinations had lower risk of breakthrough infection compared to unvaccinated cohorts in population studies (pooled adjusted RR:0.19;95%CI:0.11–0.33). Similarly, in household and nursing home studies, the risks of secondary infection remained lower in vaccinated index cases compared to unvaccinated index (pooled aRR:0.66;95% CI:0.48-0.90, pooled RR:0.51;95% CI: 0.28–0.91, respectively). Our viral load data showed that cycle-threshold values were lower in the elderly, vaccinated individuals, compared to younger, unvaccinated cohorts. Our sensitivity analyses showed that there was no dose-response relationship between increasing doses of vaccination and transmission, and hybrid immunity did not confer extra protection against breakthrough infection.

Discussion
Our findings imply that the principal protective effect of mRNA vaccines lies in preventing infection through boosting immunity of contacts, with a modest effect on reducing transmissibility of index cases. This highlights the need to shift vaccine development toward platforms that target transmission to reduce the risk of future pandemics.

126: A retrospective analysis of the antibiotic burden of vaccine-preventable disease (VPD) admissions

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Background:

Vaccination has both direct and indirect effects on infection management and may contribute to antimicrobial stewardship efforts. We sought to characterise antibiotic use in Vaccine Preventable Diseases to help understand it's potential role in antibiotic stewardship.

Methods:

Retrospective review of adults admitted to Hull University Teaching Hospitals NHS Trust with microbiological proven VPDs (outlined in the UKHSAs Green book- with the exclusion of COVID-19) in the years 2019 and 2022. Defined Daily Doses (DDD) were calculated for each VPD. Readmission and 12-month mortality rates were calculated along with vaccine eligibility based on medical history.

Results:

The majority of the VPDs for both years were Influenza diagnoses, followed by invasive Streptococcal pneumoniae. Pneumococcal disease accounted for 357 total DDDs in 2019 and 414 DDDs in 2022, with 170 and 361 total bed days used for 2019 and 2022 respectively. Pneumococcal 12-mortality was 68% in 2022 which is slightly higher than the 63% in 2019. Varicella infection in 2019 had a total DDD of 24 doses, and a total bed day cost of 30 days which significantly increased in 2022 to 93 DDDs and 257 total bed day usage. 12-month mortality post Varicella infection was 86% in 2022 compared to 57% in 2019.

Conclusion:

Vaccine preventable diseases were associated with a large burden of antibiotic use along with a significant bed stay representing a substantial burden to NHS resources. Increasing vaccination rates may be a potential strategy in improving antibiotic stewardship and reduce NHS pressures.

130: An audit of pneumococcal vaccine status among patients admitted with invasive pneumococcal disease to St James's Hospital in 2024

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Introduction

Invasive pneumococcal disease (IPD) is characterised by the presence of Streptococcus pneumoniae from a sterile site. It is associated with significant morbidity and mortality. Two forms of pneumococcal vaccine exist, the pneumococcal conjugate vaccine (PCV) for paediatric populations and the 23-valent pneumococcal polysaccharide vaccine (PPV23) for adults over 65 years.

Aims

The aims of our study were to assess the pneumococcal vaccination status of patients admitted with IPD in 2024, identify if infection services recommended follow up vaccination post discharge and if vaccination then occurred. We aimed to compare our results to a 2019 audit of pneumococcal vaccination completed in St James's Hospital.

Methods

All inpatients who isolated S. pneumoniae from a sterile site in 2024 were included. All cases' hospital records were reviewed to identify demographics, clinical status, the serotype and susceptibility of S. pneumoniae, vaccination status and recommendations. General practitioners (GPs) were contacted for pneumococcal vaccination history.

Results

There were 33 cases of IPD in 2024, which is a 1.5-fold increase from 2019. 27% (n=9) had previously received a pneumococcal vaccine. No patient had their pneumococcal vaccination status documented. 60% (n=20) of cases had a vaccine recommendation post discharge from an infection specialty service, with 24% documented (n=8) on the discharge letter. 18% (n=6) of patients received a follow up vaccine. Serotype 4 was the most frequently isolated serogroup identified.

Conclusion

There has been a local increase in IPD and reduced vaccination prevalence. Further work is needed to encourage patients and GPs to increase community pneumococcal vaccination.

182: Effectiveness of the live attenuated (LAIV) and inactivated (IIV) influenza vaccines in children: a meta-analysis of interim data (based on cases through February 2025) from the 2024-25 influenza season

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Background: Many European and North American countries recommend seasonal vaccination against influenza for children. Studies on interim vaccine effectiveness (VE) provide an early look at protection during the first part of the influenza season. Interpretation is difficult when there are multiple and differing estimates of VE. We therefore conducted a meta-analysis to pool interim VE estimates for live attenuated (LAIV) and inactivated influenza (IIV) vaccines to enable easier interpretation.

Methods: Interim 2024-25 influenza VE estimates (to 30 June 2025) were identified in published literature (including pre-prints) and from government websites. Estimates were categorised by influenza type/subtype and vaccine type (LAIV, IIV); missing estimates were classified based on the majority of children receiving either LAIV or IIV in the country. Random-effects meta-analysis was used to estimate pooled VE overall and by influenza type/subtype for LAIV and IIV.

Results: 33 VE estimates were identified from test-negative design case-control studies in Europe and the United States of America, all against an outcome of laboratory-confirmed influenza. Studies provided data to late January/early February 2025. Pooled overall VE against any influenza for LAIV and IIV was 55% (95% confidence interval: 47-62) and 57% (42-68), respectively. Against H1N1 and B, LAIV and IIV had similar estimates (H1N1: 50% [34-62] and 50% [34-69]; B: 76% [55-87] and 69% [27-87]) with more uncertainty observed around H3N2 (44% [-529-95] and 37% [17-53]).

Conclusions: Interim data indicate that influenza vaccination provided moderate protection to vaccinated children during the 2024-25 season, with comparable protection offered by LAIV and IIV.

183: Experience of Uromune in a District General Hospital over a 2-year period

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Background: Recurrent urinary tract infections (UTI's) are common, with many patients relying on long-term antibiotic prophylaxis, vaginal oestrogen, methenamine hippurate, D-mannose and intravesical hyaluronic acid installations to control symptoms, with the additional challenge of rising antibiotic resistance.

Uromune is a sublingual vaccine given daily for 3 months, composed of 4 inactivated bacteria that commonly cause UTI's; E.coli, K.pneumoniae, P.vulgaris and E.faecalis

Objectives: To determine patient experience of Uromune in Hampshire Hospitals NHS Foundation Trust, over a 2-year period.

Methods: 14 women completed Uromune (1 course-10 patients; 2 courses-3 patients; 3 courses-1 patient) between 7/6/23 and 29/5/25. Notes were reviewed and patient feedback was obtained.

Results: The women were aged between 31 and 89 and had tried on average 4 other treatments to prevent UTI's, some with significant side effects. They reported symptoms of a UTI between every 2 weeks and every 3 months pre-Uromune, not every episode was culture confirmed. 10 /14 patients, reported using Uromune as 'positive', with a reduction in the frequency of UTI's, with 5 saying it was positively 'life changing.' The remaining 4 patients reported no significant improvement, although 3 were still taking their first course so it may have been too early to detect any improvement. One patient reported a mild worsening of her heartburn, the others reported no side effects.

Conclusion: The overall patient experience of Uromune was very positive, and in some patients had a significant impact on their quality of life.

Innovation and knowledge mobilisation in IPC

20: Introduction of Intravenous Cannulation, Audit and Training Team reduces PIVC-associated Staphylococcus aureus BSI and improves access to quality healthcare

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Introduction
Insertion and management of peripheral intravenous catheters (PIVCs), is one of the most common invasive procedures, performed in up to 100% of hospitalized patients and PIVCs are critical to the delivery of care. PIVC-associated bloodstream infections (BSIs), can lead to serious complications like sepsis; prolonged hospital stays, and increased healthcare costs. To reduce the risk of adverse effects to service users, health care professionals need appropriate education and training in PIVC insertion and management. PIVCs can cause BSIs and they are costly and have a significant mortality, especially when caused by Staphylococcus aureus, about 13%.
Aims & Objectives
- Improve practice of aseptic non-touch technique (ANTT)
- Reduce PIVC associated BSIs
- Enhance patient experience with insertion and management of PIVCs

Methods
- Baseline ANTT audits during Cannulation to assess gap in practice
- Empower both patients and HCPs - leaflet, posters
- Education and Training - HH & ANTT
- Use of new technology

Results
A multi-modal approach with current practice audits, feedback, education and training resulted in a reduction in PIVC-associated Staphylococcus aureus BSI in the hospital from 11 cases in each of 2022 and 2023 to 2 in 2024.
Conclusion
Education and training in the practice of ANTT, use of new technology to reduce failed Cannulation attempts in patients with difficult access has reduced PIVC associated blood stream infections. Reduction in the number of BSI improved outcomes for patients with PIVC and the associated reduction in extended stay and cost improved access to care for others.

63: Empirical research carried out in real-life indoor hygiene Living Labs provides valuable insights for improving infection prevention and control

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Objectives
Infectious diseases cause significant health and economic burdens, with indoor environments playing a key role in their transmission. Public spaces, as centers of human interaction, are critical points for potential spread. Our research focused on mitigating infections in built environments, especially to protect vulnerable groups like children, whose health also supports societal functioning by enabling parental workforce participation.
Methods
Research was conducted in several real-life indoor hygiene (IH) Living Labs, with extensive implementations of IH enhancing solutions (e.g., antimicrobial and touchless solutions). The bacterial load on touch surfaces, in drinking water, and in indoor air was assessed in reference and intervention units, and a preliminary evaluation of IH impacts on the bacterial load on touch surfaces was made. Both the costs related to technologies and renovation work, and the morbidity attributable to infectious diseases, were documented.
Results
The microbial analysis of indoor air, water, and touch surfaces suggest that the developed Living Lab units, both reference and intervention units, did not pose an additional burden of infectious diseases. A more detailed analysis of the impact of IH on bacterial load and morbidity to infectious diseases is in the making.
Discussion
This Living Lab initiative produced comprehensive datasets on reference and intervention units, enabling unbiased comparisons unaffected by temporal, spatial, or social factors. The data includes microbiological results, indoor air and water quality, and morbidity from respiratory and gastrointestinal infections. Cost-efficiency analysis of IH requires clear evidence of measurable benefits, as infection control resources are limited.

211: Health Economic Considerations for Implementing Proactive Whole Genome Sequencing (pWGS) in Infection Prevention and Control

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[1]Genpax

Background
The routine implementation of pWGS in healthcare settings holds significant promise for transforming infection prevention and control (IPC). However, realising its full potential depends on building a robust business case—grounded in a clear, evidence-based understanding of the health economic implications.
Method
This review examined recent literature to identify the key components currently used to evaluate the cost-effectiveness and broader system impact of pWGS.
Critically, baseline data must be established to measure intervention success. This should be followed by effectiveness data, including reductions in healthcare-associated infections (HCAIs), time to outbreak detection, shifts in antimicrobial prescribing, and improvements in patient outcomes such as complications, readmissions, mortality, and quality-adjusted life years (QALYs) or disability-adjusted life years (DALYs).

Results
Cost components can be broadly categorised into:
- Intervention costs (e.g. staff time, training, sequencing consumables);
- Healthcare utilisation costs (e.g. avoided escalation to intensive care, reduced length of stay);
- Costs of HCAIs (broken down by infection type and clinical severity); and
- Indirect costs, which may be less visible and harder to calculate but include lost productivity due to illness and the wider burden on caregivers and society (including QALYs and DALYS).

Conclusion
The data needed to support economic evaluations and inform business cases for the adoption of pWGS in IPC strategies can be systematically categorised into clinical impact measures, economic cost components, and contextual implementation factors.
This structured approach helps simplify the evaluation process, making it easier for healthcare providers to implement pWGS as part of their IPC strategies.

213: CPE at CUH 2015-2025: A Decade of Expansion and the Impact of Antibiotics on Screening Sensitivity

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Objectives
To describe trends in carbapenemase-producing Enterobacterales (CPE) at Cambridge University Hospitals (CUH) over the past decade, and assess the impact of recent antibiotic use on CPE screening sensitivity.

Methods
Retrospective cohort study of all CPE-colonised CUH patients identified 2015-2025 (KPC, NDM, OXA-48-like, VIM, and IMP genes only).

Sub-group analysis performed on patients with ≥2 CPE screens and at least one 'false negative' – a negative screen between two positive screens with the same gene. Antibiotic exposure in the preceding week (quantified by 'Days of Therapy' and 'Days of Antibiotic Spectrum Coverage' scores) was compared between 'false negative' and positive screens to explore its impact on screen sensitivity.

Results
The number of newly identified CPE-colonised patients/year rose from 0 (2015)-107 (2024). This increase was primarily driven by expansion of NDM- and OXA-48-producing isolates. Whilst some of the rise was due to screening expansion, screen 'hit rate' also increased (0.2% in 2016 vs 0.9% in 2024), and the resultant side room requirements for CPE-colonised patients rose from 143 (2016) to 4737 (2024) days/year.

Antibiotic exposure was significantly lower prior to 'false-negative' screens compared to positive screens (p=0.04). A dose–response effect was observed, with lower antibiotic exposure associated with lower screen sensitivity (p=0.03).

Discussion
CPE continues to expand at CUH primarily due to NDM and OXA-48 producers. Reduced screen sensitivity in abscence of recent antibiotics challenges current single-screen admission policies.

Conclusions
CPE is a growing problem at CUH. Enhanced screening may be needed, especially for patients without recent antibiotic exposure.

285: Review of Parvovirus B19 Infection Prevention and Control (IPC) at Royal Free Hospital London (RFH)

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Introduction: An August 2024 briefing from UKHSA alerted centres to rising numbers of B19V cases nationally.[1] We have similarly observed an increase, highlighting a lack of clear local guidance prompting this review. National guidance relies upon symptom development[2], often absent in our solid organ transplant (SOT) patients.

Method: Patients with a positive IgM or PCR results identified (n = 76). Patients had time to appropriate isolation assessed, each hospital encounter was recorded as a distinct episode.

Interventions:
1. Patients discussed in weekly (2024.4)
2. Electronic 'chronic infection' flags added to patient records (2024.4)
3. Electronic alert for IPC team to review (2025.1)
4. Presentation to IPC team to improve awareness (2025.1)
5. Standardised comment for notes (May 2025.2)
6. Contact tracing algorithm (2025.2)

Results: For 106 hospital encounters (34 outpatient; 72 inpatients),18% were appropriately isolated 2024.1-2024.3 (before interventions), and 46% were appropriately isolated 2024.4 – 2025.2. There was a doubling of encounters when comparing the period 2024.1 - 2024.3 (n = 32), and 2024.4 – 2025.2 (n = 74).

Discussion: Increasing number of cases may have been influenced by increasing community circulation and increased testing in our centre. A viraemia threshold of $<10^4$ IU/ml has been suggested to differentiate past infection[3,4], but not explicitly lack of infectivity. Molenaar-de-Backer et al. Suggested some detection of B19V DNA may represent non-infectious DNA presence, and not replicative virus[5]. Accounting for uncertainty, and the risks of severe disease in SOT patients, we took a cautious approach treating all viraemia as potentially infectious.

319: Utility of Rapid Point-of-Care Testing during a Streptococcus pyogenes Outbreak in an Acute Hospital Medical ward

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Background: In healthcare-associated outbreaks of invasive S. pyogenes, detection of healthcare worker (HCW) carriers must be rapid to prevent onward transmission.

Aims: To evaluate utility of point-of-care testing (POCT) for carriage during S. pyogenes outbreaks.

Methods: POCTs were pre-selected based on laboratory-based sensitivity. Outbreak management followed national guidelines, with introduction of POCT for HCWs.

Outbreak: Patient A developed cellulitis and S. pyogenes bacteraemia 51 days after admission to hospital; the patient had been in a side room on ward Z for 28 days prior to bacteraemia. During enhanced surveillance, 43 days later Patient B developed fever and acute pneumonia, after 498 days in hospital in another side room on ward Z. Sputum culture yielded S. pyogenes. Both S. pyogenes isolates were macrolide-resistant (both emm12).
Ward Z staff were asked to attend for screening. 145 HCWs were screened. Throat swab POCT identified 4/145 HCWs to be positive. All 4 commenced immediate treatment, returning to work 24h after antibiotics started. Throat swab culture identified scanty S. pyogenes from 3/4 HCWs (2/3 positives were emm12). Reporting of positive results took 5-6 days. Sequencing identified close genomic relatedness between patient and HCW isolates (max 3 SNPs apart) consistent with a common source. None showed genomic linkage to broader community emm12 isolates. No further cases arose in the ensuing 3 months of enhanced surveillance.

Conclusion: Swabbing confirmed recent or ongoing transmission of S. pyogenes. POCT provided enormous operational advantage in implementing rapid measures to protect patients and should be evaluated in other outbreak settings urgently

330: Use of KurinJet® blood collection devices to reduce blood culture contamination rates in a district general hospital

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[1]University Hospital Coventry And Warwickshire, [2]South Warwickshire Foundation Trust, [3]Iskus Health

Background
KurinJet®, a CE marked class IIa medical device for collecting blood cultures, works by sidelining the first 0.15ml of blood drawn, potentially isolating blood contaminants. The system is automatic, quick and easy to use, being similar to current devices used.
Kings College London found a 65.5% reduction in blood culture contamination rates (9% to 3.1%) in their emergency department (ED). They estimated widespread adoption of KurinJet® could save £4.6 million for the whole Trust and £1.3 million in their ED (Atta and Mcguire, 2022), and free up 5,051 bed days for the Trust. Hodson et al (2021) found a similar reduction at Guy's and St Thomas', (6% to 2%, 66% reduction) with estimated savings of £28-72,000 during the 5-month evaluation period.

Objectives
To evaluate if KurinJets® could reduce the number of blood culture contaminants in South Warwickshire Foundation Trust (SWFT) ED.

Methods
A baseline contamination rate of 6.6% for April 1st 2023 to March 31st 2024 was obtained using a numerator of total number of contaminated blood cultures (as determined by clinical microbiology), and denominator of total number of blood cultures taken.
The evaluation was undertaken in SWFT ED between 7th October and 3rd December 2024.

Results
Results showed contamination rates fell to 2.9% (56.1% reduction). Using Alahmadi et al's (2011) calculations, this could potentially save SWFT 1,058 bed days and £1,051,676 per annum.

Conclusions
KurinJet® reduced blood culture contamination rates in ED. We plan to implement KurinJet® as the main blood collection device in ED at SWFT.

Outbreaks

53: Media Analysis of Group A Streptococcus Reporting in UK Newspapers during the 2022/23 Epidemic

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Background: An increase in infections caused by Group A streptococcus (GAS), including invasive GAS (iGAS), was observed in the UK during the 2022/2023 season. Media reporting of health issues is known to influence public understanding and subsequent health-seeking behaviour.

Aim: To examine UK newspaper reporting of GAS during the epidemic, analysing the prominence and representation given to different aspects of the epidemic to better understand how reporting aligned with epidemiological evidence and guidelines for outbreak management.

Design and setting: Thematic analysis of national newspaper articles about GAS during the epidemic period: September 12, 2022 - June 18, 2023.

Method: Articles were retrieved from the Nexis database. A coding frame of thematic categories was developed iteratively to inform analysis.

Results: 326 articles were analysed. Coverage was dominated by emotive narratives, particularly those involving child deaths. GAS was framed as both a historic and fast-acting threat, often indistinguishable from common viral illnesses. Antibiotics were portrayed as essential yet scarce, with little attention given to resistance. The NHS was depicted as under pressure, slow to respond, or dismissive of concerns. The concept of “immune debt” was widely used to explain the epidemic.

Conclusion: Emotive media narratives during the GAS epidemic, especially those focused on children and rapid deterioration, increased pressure on GP, A&E, and pharmacy services while downplaying risks to other vulnerable groups, such as older adults. Closer collaboration between health professionals and the media is vital to ensure accurate, balanced messaging that supports public understanding and helps reduce strain on healthcare systems.

71: A Sinking Feeling: A large outbreak of carbapenemase-producing Enterobacterales associated with patient use of hospital sinks controlled with the use of bottled water for oral hygiene and peracetic acid drain decontamination

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Introduction:
Carbapenamase-producing Enterobacterales (CPE) are a significant infection control concern in hospitals, with waste water systems, including sink drains, increasingly implicated as an ongoing reservoir.

Methods:
We describe a prolonged outbreak of CPE, involving 36 patients on a 17-bedded ward at Worcestershire Acute NHS Trust, United Kingdom, between May and September 2024. Despite comprehensive control measures including full ward-closure, terminal disinfection with hydrogen peroxide vapour (Inivos) as well as drain decontamination with chlorine dioxide (Tristel), cases of ward-acquired CPE colonisation continued to be identified.

Results:
Extensive investigations undertaken to assess the ward environment failed to identify a point source. Epidemiological investigation did not reveal any links between patients apart from admission to the outbreak ward. However, patient screening showed rapid CPE acquisition following admission, suggestive of ingestion of organism from a source on the ward.

As such control measures focused on limiting patient contact with ward sinks. Bottled water was implemented for patients' oral hygiene needs and use of sinks was prohibited other than for hand washing. Tristel was replaced with peracetic acid (Gamma) with daily application to all drains on the ward.

Use of bottled water was discontinued after 2 weeks and further cases of CPE colonisation were rapidly identified. This strongly suggested sink drains were the ongoing source, hence use of bottled water was reinstated for a further 8 weeks. Peracetic acid remained in use.

Conclusions:
No further cases of CPE were identified despite ongoing robust screening. Hence, combined use of both interventions achieved outbreak termination.

91: Public health outcomes from Lassa fever incidents in the UK

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Background
Lassa fever is an acute viral illness caused by Lassa virus, first identified in 1969 in Lassa, Nigeria. It is a rodent-borne zoonosis endemic in parts of West Africa and classified as a high consequence infectious disease (HCID) in the UK.
Aims
To review public health outcomes among contacts of confirmed Lassa fever cases in the UK.
Methods
We reviewed both public health responses and published case reports related to confirmed Lassa fever incidents.
Results
Since 1971, there have been 16 confirmed cases of Lassa fever in the UK. Of these, 14 were associated with exposure outside the UK, while two were locally acquired. Additionally, two international cases triggered public health responses, including contact tracing, in the UK.
Since the 1980s, nearly 2,000 contacts have been identified through public health investigations related to incidents. Of these, 1,403 were classified as higher-risk due to their level of exposure and monitored accordingly. Several contacts developed symptoms during their 21-day follow-up period and were tested under HCID protocols. In 2022, secondary transmission occurred among close household contacts of a case. To date, no secondary transmission has been reported among healthcare workers.
Conclusions
Secondary transmission of Lassa fever in the UK is extremely rare, mirroring the global pattern where spread outside endemic areas is uncommon. Since 1969, 38 cases of imported Lassa fever have been reported globally, with four secondary cases. Considering the low secondary attack rate, periodic review of HCID classifications may help ensure that designations remain appropriate and proportionate to risk.

99: Why are pandemic responses to emerging infections so different between nations? A historical perspective using the case studies of Hong Kong and UK

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Pandemic responses differ between countries. Currently, no data synthesis exists regarding the role of examining historical approaches to non-pharmaceutical interventions (NPI) influenced present approaches. We performed a systematic review investigating adoption of NPI to historical outbreaks within both the UK and Hong Kong. We identified 15 publications, ranging from the 16th to the 21st century. In the 19th century, germ theory drove the shift in public health measures to urban-focused interventions such as compulsory disease notifications and hygiene reforms. Recurring epidemics in 1872 such as cholera and yellow fever led to emergence of medical inspection quarantine. In the 20th century, smallpox arrived in Liverpool and trigger the 1901-1903 outbreak; making vaccination compulsory for stopping transmission. Meanwhile, Hong Kong faced dual epidemics in the late 1800s with malaria and plague; and during the late 1800s, Alexandre Yersin identified Yersinia pestis as the causative agent of the plague, causing public health strategies to become more stringent and invasive. Emerging germ theory also influenced hospital designs, allowing a more refined infrastructure that allowed Hong Kong to efficiently contain future outbreaks, such as avian flu and SARS. Our results suggest that a historical lens is crucial for better understanding of why different countries have differential approaches to pandemic preparedness.

110: A challenging Acinetobacter nosocomialis outbreak in an Irish tertiary hospital

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Background:
Acinetobacter nosocomialis, part of the A. baumannii complex, is an opportunist associated with healthcare transmission, particularly in intensive care unit (ICU) settings.

Methods & Results:
In October 2024, an outbreak control team (OCT) was convened following detection of A. nosocomialis in respiratory specimens from three ICU patients. The presumed index case, a patient with traumatic brain injury, had A. nosocomialis cultured from a wound and respiratory specimens. Cross-transmission to five additional patients across two ICUs was suspected.
The OCT investigated potential transmission routes, including shared equipment and specimen collection techniques, with no breaches identified. Environmental and hand hygiene audits were conducted, decontamination enhanced, and staff education provided. Patient isolation was recommended as further cases emerged. The outbreak was contained and closed in December 2024.
In January 2025, further cases were identified on a neurosurgical ward, linked to one high dependency patient from the initial outbreak. The OCT was reconvened, with implementation of similar control measures. The second outbreak involved five cases and was closed in May 2025.
Thirteen patients had an A. baumannii complex organism isolated across two phases and three wards, with six requiring treatment. On-site next generation sequencing (NGS) confirmed that 10 of 13 isolates belonged to ST217, supporting the hypothesis of clonal transmission in these patients only.

Conclusion:
This outbreak highlighted the challenges of managing transmission of A. nosocomialis in high dependency neurosurgical patients in a hospital with limited isolation capacity and the utility of the discriminatory power of NGS to determine cross transmission events.

172: Vancomycin Resistant Enterococci outbreak in Intensive Care Unit: Managing patients and the environment

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Objectives

- To limit an outbreak of Vancomycin Resistant Enterococci (VRE) identified in a district general ICU during routine screening.
- To understand the role of the environment in the outbreak
- To learn what control measures work, to implement in other high-risk areas

Methods

The ICU has admission, weekly and discharge screening of VRE, CPE and MRSA in place for patients. In September 2024, an outbreak of VRE was identified (3 cases), an outbreak incident team was put together and measures put in place. The numbers continued to rise, presently, 34 acquired cases. No clinical isolates identified.

UKHSA carried out environmental screening in May 2025 and sequenced the patient samples

Results

Three distinct clusters of patients. The greatest cluster contains 8 patients, the patients have the same VNTR as a sink and the floor scrubber.

Discussion

Unknown if the VRE is aquatic; the sink which was swabbed was sampled a various points.

At time of writing, water sampling pre and post filter to be undertaken, as well as cleaning cloths and equipment.

Theory that VRE is seeded in the environment and spread via environmental cleaning (evidenced by floor scrubber)

Role of sinks and splash, there is a sink in every bed space. Limited tap water reaches the patient (oral for drinks only). Care has moved to wipes for bathing and sterile water for wounds, tracheostomy and mouth care.

Conclusions

Will ‘waterless’ ICU solve this outbreak? Not alone, change of human behaviours in how the environment is used and cleaned.

219: An outbreak of NDM Klebsiella pneumoniae on a Neonatal Intensive Care Unit: the importance of an MDT approach to outbreak control

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Outbreaks of healthcare-acquired infections represent a significant cause of morbidity and mortality on neonatal intensive care units, where management of complex extremely pre-term neonates is challenging.
On D14 of admission the index neonate was found to be colonised with NDM Klebsiella pneumoniae on a nasopharyngeal aspirate, likely acquired from the mother who was high-risk for CPE. Contact screening of neonates on the unit identified a further two cases. This raised concerns of transmission within the unit through the environment, equipment, visitors, or staff.
Following an initial outbreak meeting and follow-ups with the NICU team a series of procedures and protocols were established and implemented. These included regular screening of all neonates on NICU, enhanced cleaning of the unit, decontamination of equipment and sinks, review of parental accommodation facilities, restricting the use of communal areas by all parents of neonates, close contact restrictions, and ensuring appropriate use of PPE by staff and relatives by increasing awareness, teaching, and training. Trust maternity CPE screening protocol was revised to ensure high risk admissions are screened and isolated appropriately.
Neonates were colonised and had invasive infections including mortality associated with CPE.
Following intensive efforts, the outbreak was closed after three months once no new cases had been identified for six weeks.
We would like to share the challenges faced by the neonatal, IPC, and Estates teams in controlling this outbreak, including the National impact of an outbreak with MDRO in a specialist neonatal unit.

322: Beneath the surface: the role of drains in OXA-48 CPE transmission

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[1]Nottingham University Hospitals NHS Trust

Background: Carbapenemase producing Enterobacterales (CPE) are a global health concern with outbreaks arising from patient and environmental sources.

Aim: To describe the investigation and control of an outbreak of healthcare-associated OXA-48 CPE on an inpatient haematology ward.

Methods: Routine CPE screening and clinical microbiology samples detected three haematology inpatients colonised with an OXA-48 producing CPE, 2 in Enterobacter hormaechei and 1 in Escherichia coli. A retrospective review revealed the patients had stayed in the same side room as an earlier patient know to be colonised with E.coli OXA-48. The outbreak team performed prospective case finding and environmental sampling. Control measures were implemented including case isolation and additional cleaning.

Findings: Three cases of nosocomially acquired OXA-48 infection were linked in place to an inpatient side room. Swabs of the ensuite shower drain were positive for E. hormaechei OXA-48, matching the 2 previous Enterobacter patient cases on typing. Whilst full plasmid typing was not performed, the reference laboratory detected incL/M plasmid replicons, supporting the hypothesis of a shared plasmid between the organisms and nosocomial transmission. Ultraviolet splash testing of the shower drain did not suggest this as the route of cross transmission. It was noted that the shower head was not attached to the wall and as such could fall onto the drain, acting as a possible route of cross transmission (negative at time of swabbing).

Conclusion: Good bathroom design is crucial to reduce the risk of CPE transmission. In addition, the ability to rapidly type plasmids aids outbreak management.

325: Ocular Syphilis the in North East of England: Increasing Case Numbers, Changing Demographics and Missed Cases Highlight the Need for Public Health Interventions, Health Professional Education and Awareness, and a High Index of Suspicion for Testing

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Ocular syphilis is a potentially blinding condition that can be treated with good outcomes if detected early enough. We present preliminary data on the changing demographics of patients seen in the Newcastle Eye Centre, and highlight opportunities for earlier diagnosis.
Data collection and processing were done in accordance with Caldicott principles and approved by the information governance department. Statistical analysis was done using t-test and chi-squared tests.
75 patients (11 female, 64 male; mean age 46.11 (SD 13.89) years) presented with ocular manifestations of syphilis between 2003 and 2025. Between 2003 and 2023, there were a mean of 2.04 cases per year (range, 0 to 6; median 2). In 2024, 15 cases were seen in the department; in 2025 (to September) 17 cases. This is an increase of over 700% in cases per year comparing the periods before and after January 2024.
Looking at demographics, there has been an increase in women diagnosed with ocular syphilis (5% female before January 2024; 28% female after January 2024; p=0.004). There has been no statistically significant change in age, sexuality, or HIV status.
23 patients had previously seen healthcare services with other syphilis symptoms. The most common symptom seen for was rash (13 patients). 7 patients underwent invasive procedures for suspected malignancy or giant cell arteritis before syphilis was diagnosed.
This case series shows that ocular syphilis rates have been significantly increasing in our region. It highlights the importance of awareness of syphilis symptoms across different specialities, and low thresholds for considering testing.

Outpatient Antibiotic Therapy

22: Preserving Stewardship in Expanding OPAT Services: Risks, Realities, and Recommendations

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Outpatient Parenteral Antimicrobial Therapy (OPAT) services are increasingly utilized across the United Kingdom, offering clinical and psychological benefits by enabling patients to receive treatment at home. However, limitations in outpatient antibiotic options may challenge antimicrobial stewardship (AMS) principles. This retrospective study evaluated whether OPAT prescribing aligns with AMS standards and whether outcomes are non-inferior to inpatient care. This study was conducted at a tertiary care hospital serving a large catchment area reviewing indications, prescribing patterns, and antimicrobial choices among OPAT patients. The most common indications were urinary tract infections (29.6%), respiratory tract infections (25.9%), and skin and soft tissue infections (18.5%). The most frequently used agents were piperacillin-tazobactam via Baxter pump (44%) and ceftriaxone (29.6%). Due to limited outpatient options, 37% of patients received broad-spectrum antibiotics—such as carbapenems and third-generation cephalosporins—despite availability of narrower-spectrum alternatives in the inpatient setting. Findings highlight a tension between expanding OPAT access and maintaining AMS. Until more antimicrobial formulations options become available for outpatient delivery, careful patient selection is essential to prevent unnecessary use of broad-spectrum agents. To preserve the integrity of AMS, we recommend implementing strict patient eligibility criteria and monitoring via key performance indicators (KPIs).

65: Enteric fever with bacteraemia: review of local management and OPAT utilization

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[1]Chelsea And Westminster Hospitals NHS Foundation Trust

Background: Chelsea and Westminster NHS Hospitals, in West London, serves a diverse population with frequent travellers, associated with cases of enteric fever (EF). This study aims to review local management of EF with bacteraemia.

Method: Retrospective review of patients with positive blood culture for Salmonella typhi or Salmonella paratyphi between 1 Apr 2021 – 31 Mar 2025.

Results: There were 59 episodes of bacteraemia, S. typhi (n=38), S. paratyphi (n=21), across 57 patients. 58 episodes were travel-associated, predominantly from India (n=34) and Pakistan (n=20). 2 episodes met the definition for complicated EF (encephalopathy, metastatic infection). Median duration of effective therapy was 14 days (IQR 10-14).

OPAT was utilised in 49 episodes, median OPAT duration 8 days (IQR 4-10). OPAT choice included ceftriaxone (n=45) and ertapenem (n=4). Following OPAT, oral antibiotics were prescribed in 21 episodes, median duration 7 days (IQR 5-10). Oral antibiotics included azithromycin (n=16), co-trimoxazole (n=3), and amoxicillin (n=2).

Treatment failure (fever >38C after 7 days of effective treatment) was observed in one episode, leading to admission for further treatment, with no additional complications. Relapse (repeat bacteraemia after 28 days) was observed in 2 patients. One child received ceftriaxone followed by oral amoxicillin. He was re-treated with ceftriaxone and azithromycin. The other recrudesced 3 weeks after completion of her initial antibiotics. She was diagnosed with T10-T11 and T11-12 discitis due to S. typhi.

Conclusion: OPAT appeared to be safe and effective at managing patients with EF. The long median duration of therapy prompts review of bespoke treatment advice.

93: Just switch them to orals and send them home - variable monitoring and adverse events in Complex Outpatient Antimicrobial Therapy (COpAT) services across West Yorkshire

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[1]Mid Yorkshire Teaching NHS Trust, [2]Leeds Teaching Hospitals NHS Trust , [3]Airedale NHS Foundation Trust , [4]Calderdale and Huddersfield NHS Foundation Trust , [5]Bradford Teaching Hospitals NHS Foundation Trust

Introduction
Complex infections can be treated effectively with oral antibiotics. Patients should still receive safe and effective care, with monitoring by a Complex Outpatient Antimicrobial Therapy (COpAT) service. No guidance states which oral regimens require monitoring, but suggested criteria is courses over 30 days or antibiotics that can cause significant adverse events.

Methods
Aim: To understand what monitoring is currently undertaken and rates of adverse reactions.
Within West Yorkshire Integrated Care Board (ICB), only Leeds Teaching Hospitals' provide a COpAT service. Data collection was focused on two specific antibiotics used at LTHT; co-trimoxazole and linezolid.
Data was collected from five acute trusts in the West Yorkshire (ICB) retrospectively from December 2024, with the aim of 20 patients per site.
Results
85 patients were treated with co-trimoxazole (61%) or Linezolid (32%). Mean course length for co-trimoxazole was 30 days with 24 days for linezolid. Weekly blood monitoring occurred in 83% of patients.
212 blood samples were taken and 29 required intervention, 26 due to co-trimoxazole and 3 due to linezolid. 5 patients required treatment in secondary care.

Conclusion
The adverse event rate was 21%, with 13% of patients receiving no monitoring. More adverse events were reported with co-trimoxazole, it was more commonly prescribed and for longer courses. Oral antibiotics reduce burden on OPAT services and acute hospitals, but a robust system is needed for monitoring, to prevent readmission and adverse events.
There is a need for standardised COpAT monitoring requirements, including which antibiotics to monitor, the frequency and type of monitoring.

131: Safety and efficacy of dalbavancin therapy in the outpatient parenteral therapy (OPAT) setting

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Dalbavancin is a long-acting glycopeptide antibiotic licensed for use in acute bacterial skin and skin structure infections (ABSSSI). Standard dosing regimens for this indication are a single dose of 1500mg intravenously or 1000mg initially, followed by 500mg on day seven. Dalbavancin's prolonged half-life makes it an attractive option for use outside its licensed indication particularly in the OPAT setting. Here we describe 12 months experience of dalbavancin use in our OPAT service.
Eight patients received dalbavancin via OPAT between July 2024 and June 2025. The clinical diagnoses were chronic prosthetic joint infection (1), endocarditis (3), spinal infection (3), vascular graft infection (2); (one patient had endocarditis and discitis). Four patients received more than one course of treatment; one patient with aortic graft infection (no curative surgical option and previous breakthrough infection on oral suppression) received 12 doses (1500 mg given 1 week apart every 2 months) as a palliative strategy.
No patient has reported any treatment side effects and there have been no concerns on blood monitoring supporting the safety of this approach. Seven out of eight patients have not required readmission and have not had relapses of infection. Relapse was observed in one patient treated for aorta bifemoral bypass graft infection with underlying large vessel vasculitis; they improved with the addition of Gram-negative cover.
Our data supports the use of dalbavancin as a safe and effective option to manage deep seated infection caused by Gram-positive organisms. The optimal dosing regime is unclear and warrants further research.

191: Partial Oral Antibiotics for Infective Endocarditis: Real-world Implementation Analysis at Oxford University Hospitals NHS Foundation Trust

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Introduction:

Randomised trials, such as POET, have demonstrated non-inferiority of early oral switch (EOS) antibiotic treatment compared to intravenous therapy in select patients with infective endocarditis (IE). While international guidelines support this practice, real-world uptake remains variable. We developed a local treatment guideline and present IE case data before and after implementation.

Methodology:

We conducted a retrospective benchmarking audit of all IE cases managed by our service over a one-year period and IE patients managed by our Complex Outpatient Antimicrobial Therapy (COPAT) team. Individual participant-level data were collected and analysed to assess local clinical outcomes before implementation and potential eligibility for EOS treatment according to our local guidelines. Prospective post-implementation data were collected through the endocarditis multidisciplinary team.

Results:

Amongst the retrospective all IE population, there were 103 probable/confirmed IE cases with a 6-month mortality of 19% (20/103). In the COPAT-managed population, 6-month mortality was 13% (6/45). Both populations had high readmission rates. Around half of the COPAT-managed population would have been eligible for EOS treatment according to our guidelines, equating to approximately 13 patients per year. Our local guidelines were initially implemented to a perceived low-risk patient group of native valve viridans group streptococci IE cases. These were subsequently expanded to all eligible organisms and valve types after initial low uptake.

Discussion:
There is scope for application of guidelines to our local patient population, acquiring experience of EOS treatment for IE. Ongoing prospective data will compare local clinical outcomes with other published real-world implementation studies and local benchmarking outcomes.

218: Safety and Efficacy of Flucloxacillin Intravenous Infusion via Elastomeric Pump for Methicillin-Sensitive Staphylococcus Aureus Bacteraemia – Experience of a North West London OPAT Service

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Background

The SNAP (Staphylococcus aureus Network Adaptive Platform) trial recently found cefazolin to be non-inferior to flucloxacillin for management of Methicillin-sensitive Staphylococcus Aureus (MSSA) bacteraemia, with significantly lower rates of acute kidney injury (AKI). Cefazolin, however, cannot be delivered as outpatient parenteral antimicrobial therapy (OPAT).

Methods

To evaluate safety and efficacy, retrospective analysis was performed of all patients receiving flucloxacillin elastomeric infusion devices via OPAT at London North West University Healthcare during treatment of MSSA bacteraemia from 2019-2025.

Results

60/61 patients had complete medical records available for analysis. Commonest infection sources were bone and joint (29/60, 48.3%), line-associated (9/60, 15%) and skin/soft tissue (7/60, 11.7%). Median duration of flucloxacillin pump therapy was 21 days (IQR 10–30 days). 58/60 patients (96.7%) received QDS IV flucloxacillin prior to pump administration (median 11.5 days, IQR 7–15 days). 18/60 patients (30%) received further antibiotics following flucloxacillin pump (14 oral and 4 alternative IV agent).
4/60 (6.7%) had documented side effects of whom 3 discontinued flucloxacillin. Only 1 patient experienced an AKI (Stage 1). 5/60 (8.3%) patients experienced relapse of infection requiring antibiotic prolongation.
57/60 patients (95%) have now completed antibiotics successfully. 2 patients remain on oral antibiotic suppression, and 1 patient with metastatic cancer died in hospice while completing prolonged oral antibiotics.

Conclusion

Flucloxacillin elastomeric devices are generally well tolerated and remain an effective option for patients with MSSA bacteraemia, permitting administration within the outpatient setting. Adverse effects and relapsed infection, albeit uncommon, demonstrate the need for close monitoring through specialist OPAT services.

310: Wards Without Walls: A Model for Complex Infection Care in the Community

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The Bristol Infectious Diseases Virtual Ward (IDVW) is a pioneering model of consultant-led community-based care for patients with complex infections. The service launched on one site in October 2024 and then expanded to both hospital trusts in January 2025. In addition to delivery of oral and intravenous antimicrobial therapy, it integrates telephonic consultations, wound care, welfare calls, and monitoring of microbiology and radiology results. This enables selected patients who are traditionally managed in hospital settings to receive the same high standard of care in their own homes.

Analysis of the records of 78 patients recruited to the IDVW across 3 months in 2025 demonstrates a diverse range of conditions, including cellulitis (26%), pyelonephritis or UTI (13%), discitis (11%), septic arthritis (6%), infective endocarditis (6%), osteomyelitis (4%) and PUO (4%). The mean duration of stay was 18.4 days with a re-admission rate of 17.2%. Across the 3-month period the service saved an estimated 981 bed days and £191,295 in costs.

Key innovations include AI tools to assist with active case-finding for patients, remote Doccla observations, and cross-site consultant ward rounds. Challenges we face are the relative under-representation of BME and IMD 1-4 decile populations, case-finding for patients based at distant hospital sites, delivering weekend services, and poorly designed EPR systems.

The Bristol IDVW demonstrates a scalable, cost-effective model for managing patients with complex infectious diseases in the community. Case studies highlight the transformative outcomes of individually tailored consultant-led care with high rates of patient satisfaction.

Pathogenesis

25: Persistent bacteremia and age-driven mortality in Enterococcal Infections: A Species-Level Comparison

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Enterococcus faecalis and Enterococcus faecium are major pathogens in hospital-acquired bloodstream infections, exhibiting distinct antimicrobial resistance profiles and clinical outcomes. E. faecalis typically remains susceptible to ampicillin, whereas E. faecium often demonstrates multidrug resistance, including vancomycin resistance. This retrospective study compared the clinical characteristics, infection sources, resistance patterns, treatment strategies, and outcomes of E. faecalis and E. faecium bacteremia in a tertiary care setting. A total of 111 cases were reviewed: 39 caused by E. faecalis and 72 by E. faecium. E. faecalis was more frequently associated with genitourinary infections (51.3% vs. 16.7%, $p<0.001$), whereas E. faecium was more often linked to intra-abdominal (22.2%) and line-associated infections (18.1%). Persistent bacteremia was significantly more common with E. faecium (71.4% vs. 0%, $p=0.001$). The overall 28-day mortality rate was 22.5%, with higher crude mortality observed in E. faecium cases (26.4% vs. 15.4%), though this difference was not statistically significant. Age ≥64 years was independently associated with increased mortality ($p=0.039$; HR 2.9, 95% CI: 1.1–8.6). These findings highlight important clinical differences between the two species. E. faecium bacteremia was associated with greater persistence and higher mortality, supporting the need for close monitoring and repeat blood cultures. In contrast, E. faecalis showed better treatment response, suggesting that repeat cultures may be less critical in uncomplicated cases. Older age remains the strongest predictor of mortality, emphasizing the need for timely intervention in elderly patients.

291: mRNA Sorting Signals: Unveiling Cis-Regulator Elements Shaping Exosomal Cargo during Sepsis

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Abstract

Background: Exosomes, nano-sized extracellular vesicles rich in RNA, DNA, proteins, and lipids, are emerging as pivotal mediators of intercellular communication in both health and disease. They play crucial roles in transferring molecular signals and have been linked to various pathological conditions, including cancer, cardiovascular diseases, neurodegeneration, and sepsis. Their ability to cross biological barriers has made them promising candidates for mRNA-based therapies. However, the mechanisms governing selective mRNA packaging into exosomes remain largely undefined.
Material and Methods: In this study, exosomes were isolated from LPS-treated THP-1 monocytes via multi-step ultracentrifugation. RNA was extracted and analyzed using RNA-Seq, identifying the 86 most abundant exosomal mRNAs. Their untranslated regions (UTRs) were analyzed with the MEME program, revealing conserved sequence motifs. Reporter gene constructs containing or lacking these motifs were engineered using conventional and NEBuilder cloning methods and transfected into cells. Exosomal RNA was quantified via qPCR, and reporter protein expression within exosomes was assessed using Stimulated Emission Depletion (STED) and confocal microscopy.
Results: Strikingly, only constructs containing the conserved UTR sequences successfully packaged both reporter mRNA and protein into exosomes. Constructs without these motifs failed to incorporate either.
Conclusions: This study identifies conserved 3’-UTR sequence motifs as essential signals for mRNA sorting into exosomes. These elements act as molecular tags for selective RNA loading, offering a powerful tool to engineer exosomes as targeted delivery vehicles. This discovery holds immense therapeutic potential, opening new avenues for RNA-based treatments for sepsis, cancer, and other complex diseases.

Quality improvement

3: Standardisation of Intrathecal Colistin Reconstitution Protocol for Post-Neurosurgical CNS Infections at University Hospitals Birmingham.

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Background
Central nervous system (CNS) infections following neurosurgery represent life-threatening complications requiring prompt intervention. When systemic antibiotic administration proves insufficient, direct intrathecal (IT) delivery becomes essential. At University Hospitals Birmingham (UHB), intraventricular antibiotics administered by neurosurgeons are standard practice for confirmed bacterial ventriculitis. However, the antimicrobial pharmacy team identified inconsistencies in colistin reconstitution techniques during patient admissions, with existing guidelines lacking clear reconstitution protocols.

Methods
Following identification of this critical gap in practice, the team conducted a comprehensive literature review to establish standardised reconstitution guidelines. When published evidence proved insufficient, in-house pharmaceutical calculations were performed to determine optimal reconstitution parameters for various dosing requirements.

Results
A standardised reconstitution protocol was developed specifying that colistin must be reconstituted aseptically using a sterile 1-million-unit vial with 10ml of water for injection or 0.9% sodium chloride, yielding a concentration of 100,000 IU/ml. A dosing table was created correlating units (50,000-200,000) with precise administration volumes (0.5-2ml), ensuring accurate delivery across various clinical scenarios.

Conclusion
Implementation of this standardised protocol has improved consistency in colistin reconstitution for intrathecal administration. Collaborative work with the Trust's Electronic Prescribing and Medicines Administration system (PICS) is underway to integrate this information into drug templates, enhancing patient safety by reducing preparation errors for this critical intervention in neurosurgical patients with CNS infections.

4: Audit of Teicoplanin Prescribing and Monitoring: Adherence to Local Guidelines in Clinical Practice

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Background:
Teicoplanin is a glycopeptide antibiotic for severe Gram-positive infections with similar efficacy to vancomycin but lower nephrotoxicity risk. Appropriate dosing based on patient weight and renal function is critical for ensuring efficacy while minimising potential toxicity, particularly in patients with renal dysfunction or complex infections.

Aims:
To examine teicoplanin prescribing and monitoring against current local guidelines.

Methods:
A retrospective audit evaluated teicoplanin prescribing patterns from September 2024 to February 2025. Data included patient demographics, indications, pathogens, dosing regimens, renal function adjustments, therapeutic drug monitoring, and safety parameters.

Results:
Thirteen patients were included. Primary indications were bone and joint infections (n=4), soft tissue infections (n=2), and central nervous system infections (n=1), with Staphylococcus aureus as the most common pathogen.
Only 46% (6/13) of prescriptions adhered to guidelines. Common deviations included failure to adjust doses based on body weight and glomerular filtration rate. Of three patients requiring dose reductions due to renal impairment, only one was correctly adjusted.
Of three patients requiring dose reductions due to renal impairment, only one was correctly adjusted.

In 85% (n=11) of prescriptions, laboratory values for clinical indicators (creatinine, albumin, platelet) were missing before and after teicoplanin trough levels. No significant adverse effects, rashes with eosinophilia, or teicoplanin-related toxicity were observed.

Conclusion:
Noncompliance with weight-based dosing was evident, and dosing was not properly adjusted for renal function. To improve guideline compliance and therapeutic drug monitoring, collaborative work with Electronic Prescribing analysts is required to build a structured drug template.

44: Audit on appropriate documentation of urine and pregnancy testing in surgical patients

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[1]Dudley Group Of Nhs Foundation Trust

Objective :- The acute surgical unit in Russell's Hall Hospital has a high turnover of patients from all surgical specialties, many of whom are sent home without the need for admission or follow-up. Urinalysis is easily available, and is carried out on many patients, prior to them being seen by a doctor. Aim is to make sure the documentation of urine dipstick and urine pregnancy test for all the female patients is made standard practice
Method:- The notes of all acute surgical unit patients between the age 20-50 year gathered during a two-month period and were analyzed usingthe sunrise application, where all patient notes are checked on leaving the acute surgical unit. Data relating to presenting complaints, presence or absence of urinary symptoms and abdominal pain, and urine dipstick and culture results and pregnancy testing if performed or not performed was collected for each patient form the application. Following data was collected- hospital identification, date of birth, presenting diagnosis, Urine dipstick documentation, Urine pregnancy testing documentation, Urine culture sent, any growth detected on the culture
Results :- Cycle one- urine dip stick and pregnancy test- documented 30percent and not documented 70 percent Cycle two - urine dip stick and pregnancy test- documented 60 percent and not documented 40 percent
conclusion and discussion:- Urine dipstick and urine pregnancy test documentation should be mandatory. This is a very small bed side test, but it can lead a clinician to an appropriate diagnosis and further prevent form never events.

74: A retrospective audit on the management of bacterial meningitis in Manchester

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Introduction:
Bacterial meningitis is a rare but significant cause of morbidity and mortality. Prompt recognition and treatment is therefore essential to ensure optimal patient outcomes. In 2016, the UK Joint Specialist Societies Guideline on the diagnosis and management of bacterial meningitis was published to guide clinicians.

Methods:
A retrospective audit of the management of all patients in Manchester University NHS Foundation Trust (MFT) with bacterial meningitis confirmed by lumbar puncture between December 2023 and March 2024. Key standards measured include if blood cultures and samples for meningococcal & pneumococcal polymerase chain reaction (PCR) testing were taken, if antibiotics were administered within an hour of presentation to hospital, timing of the lumbar puncture, if cerebrospinal fluid (CSF) opening pressures, protein and glucose were measured, if they received appropriate antibiotics, and if corticosteroids were administered.

Results:
13 patients with bacterial meningitis were identified. 83% of patients had blood sent for culture and pneumococcal/meningococcal PCR, and received antibiotics within 1 hour of presentation. 100% of patients received antibiotics before a lumbar puncture and none of the patients had a lumbar puncture within 1 hour of presentation. 25% of patients had CSF opening pressures checked, 100% had CSF protein and glucose checked. 100% of patients were prescribed appropriate antibiotics. Only 42% of patients received corticosteroids.

Action Plan:
Our interventions included a teaching session about bacterial meningitis with the MFT acute medicine department. Local MFT guidelines on bacterial meningitis were updated to emphasise the importance of starting corticosteroids, highlighting its mortality and morbidity benefit.

107: To err is human! Review of labelling errors among rejected microbiological specimens and associated clinical impact on patient care; a service improvement project

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Background:
Following a near-miss incident of patient harm due to erroneous diagnosis from mislabelled blood cultures, a service improvement project was undertaken to quantify rejected samples due to labelling errors and assess clinical impact of labelling errors in blood cultures.

Method:
The laboratory quality management system was used to identify specimens with labelling errors from January to October 2024. Patient data was collected using hospital electronic records.

Results:
Of 183,742 tests requested, 3,443 were rejected. Labelling errors occurred in 246 samples.
Of 13,140 blood culture requests, 35(0.27%) had labelling errors. 24 unlabelled specimens were discarded. Of 11 mislabelled samples, 3 cultures with incorrect patient identifiers were processed prior to error being realised. Two were positive; one culturing Streptococcus agalactiae likely significant, however the correct patient was never identified.
Of the remaining 211 mislabelled samples, 78 were urine and 30 superficial swabs. Other requests included C. difficile(2), Acanthamoeba(1), high vaginal swab(HVS)(12), sexually transmitted disease screen(STD)(4) and cryptococcal antigen(CRAG)(2).

Discussion:
Although the number of mislabelled blood cultures was small, there was at least one missed diagnosis of bacteraemia. Other infections, such as urinary tract, may have been missed. Non-routine requests, including Acanthamoeba, are not easily reproducible but have significant impact on patient care while repeating intrusive testing such as STD screens may cause patient discomfort.

Conclusion and Action for Improvement:
Mislabelling of samples has resulted in missed diagnosis of infection. Education including the results of this project will be shared with clinical users to reduce patient harm and improve care.

114: Not done, or not coded? Utilization of an electronic patient record to code screening investigations in hepatitis B patients in North West London

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Introduction
Blood-borne virus opt-out testing was launched in April 2022. Initially aimed at HIV testing, the highest number of new diagnoses were Hepatitis B (HBV), highlighting the prevalence in the UK. Co-infection with hepatitis D (HDV) increases the risk of serious complications. Here we demonstrate how an electronic patient record (CERNER) has been used to code patient data.

Methods
A retrospective analysis of patients at London North West University Hospitals Trust with HBV coded on 28/02/25 was performed using Microsoft Power BI. We audited records without a coded HDV status to determine why it had not been coded and correct it.

Results
998 patients were identified. 222 (22%) did not have HDV status coded. 167 (75%) had been tested for HDV but not coded. 55 (19%) without HDV status coded had not been tested. Of these, 22 did not attend clinic and the remaining 33 had transferred care, died, or missed testing. Where possible HDV testing was ordered or clinic appointments rebooked.

Discussion
We show how one large London centre has utilized coding to ensure efficient HDV screening in the large numbers of newly identified HBV patients. This is limited by clinician use of CERNER, resulting in some patients missing out on HDV testing and follow-up. Barriers include time pressures and lack of CERNER knowledge. When used efficiently, coding is key to ensure clinicians can easily identify patients, enabling screening and follow-up. We will introduce interventions to support clinicians in using CERNER to ensure this system can be utilised effectively.

136: Auditing the Electronic Microbiology Referral Process at a District General Hospital: A Quality Improvement Project to Understand Usage and Perceptions of Electronic Referrals in Infection Medicine at Barnet Hospital

Alexander Maddams[1], **Dr Gemma McNally**[1], **Dr Stephanie Paget**[1]
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Communication and processes of communication are a foundational aspect of good clinical care. In an ever-specialised medical workforce, clinical teams need timely access to specialist advice. This advice needs to be obtainable and support clinical decision making without generating unnecessary work. In keeping with shifts in medical technology and alongside the growing use of Electronic Patient Records (EPRs), the Medical Microbiology Department at Barnet Hospital have adopted a system of electronic patient referrals for non-urgent clinical queries, with the aim of improving clinical care.

This Quality Improvement Project (QIP) seeks to capture how this service is currently used. In this regard, quantitative data has been collected from the EPR programme currently in use at Barnet Hospital to identify important metrics of usage such as the average number of referrals per day, volume of referrals by speciality, and the frequency and nature of rejected referrals. This quantitative data sits alongside qualitative data collected via two questionnaires, one of which was posed to referring clinicians and another which was posed to the Microbiology Consultants giving the advice.

In the broadest sense, the sum of this data will be used to inform changes to the referral system. Whilst data collection and analysis are still ongoing, preliminary results have identified at least three wards with a high volume of referrals; acute medicine, gastroenterology, and medicine for the elderly (MFE). In this first cycle, we propose to target these wards with education and Antimicrobial Stewardship (AMS) ward rounds to help reduce the volume of referrals.

146: Audit on HIV Testing in Patients Diagnosed With AIDS Indicator Conditions

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Background:
Despite treatment benefits and the UK's 2030 HIV elimination goal, 7% of HIV cases in the UK remain undiagnosed. Late diagnoses rose 3% (2022-2023), significantly increasing mortality risk tenfold. BHIVA provides clear guidelines recommending HIV testing for specific clinical indicator conditions.

Objectives:
1) Determine the frequency of HIV testing in patients presenting with BHIVA-defined HIV indicator conditions.
2) Assess clinician knowledge and barriers regarding HIV testing.

Methods
Audit conducted from March 15 to April 14, 2025, involved a random sample of adult patients presenting to Acute Medicine with an HIV Indicator Condition (e.g., recurrent pneumonia, CAP, unexplained weight loss, chronic diarrhea, peripheral neuropathy, or oral candidiasis). Patients with prior HIV diagnosis were excluded. Data was collected via Electronic Patient Record (EPR) and analyzed using Microsoft Excel

Clinician Survey via standardized questionnair form.

Results
Clinician Survey (17 responses): (Visuals: 3x pie charts)

Audit Findings (35 patients): (Visuals: Table showing patient count per indicator condition; Pie chart showing overall testing frequency; Table detailing testing for individual indicator conditions.)

Conclusion
Consistent deficiencies in adherence to BHIVA HIV testing guidelines were observed. This was primarily driven by insufficient clinician knowledge and perceived hesitancy regarding HIV testing.

Recommendations
Provide targeted education for residents and non-training staff.

Arrange dedicated sessions for nursing staff and Healthcare Assistants (HCAs).

Develop a robust pathway for HIV testing results governance.

Incorporate reminders during morning handovers and huddles.

Reference
BHIVA/BASHH/BIA Adult HIV Testing guidelines 2020 – BHIVA. Bhiva.org. 2020. Available from: https://bhiva.org/clinical-guideline/hiv-testing-guidelines/

152: Penicillin Allergy De-labelling – Implementing the Scottish Antimicrobial Prescribing Group Penicillin De-Labbeling Protocol in NHS Grampian

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Penicillin is the most commonly reported drug allergy in the UK, however evidence suggests only 10-20% are genuine reactions. A penicillin allergy label can result in non-first line antibiotic therapy and has been associated with increased mortality, increased rates of antimicrobial resistant species, longer hospital stays, and increased readmission rates. The Scottish Antimicrobial Prescribing Group (SAPG) has produced a protocol to assess penicillin allergies, and if appropriate administer an oral penicillin challenge. This protocol was trialled over a three-week period in the infectious diseases/general medicine ward in Aberdeen Royal Infirmary. During our period, 17 patients were identified as having penicillin allergies documented in their medical records. 3 of these 17 patients were administered an oral penicillin challenge. All 3 patients had a positive challenge and were therefore deemed to not have a penicillin allergy. 2 of the 3 had their allergy removed from their records after writing to their General Practitioner. 14 Patients were unable to receive a penicillin challenge for a range of contraindications, the most common being an elevated NEWS score. From this QIP, the SAPG de-labelling protocol has demonstrated to be an effective tool in suitable patients. The follow-on steps from this QIP have been to work towards getting the protocol an approved NHS Grampian Protocol, to educate wider members of staff of the protocol's existence, and to assess if a specific local policy can be adapted from the SAPG resources. We aim to follow project with a multi-ward QIP following widespread roll out of the protocol.

155: An audit on adherence of posaconazole level testing in adult BMT (bone marrow transplant) patients

over a two year period at a National BMT Centre in Glasgow

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Background:
Therapeutic drug monitoring (TDM) of antifungals is recommended in our local antifungal policy for haematopoietic stem cell transplant (HSCT) and chimeric antigen receptor T-Cell (CAR-T) patients. TDM should be done at the following intervals: Day 7, day 28, 2, 3, 6 and 9 months after posaconazole has been started. This is to ensure adequate treatment and to minimise drug interactions.

Method: We conducted an audit of posaconazole levels in bone-marrow transplant and CAR-T patients over a
two year period. Two hundred and fifteen patients were included. Electronic prescribing records and clinical notes were reviewed to gather data about the timing of TDM, posaconazole levels and whether non-therapeutic drug levels were acted upon.

Results:
TDM was carried out in 54% of patients at day 7, 16% of patients at day 28, 4% of patients at 2 and 3 months, and 0% of patients at the remaining intervals. Posaconazole levels were therapeutic in 49% of all levels measured. Levels were sub-therapeutic in 43%, and high in 8%. Posaconazole doses were altered in 0% of patients whose levels were too high or sub-therapeutic. The reasons for this were not clear.

Conclusion:
Based on our findings, we plan to present this data locally to clinicians and pharmacists in order to increase awareness of the importance of TDM and improve clinical practice.

176: Re-audit of Peripheral Intravenous Catheter Utilisation and Care Bundle Compliance Following a Quality Improvement Initiative in a Tertiary Hospital, Cork, Ireland

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[1]Mercy University Hospital

Background
Peripheral intravenous catheters (PIVCs) remain among the most common invasive devices used in hospitals. Despite evidence-based care bundles, PIVCs are associated with significant complications, notably Staphylococcus aureus bloodstream infections (SABSI). Following an initial audit conducted in September 2024 highlighting suboptimal compliance with care bundles and high rates of inappropriate PIVC use, targeted training and awareness campaigns were implemented.

Methods
A repeat point-prevalence survey was conducted in July 2025, involving 208 patients across the same 12 acute wards (213 beds) at a tertiary referral centre in Cork, Ireland. Data collected included PIVC indication, site location, visual infusion phlebitis (VIP) score, duration of placement, dressing integrity, and compliance with local care bundle protocols.

Results
208 patients were assessed; 59.6% had PIVCs. Of 124 PIVCs reviewed, 96 (77.4%) were actively in use with a valid indication. Compliance with the PIVC care bundle improved slightly to 116/124 (93.6%), with 104/116 (89.7%) accurately reflecting documented care. VIP scores remained reassuringly low, with 113/124 (91.1%) scoring zero, 8 (6.5%) scoring one, and 3 (2.4%) scoring two. However, increased use of the ante-cubital fossa persisted, with 47/124 (37.9%) inserted in this area. 16/124 (12.9%) exceeded the recommended 96-hour dwell-time, with only one having a documented clinical justification. No catheter-related bloodstream infections were identified.

Conclusions
Despite targeted interventions following the September 2024 audit, key metrics showed limited improvement. Persistent challenges include suboptimal insertion site selection and prolonged dwell-times. These findings underline the importance of sustained quality-improvement initiatives and targeted educational interventions to mitigate hospital-acquired infections, particularly SABSI.

185: Quality improvement in the management of Prosthetic Joint infections: Developing a standardised audit and re-audit tool

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[1]Frimley Health NHS Trust

Background

Prosthetic joint infections (PJIs) are associated with significant morbidity, mortality and economic burden. We conducted a quality improvement project describing current processes of investigation and management of suspected PJI cases at Wexham Park Hospital.

Aims

Identify local key areas of improvement in the diagnosis and management of PJIs, with particular focus on type of first surgical procedure (temporising versus definitive), laboratory investigations, prophylactic and post operative antibiotics, and outcomes of these patients.

Methods

Retrospective descriptive analysis of 31 patients with suspected PJI identified through OPAT between 2023 and 2025.

Local standards developed based on guidelines for laboratory processing of orthopaedic samples and current EOLAS antibiotic guidelines.

Local micro-organism epidemiology was reviewed.

Results

We observed trends that highlight the need for improved compliance with laboratory investigations and antibiotic guidelines, and warrant further engagement of the MDT: laboratory team, anaesthetics, orthopaedics and theatre staff, antimicrobial stewardship team and guidelines committee and infection control. Refinement of the arthroplasty MDT is required for timely and optimal surgical decisions.

Discussion

Our analysis highlighted the morbidity and complexity of PJI cases.

Positive outcomes require engagement of the whole MDT.

We have drafted a PJI standardised re-audit tool to facilitate efficient re-audit to monitor actions and their impact on mortality, number of surgical procedures undertaken and infection status 1 year and 5 years post primary infection surgery.

189: Improving Timely Intravenous-to-Oral Antibiotic Switching Through Pharmacist and Prescriber-Led Interventions: A Two-Cycle Quality Improvement Project at an East of England District General Hospital

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Background
Timely switch from intravenous (IV) to oral antibiotics (IVOS) is a key principle of antimicrobial stewardship. Prolonged IV antibiotic use is associated with extended hospital stays, increased risk of IV cannula-related infections, and greater nursing workload. This quality improvement project evaluated pharmacist- and prescriber-led interventions to improve IVOS compliance across two audit cycles.
Methods
Each cycle was carried out across 2 medical wards within a busy district general hospital. Cycle 1 implemented pharmacist-led interventions, including pharmacist attendance on ward rounds and prompting use of the MicroGuide IVOS decision tool. Cycle 2 introduced prescriber-led interventions, including posters, peer prompting during ward rounds, and promotion of trust IVOS guidelines. Four standards were assessed: IVOS within 24 hours of eligibility, 48-hour IV antibiotic review, switching in line with trust guidelines, and documentation of antimicrobial plans on the electronic prescribing system. Data were collected pre- and post-intervention in both cycles.
Results
In Cycle 1, timely IVOS improved from 35% to 79%. In Cycle 2, prescriber-led efforts increased timely IVOS from 47.8% to 95.8%. Both cycles showed improvements across all four audit standards. Results from Cycle 2 suggest that empowering prescribers to take ownership of IV antibiotic reviews can drive more consistent and sustainable improvements.
Conclusion
Future efforts should focus on a multidisciplinary approach, combining pharmacist- and prescriber-led strategies with visual prompts and routine reinforcement. Increasing awareness of IVOS criteria and trust guidelines is essential to reducing habitual prescribing, improving documentation, and sustaining effective antimicrobial stewardship in the long-term.

209: Experience of HbA1c screening in patients newly diagnosed with tuberculosis in a London TB Centre

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[1]London Northwest Healthcare Nhs Trust

Introduction

Diabetes is a risk factor for the development of active tuberculosis (TB) and of a poor treatment outcome. International guidelines consequently recommend screening new TB cases for diabetes. However, active TB can also cause transient hyperglycaemia, which resolves with TB treatment alone. This abstract presents data from a London TB centre following the introduction of routine HbA1c screening at time of TB diagnosis.

Methods

All new adult TB cases notified at Northwick Park Hospital between 2024-2025 were identified. Using electronic records, demographic, clinical and HbA1c data was collected, and associations with an abnormal HbA1c assessed using appropriate statistical methods.

Results

165/231 (71.4%) cases received HbA1c screening on commencing active TB treatment. Of the 144 cases screened without pre-existing diabetes, 33.9% had a HbA1c of greater than 41 (45 in the non-diabetic hyperglycaemic (NDH) range and 4 in the diabetes range). An abnormal HbA1c was significantly associated with male sex (p0.007) and raised CRP at diagnosis (p0.002). Only 12.20% of abnormal results were repeated, of which 50% had fallen below the NDH/diabetes range with TB treatment alone.

Conclusion

33.9% of individuals with active TB had an abnormal HbA1c. This may be associated with more inflammatory disease at baseline, with 50% of repeated results falling below the diagnostic range. This data supports the use of HbA1c screening in this setting, with the caveat that abnormal results should be repeated before a diagnosis of diabetes is made, and that a clear protocol for this should be in place.

230: An audit on the compliance and clinical utility of the STEC (Shiga toxin producing E. coli) reporting within NHS Greater Glasgow & Clyde)

Dr Alison Infante, Dr Alexander Farrow, Dr Kamaljit Khalsa, Dr Ashutosh Desphande
[1]NHS Greater Glasgow & Clyde

Shiga toxin-producing E. coli (STEC) are a group of zoonotic, foodborne pathogenic E. coli characterised by the presence of the Shiga toxin gene (stx). STEC can cause gastrointestinal illness in humans, ranging from mild to fatal such as is Haemolytic Uraemic Syndrome. Scotland has a higher proportion of STEC compared to other UK countries. As a notifiable disease, there is critical importance in providing timely notification and appropriate clinical advice. The aim of this audit is to evaluate the compliance and efficacy of the established STEC reporting protocol within NHS GGC which was established circa 2020. This protocol included the implementation of a paper-based worksheet containing all key clinical advice, appropriate healthcare bodies to notify, and STEC genotypes following an audit which showed need for standardisation. A retrospective analysis of data from a two-year period (2022 to 2024) from NHS GGC was performed and separated in two cohorts: adult and paediatric. The results showed that within the adult cohort (N=34), there was 85% (n=29) compliance of worksheet completion versus the paediatric cohort (N=21) with only 76% (n=16) compliance. In both cohorts there were various degrees of variation for documentation in Telepath. This audit shows the clinical efficacy of utilising a standardised protocol when providing positive STEC results to clinical teams and reducing delays in notifying result. However, it also shows room for improvement in the current process of receiving positive result – either from the Reference Lab or bench test – to documenting appropriately in Telepath.

245: Can we be personally responsible for infection prevention in shared office space? An economic analysis of shared desk space hygiene intervention

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Objectives

This study evaluates the economic impact of promoting targeted hygiene practices, through personal responsibility (PR) amongst employees in shared workspaces (with the use of hand sanitiser and surface wipes). The analysis estimated direct healthcare costs associated with the management of workplace-acquired respiratory infection, and the cost burden for employers in relation to workplace productivity losses (absenteeism and presenteeism).

Methods:
An economic analysis over a five-year time horizon was conducted to estimate the financial consequences of PR in preventing respiratory infections in offices with shared desks in the UK. The analysis considered the costs of implementing the intervention and the risk of respiratory infections, derived from a Quantitative Microbial Risk Assessment (QMRA) modeling. Cost saving potential of this intervention was estimated.

Results:
QMRA modelling shows PR can reduce the spread of respiratory infections through contaminated surfaces by on average 25 times more than a 'standard' office cleaning alone. Over a 5-year period in an office space with 500 desk occupancy, PR demonstrated a cost-saving potential of about £237,000 through reduction in workplace absenteeism, presenteeism, GP visits, hospital admissions and prescriptions.

Discussion
The study highlights the wider benefits of PR in shared workspaces. By reducing the risk of respiratory infections, PR not only supports healthcare systems but also enhances workplace productivity.

Conclusion:
Implementing PR policy in work places has the potential to reduce risk of workplace-acquired respiratory infections in shared workspaces, reduce health service burden while also contributing to improving workplace wellbeing and business resilience.

260: Optimising Clostridioides difficile Management Through Targeted Ward Rounds

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Introduction:
Clostridioides difficile infection (CDI) remains a significant healthcare challenge, especially in vulnerable patients. Infection prevention and control (IPC) practices and antimicrobial stewardship are cornerstones for effective CDI management. At UHS, targeted ward rounds led collaboratively by IPC nurses and antimicrobial pharmacists were introduced to optimise IPC, treatment, and antimicrobial use in CDI patients.

Objectives:
To assess how targeted CDI ward rounds influence clinical management, antimicrobial use, and IPC measures.

Methods:
Twice-weekly ward rounds were conducted by an antimicrobial pharmacist and an IPC nurse to review new inpatients with confirmed or suspected CDI. Toxin-positive cases were prioritised followed by toxin-negative cases. Feedback was provided verbally during visits and by email. Data were prospectively collected from April 8 to June 27, 2025, and analysed for antimicrobial prescribing, IPC practices, and CDI treatment optimisation.

Results:
45 patients across multiple specialties (27 medical, 9 oncology/haematology, 4 surgery, 4 neurosciences, 1 paediatric) were reviewed. Mean age was 69.4±19.6 years; all patients tested positive for C. difficile PCR, with 40% positive for toxin. 82% had received antimicrobials within 28 days prior sampling. Notably, 40% were aged ≥80 years, and 31% were immunosuppressed. Non-compliance in IPC was identified in 67% of cases, leading to corrective education. CDI treatment was optimised in 4% of cases, with further optimisation opportunities in CDI treatment (18%) and co-prescribed antimicrobials (11%).

Conclusion:
Targeted ward rounds support proactive CDI management through improved IPC and education, with clear opportunities for antimicrobial stewardship. Further evaluation is needed to assess long-term impacts on infection rates.

274: 10-year review of tuberculosis admissions at a tertiary centre

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Objectives - 1) To assess the inpatient TB burden on the Infectious Diseases service at Addenbrooke's Hospital over the last 10 years, to aid in capacity planning for future.
2) To analyse the length of stay for TB inpatients, to assess whether alternative options for isolation can be explored, especially for MDR/XDR TB patients, to help with bed capacity and cost effectiveness.
3) To analyse and understand the disease burden, drug resistance, co-morbidities, demographics of inpatient TB cohort
Methods - Patient list provided by TB CNS team, who collect this data.
- Data collected on patients admitted to negative pressure side-rooms on ID ward as well as on other wards.
- Data collected on – number of admissions, site(Pulmonary, Extrapulmonary, Disseminated), drug sensitivity/resistance, country of origin, HIV status, TB risk factors, length of stay(only for ID inpatients).
Results - The total number of admissions was 227. Out of this, 154 patients were admitted to the ID ward, while 73 (32%) patients were admitted to other wards(including ITU).
73 had pulmonary,75 had extrapulmonary, while 79 had disseminated disease.131(58%) were fully sensitive,20 (9%) were MDR, 12 (5%) were mono-resistant,4(2%) were XDR, and 60 (26%) did not have have any sensitivities(uncertain diagnosis).
Conclusion - The number of TB admissions and total length of stay have been increasing. A large proportion of admitted patients have extrapulmonary and disseminated TB. A significant proportion of patients have co-morbidities like HIV, Diabetes, Immunosuppression. An increase in bed capacity for treating MDR-TB patients is needed.

277: Optimising Urine Cultures in Secondary Care: a Quality Improvement Project

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Introduction:
Urine cultures are useful in guiding therapy for urinary tract infections (UTIs) but are often misused, resulting in waste of resources as well as increased inappropriate prescribing with its risks of antimicrobial-associated harms.

Methods:
Data was collected from inpatients with a single urine culture during their admission or within one month period following interventions. Key metrics included: Age, sex, type of specimen, relevant symptoms at the time of culture request and action following result. An appropriate urine culture was defined as a culture performed on symptomatic patients treated clinically as UTI.

Results:
Baseline data (29 patients, mean age = 76) demonstrated that 41% of cultures were performed on asymptomatic patients, with 13% of urine cultures were performed on symptomatic patients. 3.4% had relevant symptoms and were treated clinically for UTI and 10.3% received antibiotics for UTI despite no relevant symptoms.

Summary of Interventions:
1) Post-graduate teaching session to medical staff
2) Posters displayed in sluice and prescriber's working areas summarising indications for urinalysis & urine culture

Following intervention, there was an overall reduction in percentage of patients receiving a course of antibiotics from 26% to 9%. There was no sustained improvement in appropriateness of sampling, with 90% of cultures remaining inappropriate.

Conclusion:
Improvements in adherence to best practice have a significant impact in terms of cost, diagnostic stewardship as well as antimicrobial stewardship. Education measures need to be complemented by engagement of all stakeholders, including nursing staff, senior clinicians & antimicrobial stewardship teams.

304: Improving the completeness of referrals to the National Aspergillosis Centre (NAC)

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Background:
The National Aspergillosis Centre (NAC) is a specialised service commissioned for the treatment of patients with Chronic Pulmonary Aspergillosis (CPA). NAC also offers management advice for patients with other fungal infections. NAC receives about 200 referrals a year from multiple centres around the UK. The quality of referrals to NAC vary and feedback received from clinicians suggested that information available at the first clinic appointment was often incomplete, causing delay in decision making.

Methods:
We used PDSA methodology. A new referral form that highlighted essential information for diagnosis was created as the change process/intervention. A referral was defined as complete if the information in the referral was sufficient to make a diagnostic decision at the end of the patient's first clinic appointment. The first cycle reviewed referrals from 2 months in 2024. These were compared to referrals in 2 similar months in 2025.

Results:
The first cycle showed that 12 out of 30 patients (40%) of referrals seen in clinic had incomplete information at the first clinic review. Following introduction of the referrals form, cycle 2 was conducted. Cycle 2 showed a reduction in the proportion of incomplete referrals to 16% (3 out of 19 patients) from 40%.

Conclusion:
The referral form was useful to highlight essential diagnostic information and contributed to an increased number of referrals with decisions made at the first clinic appointment. Such structured referral forms can increase awareness of the key information required for the timely and accurate diagnosis of aspergillosis.

Research priorities

85: Point of Use Filters in Healthcare: Membrane versus Hollow-Fibre

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Aim: To review scientific literature on the filtration effectiveness of hollow-fibre and membrane point-of-use (POU) filters to determine if there is a difference in their effectiveness.
Methods: A systematic review was conducted by searching Medline and Embase using keywords such as POU filter, water supply, hospitals, and waterborne diseases. Snowballing and grey literature searches, including manufacturer websites, were also performed. One reviewer screened and critically appraised evidence based on inclusion criteria. Eligible studies were appraised and graded using the SIGN 50 methodology.
Results: From 270 records, 38 met inclusion and quality criteria for qualitative synthesis (15 primary studies, six expert opinion documents, and 17 manufacturer documents). One limited study directly compared 0.2µm membrane filters to hollow-fibre filters, finding membrane filters more effective, though results lack generalisability. Membrane filters consistently eliminated Legionella and reduced other bacteria, while hollow-fibre studies showed mixed outcomes. There is a greater volume of evidence evaluating membrane filters, particularly those with a pore size of 0.2µm. The evidence base is limited by substantial heterogeneity, including differences in methodology and POU filter types beyond their structure. Guidance and manufacturer data were inconsistent, with unclear use of the term “sterilising grade”. The ASTM F838 standard (which determines bacterial retention characteristics of membranes) was commonly referenced, but only half of manufacturers provided validation data.
Conclusion: Evidence comparing filtration efficiency between membrane and hollow-fibre POU filters is limited and inconclusive. Robust research, particularly on hollow-fibre filters, and standardised testing/guidance are urgently needed to support infection control teams and estates within healthcare.

266: WHO's definition, whose success? A qualitative study challenging the World Health Organization definition of tuberculosis treatment success in Zimbabwe

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Background
The WHO defines TB treatment success as microbiological cure or treatment completion. However, this biomedical metric overlooks the broader impacts of TB, spanning physical, psychological, social and economic domains, especially in low-middle income settings. This study explored patients' experiences post-treatment, their perspectives on "treatment success", and how these compare with the WHO definition.

Methods
We conducted a participatory workshop with nine individuals in urban Harare, Zimbabwe. Participants had completed TB treatment and therefore achieved "treatment success" by WHO criteria 6-24 months prior. The workshop included interactive verbal, visual and narrative methods. A participatory, co-constructed thematic analytic approach prioritised participant voices and minimised researcher-led re-interpretation.

Results
Participants described persistent symptoms, economic difficulties, stigma and disrupted social roles beyond treatment completion. Discharge from TB services at treatment completion left them feeling unsupported for ongoing challenges.

Success included physical, mental and social wellbeing, returning to work, resuming family and community roles, and overcoming stigma. No participants described being completely better.

Participants felt that completing treatment did not represent 'success'. Rather than being an endpoint, completing treatment represented a transition to managing an ongoing, uncertain recovery alone, one which ideally required continuing physical, financial, psychological and social support.

Conclusions
Our participants' experiences challenge not only the WHO definition, but the concept of TB "treatment success" in Zimbabwe. TB remains an ongoing presence in people's lives, impacting health, identity and everyday life long after treatment. Recovery is uncertain. Instead of endpoint-based definitions, post-TB care and policy must be reframed to deliver sustained, holistic support.

281: Local lessons from RECOVERY Trial for future clinical trials in infection

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We reflect on our experience as a participating site in the RECOVERY trial following the publication of the final COVID-19 intervention results, including sotrovimab, in The Lancet Infectious Diseases. Hull University Teaching Hospitals enrolled 266 patients between May 2020 and March 2024, representing the largest inpatient interventional trial ever conducted at our organisation. Recruitment peaked between October 2020 and March 2021, with 59% of participants enrolled during this period. Of those recruited, 15% received an intervention subsequently shown to be beneficial, 9.8% received a monoclonal antibody with benefit dependent on virological status, and 2.6% received a harmful intervention. Importantly, negative findings were clinically valuable, enabling discontinuation of ineffective treatments that had been widely used empirically. Beyond trial participation, substantial numbers of patients in our hospitals received evidence-based therapies, including over 450 courses of tocilizumab and 69 of baricitinib, further highlighting the trial's influence on local practice. While equipoise was appropriately presented to participants, our experience suggests it was also important for clinicians and organisations, many of whom may not have anticipated the scale of RECOVERY's impact. The trial has been transformative both globally and locally, and our experience underlines the importance of embedding research in routine NHS practice and supporting adaptive platform trials in preparation for future pandemics.

Response to the COVID-19 pandemic

50: Components of a Return-to-Work Support Program for Nurses with Occupational COVID-19 Infection in Japanese Medical Institutions

Components of a Return-to-Work Support Program for Nurses with Occupational COVID-19 Infection in Japanese Medical Institutions Noriko Shinkai[1], Components of a Return-to-Work Support Program for Nurses with Occupational COVID-19 Infection in Japanese Medical Institutions Kayoko Ohnishi[2], Components of a Return-to-Work Support Program for Nurses with Occupational COVID-19 Infection in Japanese Medical Institutions Hisako Yano[3]
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【Purpose】To identify necessary components for return-to-work support programs for nurses with occupational COVID-19 infection.
【Participants and Methods】In June 2024, a web-based questionnaire survey was conducted among Japanese nurses who experienced occupational infection and returned to work. The 18 questionnaire items were originally developed based on findings from previous interviews, covering their thoughts and feelings from pre-infection to return. Data were analyzed using descriptive statistics and univariate analysis. Ethics committee approval was obtained prior to the survey.
【Results and Discussion】Responses were obtained from 396 nurses across Japan (84% female, mean age 40±10 years) were obtained. Many nurses anticipated infection (74%) and worried about transmitting the virus (40%). While 32% felt warmly welcomed by supervisors and 48% by colleagues when they returned, 34% wished to utilize their experience in future nursing, and 53% desired to continue working as before. Conversely, 25% were anxious about PPE shortages, and 15% hoped not to be blamed. Dissatisfaction with hospital response (12%), wondering why they got infected (25%), and desiring more infection control education (6%) were also reported. Additionally, 8% hesitated to continue as a nurse, and 13% considered quitting. Symptomatic nurses significantly more often reported physical/mental exhaustion and reluctance to return due to insufficient recovery compared to asymptomatic nurses ($p<0.05$).
These findings suggest that a return-to-work support program requires a supportive work environment, experience-to-growth support, an infection control education system, sufficient occupational infection prevention equipment/facilities, and individualized return-to-work plans based on each nurse's condition. (Supported by JSPS KAKENHI: Grant Number 22K17441.)

226: SARS-CoV-2 Antibody Immunity Across Three Continents: the West Africa, West Indies, West London Consortium

Oliver Hague[1], Dr David Greenwood*[1], Dr Eliza Mari Kwesi-Maliepaar*[2], Dr Shenice A Redman*[3], Crick Serology Consorium[1], Legacy Investigators[1], HERITAGE Study Team[4], WINDFall Study Team[3], WWW Consortium Team[1], Flora Scott[1], Dr Joshua Anzinger*, Dr Gordon Awandare*[4], David LV Bauer*[1], Dr Yaw Bediako*[4], Dr Edward J Carr*[1], Dr Christine VF Carrington*[5], Dr Adam Kucharski*[6], Dr Peter Quashie*[4], Dr Emma C Wall*[1], Dr Mary Y Wu*[7]
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Background:
The experience of the COVID-19 pandemic has differed across continents. We hypothesized that regional differences in SARS-CoV-2 immunity might explain this. We therefore established the WWW Consortium in Ghana, West Africa; Jamaica, West Indies; and West London. We describe the extent to which antibody immunity against SARS-CoV-2, alpha- and beta-coronaviruses differs between these locations.

Methods:
The WWW Consortium harmonises the HERITAGE (Accra, Ghana), WINDFall (Kingston, Jamaica) and Legacy (London, UK) studies, establishing sharing frameworks for samples, metadata, and data; related permissions and oversight; and associated physical- and cloud-infrastructure. With centralised testing, we performed serological assessments across all locations at two snapshots in 2024 (April 1st – August 18th; August 19th – December 31st) using high-throughput live-virus-neutralization and anti-nucleocapsid IgG, including n=763 matched individuals.

Findings:
We found that across all sites most participants had detectable neutralising antibody titres against JN.1 and XEC – the predominant variants in 2024. There were site-related differences in immunity: vaccine-included SARS-CoV-2 strains were better neutralised by participants from the Legacy study – Ancestral, BA.5, XBB.1.5 initially, and JN.1 after a homologous booster in autumn 2024. For HERITAGE, neutralisation of both alpha- (HCoV-229E) and beta-coronaviruses (HCoV-OC43) was higher than WINDFall suggesting a cross-coronavirus serological response in West Africa. Finally, antigenic cartography identified two distinct antibody landscapes, with JN.1 and XEC antigenically distant in Legacy, but not in HERITAGE and WINDFall.

Interpretation:
There is international heterogeneity in SARS-CoV-2 antibody immunity. Global recommendations for vaccine strain selection should incorporate data from diverse populations to ensure accurate, equitable recommendations.

Surgical site infections

27: Surgical Site Infection Surveillance in Ireland: Insights from a National Survey

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Introduction
Surgical site infection (SSI) surveillance is an important element of an effective infection prevention and control programme. Ireland's national programme is still in its early stages, with surveillance data collected post hip fracture surgery since 2023. However, many hospitals have already implemented local SSI surveillance activities. The aim of this survey was to establish the extent and structure of these programmes nationally.

Methods: An online national survey was distributed to Clinical Microbiology consultants

Results: Responses were received from 37 hospitals, including both adult and paediatric centres, public (n=32) and private institutions (n=5). 21 hospitals report having established SSI surveillance programmes. The most commonly monitored procedures included elective hip and knee replacement surgery (n=9), cholecystectomy (n=8), cardiac surgery (n=7), spinal surgery (n=6) and hip fracture surgery (n=6). The SSI case definition used was variable; 9/21 hospitals applied the Centers for Disease Control (CDC) definition, 9/21 used European Centre for Disease Prevention and Control (ECDC) and 3/21 used a combination approach. Twelve sites employed a dedicated SSI clinical nurse specialist. Where programmes exist, 48% (10/21) have an SSI committee. The most common approach was prospective case surveillance (n=14). Ten sites perform post-discharge surveillance; using a combination of phone calls (n=9), post-discharge patient questionnaires (n=3) and text messages (n=2). Challenges reported include provision of dedicated staff, IT systems, governance structures and post-discharge surveillance.

Conclusion: SSI surveillance activity and methodology varies widely across hospitals in Ireland. Integration and support of these systems needs to be considered when progressing with a nationally coordinated approach.

101: Surgical Site Infections in Vascular Surgery Post-Admission: A Retrospective Analysis of Incidence, Microbiology, and Outcomes

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[1]BCUHB

Surgical site infections (SSIs) remain a significant source of morbidity in vascular surgery, particularly in emergency cases involving groin or lower limb incisions. This study explores the incidence, microbial profile, and clinical outcomes of SSIs in a vascular centre hub, contributing to the limited UK-based literature in this field.

METHODS
A retrospective study was conducted at the North Wales Vascular Centre, including all vascular surgery inpatients from 1st June 2020 to 31st July 2021 who developed new SSIs during admission.

RESULTS
Out of 943 vascular admissions, 56 patients (5.9%) developed SSIs. Most infections (86%) followed emergency admissions. The most common sites were groin (41%) and major amputation stumps (29%).
Microbiologically, gram-negative organisms dominated, led by coliforms and Pseudomonas, followed by Enterococcus spp. and Staphylococcus aureus. Polymicrobial infections accounted for 35.7% of cases and were associated with early onset (mean 5 days) and prolonged LOS (44 days). Enterococcal infections had the latest onset (mean 16 days) and longest LOS (50 days).
The 30-day mortality rate was 23.2%, with 61.5% of deaths attributed to groin and stump infections. Reoperation was required in 23% of cases and was associated with a 30.7% mortality rate and significantly longer hospitalisation.

CONCLUSION
SSIs in vascular surgery are uncommon but clinically significant, particularly in emergency procedures involving the groin or amputation sites. The predominance of gram-negative and polymicrobial pathogens, including rising rates of enterococcal infections, reflects evolving microbiological trends and challenges in antimicrobial stewardship.

268: Clostridium Perfringens Prosthetic Joint Infections: A Case Report and Literature Review

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Objectives:
Clostridium perfringens is a Gram-positive, spore-forming, toxin-producing anaerobe rarely implicated in prosthetic joint infections (PJIs). We present a complex case and literature review of Clostridium perfringens PJIs to identify patterns in presentation, management, and outcomes.

Methods:
We conducted a literature review of PubMed for case reports and series describing microbiologically confirmed Clostridium perfringens PJIs. Fifteen cases met the inclusion criteria.

Case Presentation:
Our patient, a 91-year-old female, presented two weeks post-hemiarthroplasty with wound discharge and pyrexia. Due to clinical suspicion of a PJI, the patient underwent a Girdlestone excision arthroplasty. Intraoperative findings included multiple sinus tracts and extensive soft tissue necrosis. The patient developed septic shock postoperatively. Intraoperative cultures grew Clostridium perfringens and Escherichia coli. She was treated with intravenous meropenem followed by oral amoxicillin and co-trimoxazole and discharged to rehabilitation to complete a 12-week antibiotic course.

Literature Review:

Among the 15 Clostridium perfringens PJI cases identified, median age was 70 (Interquartile Range 64-80), and only hip (53%) and knee (47%) joints were reported. Most were monomicrobial (93%) and early-onset PJIs (67%). Among late-onset PJIs, a biliary source was identified in 80% of cases. Penicillin (60%), clindamycin (40%), and metronidazole (40%) were the predominant antibiotics used. No relapses were reported on follow-up.

Conclusion:
This case and literature review highlight the need for early recognition and management of Clostridium perfringens PJIs, given their rarity and clinical severity. Late-onset Clostridium perfringens PJIs often reflect biliary source infections. Multidisciplinary efforts, appropriate source control, and targeted antibiotic therapy are essential for favourable outcomes.

317: Bacillus cereus surgical site infection

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A 33 year old female developed an unusual surgical site infection 2 days after an uncomplicated hemithyroidectomy.
She presented with severe pain and fever 48hr after the procedure. Initial review described mild swelling over the wound but a clean incision. A CT scan performed the same day revealed a hypodensity with retro-sternal extension which was put down to a post-operative haematoma. Two days later she re-presented with massive neck swelling from which 20ml of pus was aspirated.
INVESTIGATIONS
An ultrasound scan identified a subcutaneous collection 7x3x6cm which was drained. The fluid yielded a pure and heavy growth of Bacillus cereus.
TREATMENT
A course of ciprofloxacin was commenced with good response.
IPC INVESTIGATION
An investigation by the IPC team identified that clean surgical gowns were stored unwrapped on wooden shelves. This was identified as the likely source of Bacillus cereus spores although surveillance cultures were not sent as this was an isolated case.
The IPC team made recommendations for all surgical gowns to be kept wrapped until use.
DISCUSSION
Bacillus cereus spores can contaminate clean surgical gowns, dressings and instruments if there is improper storage. Sporulation occurs in warm, moist conditions leading to rapid onset of erythema, suppuration and occasionally fasciitis.
LEARNING POINTS
Bacillus species should be identified to species level if there is heavy growth or from a pure culture.
Bacillus cereus should be considered as a possible cause for acute surgical site infection especially if not responding to standard therapy.

Surveillance and epidemiology

32: Screening for vancomycin-resistant enterococci (VRE) in the Netherlands: Data-driven selection of screening policies for sensitive and cost-effective VRE surveillance.

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Vancomycin resistant enterococci (VRE) can cause large outbreaks within hospitals, resulting in financial costs, and impacts patient health and well-being. To prevent nosocomial transmission VRE, patients are screened for VRE carriage, and pro-actively isolated. Though isolation is effective in reducing transmission, it is costly and labor-intensive. Thus necessitating prompt and reliable determination of VRE-free status.
Currently, the best screening strategy is not universally agreed upon with regards to the sample number, sampling frequency, or time intervals. Although the sensitivity of individual rectal swabs has been reported, results cannot be extrapolated to multi-swab screening sets due to patient-level heterogeneity (constant vs intermittent shedding).
In this retrospective study, VRE screening data from eight Dutch hospitals (2014–2024) were analyzed, comprising 840 VRE-positive patients with ≥3 cultures within a 14-day period. Screening set positivity was defined as the proportion of positive swabs per set. Single-swab sensitivity was estimated at 71.0% (95%CI: 63.5 – 78.6%). Sensitivity increased with additional swabs: 3 swabs (87.6%: 83.2%-92.0%); 5 swabs (93.3%: 90.6%-96.1%); and 7 swabs 96.1% (94.3%-97.9%).
This study is the first to calculate the sensitivity of multi-swab screenings. We recommend 5 swabs to lift isolation measures, at cost of approximately 6.7% false-negativity. In a background of ≤1% VRE-positives, this results in one VRE-positive missed per 1493 randomly selected patients. Further research will investigate whether a questionnaire can increase the pre-test probability on VRE-positive patients, so screening focuses on a smaller group. Our study aims to inform national guidelines and support harmonization of screening protocols for VRE carriage.

67: Enhanced determination of community-associated E. coli bacteraemia burden in England, 2018–2024

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Background
Escherichia coli (E. coli) bacteraemia cases have increased annually in England, rising 22.2% increase between 2012/13–2023/24, primarily driven by community-onset cases. We investigated the community-associated burden using an enhanced measure of prior trust (healthcare) exposure (PTE) and patient characteristics.

Methods
E. coli bacteraemia case-level data from 2018–2024 from national mandatory surveillance and an enhanced PTE classification was derived through linkage of in-patient Hospital Episode Statistics admission records (regardless of acute/non-acute trust type). Linkage to UKHSA's national voluntary laboratory database provided antibiotic susceptibility data for clinically-relevant antibiotics. Data was stratified by year, region, sex, ethnicity, deprivation, residential type and antibiotic resistance.

Results
Of 317,020 cases, 58.2% were community-onset community-associated (COCA), 22.6% were community-onset healthcare associated (COHA), and 19.1% hospital-onset healthcare-associated (HOHA). Females of Black ethnicity aged 65+ had a lower percentage of COCA cases (55.0%) versus White 65+ females (62.5%). Of community-onset (COCA & COHA) cases aged 65+, 15.7% & 12.1% (18,477 & 5,439 cases) were care home residents, respectively. Most COHA cases had prior healthcare exposure to NHS acute trusts (98.9% from 134 trusts), with the remaining 0.7% from 31 mental health facilities and 0.4% from 10 community hospitals. Resistance to key antibiotics ranged from 25.3% COCA, 35.0% COHA to 39.2% HOHA cases. COCA proportions ranged geographically from 59.4% (South-East and Eastern England) to 52.9% (London). COCA case distribution was stable across deprivation quintiles (57.2–58.2%) and over time.

Conclusions
We can identify non-acute healthcare settings & characteristics for community-associated E. coli bacteraemia. Further investigation could inform targeted community-based interventions.

68: Development of patient-level risk profiles for Escherichia coli bloodstream infections (BSI) in England

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Background:
Escherichia coli (E. coli) is the leading cause of clinically-significant BSIs in England. Incidence is rising, mainly due to community-acquired infections, disproportionately affecting more deprived areas and individuals of Black or Asian ethnicity. We aimed to identify risk factors associated for community-onset E. coli BSI to develop patient-level risk profiles.

Methods:
Case-level data reported during 2018/19–2023/24 on the UKHSA mandatory HCAI surveillance programme were enriched with Hospital Episode Statistics and Office for National Statistics datasets adding ethnicity and deprivation, respectively. A multilevel Bayesian negative binomial model predicted E. coli BSI rates from observed data across England regions, accounting for individual- and area-level risk factors.

Results:
The model had a median relative error of 7.7% (absolute error: 55 cases/100,000 population, correlation: 0.861). ‘High-risk’ regions (with a higher predicted rate than the ethnic group–specific national average) were spatially dispersed for the White ethnic group, whereas Black, Asian, and Mixed ethnic groups had more clustered regions of elevated risk. Predicted rates were higher for community-onset community-associated cases in the two most-deprived quintiles, and those of Black or Asian ethnic groups. A north-east England region had the greatest predicted standardised risk score in the Asian ethnic group’s community-onset cases (3.11 SD above the national community-onset average); patient's care setting (A&E or outpatient) contributed 12.1 cases/100,000 to this region’s predicted E. coli rate, followed by sex (6.8) and deprivation (3.0).

Conclusions:
Health inequalities significantly influenced predicted BSI risk. Our model outperformed simpler methods and may help identify high-burden communities for targeted intervention.

134: An audit assessing screening for and completion of treatment for latent TB in Healthcare Workers in the Mercy University hospital, Ireland

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Background
Tuberculosis (TB) is a highly prevalent infection worldwide and is one of the leading infectious causes of morbidity and mortality. Latent TB infection (LTBI) affects approximately 24% of people globally and carries a 5-10% lifetime risk of progression to active TB. Therefore, identification and treatment of those infected is vital to reduce the spread of the disease. LTBI screening is important for HCWs who directly interact with patients. However, site to site testing protocols may vary.

Methods
All new healthcare workers who underwent LTBI screening using a IGRA in the Mercy University Hospital (MUH), a model 3 hospital in Ireland, in 2023 and 2024 were identified.
Basic demographics including country of birth, hospital role and test result was collected for all tested patients. For positive IGRA results, further information was collected pertaining to subsequent treatment and any onward referrals.

Results
In total 176 IGRAs were conducted. This accounted for 100% of eligible employees for LTBI screening. The mean age of people tested was 31.5 (SD 6.5). 147 (83.5%) were female and 145 (82.3%) of those tested were born overseas. 25 (14.2%) of those screened returned a positive IGRA. Of the 25 positive cases, all were born overseas. 22 (88%) subsequently attended occupational health for assessment and 14 (56%) subsequently underwent treatment. 8 (53%) were treated with isoniazid.

Conclusion
All new employees in MUH in 2023 and 2024 who were eligible for LTBI testing underwent IGRA testing. 14% of tests were positive and 56% of positive cases subsequently underwent treatment.

157: Microbiological spectrum and susceptibility patterns in paediatric bacteraemia in a large tertiary hospital: A five-year retrospective study

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Introduction:
Bloodstream infections are a significant cause of morbidity and mortality in children. We describe the epidemiology, microbiological profile, and antimicrobial resistance patterns of bacteraemia episodes over a five -year period.

Methodology:
Retrospective analysis of all positive blood cultures obtained from children aged 0–17 years (April 2019 to March 2024). A unique bacteraemia episode was defined as the first isolation of a bacterial species from blood, or a repeat isolation >14 days after a previous positive. Repeat isolates within 14 days were considered duplicates. Likely commensals and contaminants were excluded based on CDC NHSN criteria.(1)

Results:
Of 894 positive blood cultures, 715 (80%) were unique. Excluding 485 possible commensals (CoNS = 358), 230 bacteraemia episodes remained: 82 (35.7%) Gram-positive, 132 (57.4%) Gram-negative, 14 (6.1%) fungal, and 2 (0.9%) mycobacterial. The most common Gram-positive organism was Staphylococcus aureus (n=40; MSSA 34, MRSA 6), followed by Enterococcus spp. (n=28). Among Gram-negative organisms, Escherichia coli (n=33), Klebsiella spp. (n=32), and Enterobacter spp. (n=25) predominated. Candida albicans was the most frequent fungal isolate (n=7). E. coli showed resistance to cefotaxime (34%), ceftazidime (33%), ciprofloxacin (23%), and piperacillin–tazobactam (10%), with all isolates sensitive to carbapenems and amikacin. ESBL production was identified in 15 pathogens (E. coli 60%, K. pneumoniae 20%, Serratia spp. 13% and Enterobacter cloacae 7%)

Conclusion:
Most clinically significant bacteraemia was due to Gram-negative pathogens. CoNS comprised many excluded cases; their relevance remains unclear without clinical review. The presence of ESBL-producing Enterobacteriaceae highlights the need for continued surveillance and antimicrobial stewardship.

Reference:
https://professionals.wrha.mb.ca/files/ipc-Appendix_A_CDC_National_Healthcare_Safety_Network_Master_Organism_List_for_a_list_of_common_commensals_April_23_2024.pdf

159: Injecting-related infections and missingness from inpatient and outpatient care: using hospital episode data to unmask an iceberg of unmet need

Daisy Woolham[1,2], Debbie Jones[1], Bethany Davies[1,2]
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Introduction:

Injecting-related bacterial infections (IRI) in patients who inject drugs (PWID) are a major cause of morbidity and mortality. Analysing admissions data and outpatient follow up data allows missingness among PWID to be quantified.

Methods:

An anonymised dataset of all admissions in PWID over a 5-year period was generated using coding data. Primary diagnostic codes were used to quantify and analyse injecting-related infection (IRI) admissions.

Results:

Of 1705 non-elective admissions (involving 1150 PWID), there were 308 admissions (18%) due to IRI. Average length of stay for IRI was 12 days, 2–3 times the average length of stay for all-cause non-elective admissions (4.8–6.2 days). PWID admitted with IRI were more likely to self-discharge (20.8%, compared to 1.4% of all non-elective admissions) and to be readmitted within 30 days (20.4% compared to a trust readmission rate of 8.7%). 38% of outpatient appointments following IRI admissions were not attended. 72% of PWID missed follow up with Infectious Diseases.

Discussion:

Coding data suggests IRI admissions at UH Sussex are associated with prolonged length of stay, and high rates of self-discharge, readmission and loss to follow up. PWID are often treated with long courses of inpatient IV antibiotic treatment mandated as due to exclusion from OPAT services and hesitancy around use of oral antibiotics in this cohort.

Conclusion:

The use of coding data unveils a need for innovation in infection services in hospital and in the community to cater for PWID with who may not be able to adhere to traditional models of care.

169: MIC surveillance data for uropathogenic Escherichia coli in south-west England

Amy A. Carson[1], Pippa Griffin[2], Marie Atwood[2], Alan Noel[2], Aimee Daum[3], Professor Matthew Avison[3], Professor Alasdair P. MacGowan[2]
[1]North Bristol NHS Trust, Southmead Hospital , [2]Bristol Centre for Antimicrobial Research and Evaluation, Department of Infection Sciences, North Bristol NHS Trust, Southmead Hospital, [3]School of Cellular and Molecular Medicine, University of Bristol

Escherichia coli (E. coli) has remained the predominant pathogen implicated in urinary tract infections occurring in primary care. Despite this, few surveillance datasets are published regarding antimicrobial resistance.

We determined the activity of 19 antimicrobials against 393 community E. coli urinary isolates received by a centralised laboratory covering a population of approximately 500,000 people.

MICs were determined using ISO 20776-2:2021 standard method using microbroth except for mecillinam and fosfomycin where MICs were determined by agar dilution. The MIC range, MIC 50% and MIC 90% of each antimicrobial were determined, and the EUCAST clinical breakpoints were used to determine susceptibility.

Resistance rates were low in our E. coli: <3% for fosfomycin (2.6%), nitrofurantoin (1.8%) and pivmecillinam (1.5%). Ciprofloxacin resistance was 7.1% and cefradine 10.9%. Resistance to amoxicillin (38.9%) and trimethoprim (28.2%) were the highest. Co-trimoxazole offered little advantage over trimethoprim alone with a resistance of 27.5%. Trimethoprim resistant isolates had higher rates of resistance to other agents. Resistance to third generation cephalosporins (likely ESBL or AmpC producers), occurred in 4.9% of strains. Antimicrobials likely to be used in hospitals for the therapy of community acquired urinary infection/sepsis had low rates of resistance: piperacillin/tazobactam (1.4%), gentamicin resistance (3.9%) and temocillin (7.0%). No carbapenem resistance was detected.

These results help inform empirical antimicrobial choices for one of the most common indications for antimicrobial use. Nitrofurantoin as a first line empirical agent continues to have low levels of resistance as do pivmecillinam or fosfomycin and would be superior options to trimethoprim.

208: Carbapenemase-Producing Proteus mirabilis: insights towards a whole genome sequencing (WGS) based surveillance system

Megan Coles[1]
[1]Frimley Health NHS Foundation Trust

This retrospective analysis investigated an outbreak of Proteus mirabilis carrying the blaNDM-1 carbapenemase gene in a large UK NHS Trust using whole genome sequencing (WGS). Thirty isolates were sequenced and analysed for SNP distances, phylogenetic relatedness, and antimicrobial resistance (AMR) gene content. The isolates demonstrated tight genetic clustering, with 99.7% of pairwise comparisons differing by 10 or fewer SNPs, strongly suggesting clonal transmission. A total of 714 AMR-associated genes were detected, though no novel or divergent carbapenemase genes were identified. Epidemiological timelines and ward movement data revealed several plausible transmission events, including cases with 0 SNP differences despite patients being on distant wards, suggesting widespread early dissemination or environmental reservoirs. Another 0 SNP difference was seen between patients with 285 days between the sample collection date, potentially suggesting a low mutation rate. One outlier isolate showed 15 SNPs difference and may represent a minor recombination event or stress-induced genomic variation. A statistically significant positive correlation was observed between SNP accumulation and time ($p<0.001$), although was not indicative of strict linear mutation over time. This study highlights the potential of WGS to uncover fine-scale transmission patterns and events, supporting its use in infection prevention and control strategies. WGS could improve the speed of detection of Carbapenemase-producing Enterobacteriales outbreaks, bringing real time data for infection prevention control teams to manage the risk associated with AMR. It also underscores the challenges of detecting environmental reservoirs and the value of continuing routine Carbapenemase-producing Enterobacterales screening.

244: Spiroplasma Ixodetis: An emerging tick-borne infection. Human health implications and research priorities, following detection from ticks in the United Kingdom

Jacob Brolly[1], Dr Kayleigh Hansford[1], Dr Christina Petridou[4], Dr Rachel Pudney[3], Dr Gillian Armstrong[3], Dr Jolyon Medlock[1]
[1]Medical Entomology and Zoonoses Ecology, UK Health Security Agency, [2]Royal Victoria Infirmary, [3]Emerging Infections and Zoonoses, UK Health Security Agency, [4]Rare and Imported Pathogens Laboratory, UK Health Security Agency

Objectives and Methods:
Spiroplasma ixodetis, a symbiotic bacterial species of ticks, has been recently detected in field studies of Ixodes ricinus ticks in England and Scotland. We conducted a review of human infection risk in the UK posed by this newly detected organism, through searches of pubmed, genebank, and screening of relevant references.

Results:
10 published cases of human S.ixodetis infection are reported from France (4/10), Sweden (2/10), Belgium (1/10) and Germany (3/10), presenting as neonatal cataracts with uveitis (8/10), febrile illness (1/10), and febrile illness with renal & liver dysfunction (1/10). Infections were identified by pan-bacterial molecular diagnostics (8/10), mycoplasma PCR with electron microscopy (1/10), and culture (1/10). Positive samples were blood cultures (2/10), and cataract material (8/10). Ocular presentations were reported in infants under three months, uncomplicated pregnancies preceded the majority (6/8). All infants required cataract surgery and topical antimicrobials, adult cases responded to doxycycline. Residence close to Ixodes ricinus habitats were reported in 2/8 infants. 2/2 adults, reported tick bites and frequent exposure. Use of bacterial16s PCR on infant ocular samples in the UK is limited

Conclusions:
Human S.ixodetis infection has a recognised phenotype, with congenital infection suggested by infant presentations. Infection has life changing consequences for vision. Current UK diagnostic pathways may not be sensitive to detect S.Ixodetis infection. Clinicians should be aware of the need for pan-bacterial diagnostics in cases of undiagnosed infant cataracts. 16s PCR studies on historic infant cataract samples may enhance understanding of human infection status in the UK.

262: A snapshot of Klebsiella urinary tract infection in Dorset in 2024: genomic analysis of 100 sequential urinary Klebsiella pneumoniae isolates from primary and secondary care

Elizabeth Sheridan[1,2], Mr Stephen Fordham[2], Dr Franklin Nobrega[4], Dr Atohengbe Aluede, Ms Emma Hardy[4], Dr Amy Sharpe[1], Dr Anna Mantzouratou[2], Professor Francis Drobniewski[3,1]
[1]University Hospitals Dorset, [2]Bournemouth University, [3]Imperial College, [4]University of Southampton

Following an extensive hospital outbreak of Klebsiella pneumoniae ST628 several years earlier, we analysed urinary Klebsiella isolates (1) to determine whether the original strain or its plasmid were still circulating widely and (2) to gain an overview of strains circulating locally implicated in UTI.
All Klebsiella pneumoniae isolates detected in urine samples analysed in Poole Hospital over a 2 month period were cultured and saved for sequencing. These came from a mixture of primary and secondary care patients and, as well as clear-cut UTI, included cases where the organism was from a mixed culture and some likely asymptomatic bacteriuria cases.
113 isolates were sequenced using Oxford Nanopore long read sequencing.
98 samples were from unmixed cultures from separate patients. Of these, 93% of isolates were of community origin (GP samples, acute admissions units, out-patients clinics) and the remainder were from hospital inpatients and long term care facilities. 67% were female and the median age was 76. 13% of patients had an indwelling urinary catheter and 53% underlying urological, renal or gynaecological conditions or recent instrumentation of the urinary tract. Comorbidities included diabetes (31%), malignancy (15%) and other long term conditions (23%). 64% were suffering from recurrent urinary tract infections.
This demographic analysis confirms locally the predilection of the organism for causing infection in more vulnerable patient groups.
We present the genomic characteristics of the strains, including virulence factors, AMR genes and plasmids.

301: Understanding the epidemiology of Candidozyma auris: a case-control study at an acute hospital in London, UK

Nneoma Okeke[1], **Amal Hussein**[1], **Alero Ilawole**[1], **William Newsholme**[1], **Jonathan A Otter**[1]
[1]Guys and St Thomas' NHS Foundation Trust

Introduction

Candidozyma auris is an emerging cause of healthcare-associated infection (HCAI) with increasing global prevalence and significant clinical implications. Since September 2023, an outbreak of C. auris occurred at a London NHS Trust, prompting a retrospective case-control study to identify risk factors for colonisation or infection.

Methods
We conducted a matched case-control study of patients tested for C. auris between October 2023 and July 2024. Cases (n=76) were matched 1:2 with controls (n=152) by specialty, age group, and sex. Data on demographics, comorbidities, procedures, and antimicrobial use were extracted from electronic health records. Logistic regression was used to identify independent risk factors.

Results
C. auris colonisation was associated with longer hospital stay prior to testing (OR: 1.02/day), hypertension (OR: 2.9), osteomyelitis (OR: 10.0), Doppler use (OR: 3.8), and exposure to antibacterials (OR: 8.4). No significant associations were found with indwelling devices. Colonisation was not linked to increased mortality or length of stay.

Discussion
Our findings highlight the importance of environmental hygiene and early screening. Doppler use emerged as a potential vector for transmission. These results support targeted infection control measures and reinforce the value of proactive surveillance in managing C. auris outbreaks.

Sustainability in healthcare

26: Clinical characteristics and outcomes of Enterococcus faecalis Bacteremia in a Tertiary Care Center: A Retrospective Analysis

Huseyin Bilgin[1], Temetope Sobayo[1], Seema Desai[1]
[1]Royal Stoke University Hospital

Enterococcus faecalis is a common cause of bloodstream infections, although generally more susceptible to antibiotics than E. faecium, has shown the ability to develop multidrug resistance, particularly in hospital environments. Multidrug-resistant E. faecalis strains may exhibit high-level resistance to aminoglycosides, fluoroquinolones, and macrolides, and in rare but clinically significant cases, vancomycin and linezolid resistance. These resistance patterns complicate treatment and highlight the need for continued surveillance. This retrospective study assessed the clinical characteristics, sources, antimicrobial resistance patterns, treatment strategies, and outcomes of E. faecalis bacteremia in a tertiary healthcare setting. Mortality risk factors were analyzed using univariate analysis. A total of 39 patients were identified (median age: 77 years; 56.4% male). The primary source was genitourinary infections (51.3%), followed by intra-abdominal infections (12.8%). Endocarditis was uncommon (7.7%). Amoxicillin was the most frequently used treatment (56.4%), with combination therapy in 12.8% of cases. High-level gentamicin resistance was detected in 12.5% of tested isolates. All repeat blood cultures obtained between days 3–30 (n=10) was negative. The 28-day mortality rate was 15.4%. No statistically significant risk factors for mortality were identified. E. faecalis bacteremia remains predominantly genitourinary in origin, with good response to targeted therapy. The low incidence of endocarditis raises questions about the routine use of echocardiography in management in absence of clinical stigmata. Early, targeted therapy with amoxicillin remains an effective treatment approach.

297: Designing Sustainable Antimicrobial Guidelines: For patients, environment and healthcare systems

Mrs Avril Lynch[1], **Luke Hunt**, Dr Sarah Walpole[2], Dr Emma Boldock[1]
[1]Sheffield Teaching Hospitals NHS Trust, [2]Newcastle Hospitals NHS Trust

Introduction
Medicines account for approximately 20% of the NHS carbon footprint, with antimicrobials a major contributor due to manufacturing complexity, global supply chains, and high utilisation. Most antibiotic prescribing is undertaken by non-specialists, guided by local formulary recommendations. Antimicrobial guideline authors are therefore well placed to influence the sustainability of prescribing practices, through careful antimicrobial guideline design and targeted educational initiatives.

Methods
By undertaking a literature review and multidisciplinary expert discussions, we identified pragmatic interventions capable of reducing the environmental impact of antimicrobial prescribing without compromising patient care. Candidate recommendations were refined by consensus and piloted through application to existing antimicrobial guidance.

Results
Five recommendations were established: (1) include a recommended typical duration of therapy; (2) provide information on timing of oral switch for all empiric intravenous regimens; (3) recommend and link to penicillin allergy de-labelling guidance; and (4) where equivalent efficacy and safety can be achieved, prioritise highly bioavailable oral agents, and intravenous agents with lower dosing frequency . Worked examples demonstrated that applying these indicators should reduce prescribing-related carbon emissions without compromising stewardship objectives. The recommendations were consolidated into an audit toolkit for use when updating existing guidelines and developing new ones.

Conclusion
It is feasible to design antimicrobial guidance that integrates sustainability principles. Adoption of these recommendations by infection specialists and antimicrobial stewardship teams has potential to reduce the carbon footprint of prescribing, support NHS Net Zero targets, and improve patient outcomes. Future work involves measuring impact on antimicrobial use and carbon savings in a clinical environment.

308: Improving environmental sustainability in healthcare practice through collaborative working: the Infection Societies' Sustainability Forum

The Members of the Infection Societies' Sustainability Forum[2], **Luke Hunt**, Sarah Walpole[1]
[1]Newcastle Hospitals, [2]Infection societies

The Infection Societies' Sustainability Forum aims to enhance the sustainability of clinical infection practice, including infection prevention and control (IPC) activities and treatment of infections. The forum brings together those with interest and expertise in environmental sustainability from UK organisations active in the sphere of infection prevention and management.

Together we address wide-ranging infection topics, including antimicrobial stewardship, decontamination, personal protective equipment, and prevention and management of healthcare acquired infections. We aim to:

- Provide a platform for networking, collaboration, and knowledge exchange among professionals and organisations working to promote sustainability in clinical infection practice.
- Facilitate collaboration among stakeholders, reducing duplication of efforts, and sharing best practices.
- Support the development and distribution of national and local policies and guidelines to improve sustainability in clinical infection practice.
- Support those delivering healthcare to implement policies and guidelines to improve sustainability in clinical infection practice.
- Identify evidence gaps related to sustainability in clinical infection practice.
- Support the development of research projects to meet gaps in knowledge and knowledge translation for sustainability in clinical infection practice.
- Advise the Department of Health and Social Care (DHSC) advisory committee on AMR and HCAI (APRHAI) on best practices for sustainability in infection prevention, treatment, and control, in order to deliver environmental and human health benefits aligned to the UK AMR National Action Plan 2024-2029.

Our presentation will share a timeline of the group's progress to date, information about society representation, links to our outputs, and contact information to facilitate future collaboration.

Tropical clinical cases

78: Impact of Wolbachia-Infected Aedes aegypti on Dengue Incidence in Endemic Regions: A Systematic Review and Meta-Analysis

Dr Husni Mubarak Zainal[1], **Abdullah Al Owesie**[2], **Dr Ricardo Guimaraes**[3], Dr Andrea Roman-Pimentel[4], Ms Laura Santos Ribeiro[5], Dr Stylianos Salteris[6], Dr Tanika Sharma[7], MD Yeny Chavarria[8], MD Victoria Nallin de Godoy[9]
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Objectives:
Dengue fever remains a major public health burden in endemic regions, where traditional vector control efforts have shown limited and inconsistent impact. The release of Wolbachia-infected Aedes aegypti mosquitoes offers an innovative strategy to curb dengue transmission. We conducted a systematic review and meta-analysis to evaluate the effectiveness of this intervention in reducing virologically confirmed dengue outcomes.

Methods:
We systematically searched Cochrane, Embase, and MEDLINE up to 30 April 2025 for eligible randomized controlled trials, quasi-experimental studies, and test-negative designs conducted in dengue-endemic settings. Two complementary meta-analyses were performed: one assessing population-level impact using pooled incidence rate ratios (IRRs), and another evaluating individual-level protective efficacy (PE) using pooled odds ratios (ORs). Random-effects models were used to account for between-study heterogeneity. Subgroup analyses were conducted by region and Wolbachia coverage extent.

Results:
Nine studies involving over 8 million individuals were included. Wolbachia deployments were associated with a pooled IRR of 0.15 (95% CI: 0.05–0.39), indicating an 85% reduction in dengue incidence. Full-area coverage achieved even greater reductions (IRR = 0.05). The pooled OR for protective efficacy was 0.29 (95% CI: 0.01–8.41), suggesting a 71% reduction in individual dengue risk.

Conclusions:
Wolbachia-based vector control substantially reduces dengue incidence and individual risk in diverse endemic settings. This strategy represents a highly effective public health intervention for dengue prevention.

84: Imported Puumala Hantavirus Infection Presenting as Nephropathia Epidemica in a Returning UK Traveller

Francesca Liuzzi[1], Dr Thomas Samuels, Annalise Laidlow, **Dr Mivanyi Kadala**, Professor Lance Turtle
[1]University Hospitals Liverpool Group

Hantaviruses are rare in the UK, but can cause significant illness when imported from endemic regions. We report a case of Puumala virus infection in a previously healthy 34-year-old man following rural travel in north-eastern Estonia. He presented with a four-day history of fever (39 °C), severe headache, lethargy, and dysuria. Initial labs revealed thrombocytopenia (platelets 80 × 10^9/L), hyponatraemia (Na^+ 130 mmol/L), mild transaminitis (ALT 78 U/L), plus acute kidney injury (creatinine 160 µmol/L) with a transient oliguric phase. Chest and abdominal imaging were unremarkable, and extended microbiological screening—including bacterial cultures, malaria, leptospira, and tick-borne encephalitis—was negative. A detailed travel history uncovered prolonged rodent exposure in forested areas near Lake Peipus. Diagnosis was confirmed via detection of Hantavirus RNA and rising Puumala virus IgM/IgG titres. The patient received supportive care, with renal function recovering fully and no long-term sequelae.
This case highlights the importance of considering zoonotic hantavirus infections in returning travellers with febrile illness and renal impairment, especially with possible rodent exposure. It also underscores the diagnostic value of detailed travel and exposure history, alongside access to specialised reference labs such as the Rare and Imported Pathogens Laboratory (RIPL). Clinicians should maintain awareness of nephropathia epidemica in cases of unexplained acute kidney injury with thrombocytopenia. Early identification can guide appropriate monitoring and management, preventing complications and assuring patient recovery.

201: Far from Home: A Mediterranean Worm's UK Appearance

Germain Yueling Lam[1], Dr Stephanie Rimmer[1], Mr Alex Whiteman[1], Mr Ruchi Gour[1], Miss Aida Hajjar-Sese[1], Miss Lucia Pelosini[1], Dr Anjaneya Bapat[1]
[1]King's College Hospital Nhs Foundation Trust

Background
Dirofilaria repens is a filarial nematode endemic to Southern and Eastern Europe, typically infecting dogs and other carnivores. Human infection is rare and usually presents as subcutaneous or ocular lesions. With climate change, resulting in vector expansion, a rise in the prevalence and geographic distribution of D. repens is increasingly recognised.

Case presentation
A 78-year-old man presented to the eye clinic at King's College Hospital, London, with persistent conjunctival discomfort, redness, and lower eyelid swelling. He had no recent travel outside Europe but reported regular visits to North-Eastern Spain and a trip to Turkey in 1998.
Despite oral and topical antibiotics, his symptoms persisted. Slit-lamp examination revealed a lump in his conjunctiva. Surgical exploration identified and excised a superotemporal encapsulated helminth. The excised parasite was sent for specialist identification. PCR confirmed Dirofilaria repens. Post-operatively, the patient made a good recovery.

Discussion
This case represents an uncommon presentation of dirofilariasis likely acquired in Spain, where human cases remain sporadic. D. repens is transmitted via mosquito vectors including Aedes albopictus and Culex pipiens. Expansion of vector populations due to global warming across Europe has contributed to the geographical spread of D. repens from Southern Europe towards Northern Europe.

Conclusion
This case highlights the importance of considering parasitic infections in atypical ocular presentations, particularly with travel to endemic regions. Rising vector distribution due to climate change may lead to further cases emerging across broader regions. Awareness among ophthalmologists, infectious disease specialists, and public health teams is essential for this emerging parasitic infection.

205: Paederus Dermatitis in a Returning Traveller: A Case Highlighting an Under-Recognised Mimic of Skin Infection

Dr Nadia Allan[1], **Aidan Ireland**[1], Dr Edwina Hegarty[1], Dr David Ashley Price[1]
[1]Newcastle Upon Tyne Hospitals NHS Foundation Trust

Background
Paederus dermatitis is a contact dermatitis caused by inadvertent crushing of rove beetles (Paederus species), which release paederin, a vesicant toxin. It typically manifests with linear or 'kissing' erythematovesicular plaques that may be mistaken for bacterial or herpetic infection. It is endemic in tropical and subtropical regions but remains under-recognised among clinicians managing returning travellers.

Case presentation
A 19-year-old otherwise healthy woman presented with a distinctive rash on her left arm one day after returning from Namibia, where she had been camping in the Namib desert. She had developed characteristic "kissing lesions" in a figure-of-eight pattern in the left anterior cubital fossa, consisting of erythematous dermatitis with peripheral blistering, appearing four days prior to presentation. The patient remained systemically well with no fever or other systemic symptoms. Retrospective questioning confirmed abundant rove beetle presence during her stay and possible accidental crushing of a beetle in the arm crease. Based on the pathognomonic appearance and travel history, Paederus dermatitis was diagnosed clinically. Conservative management with reassurance was provided, and the patient was discharged without further investigation. Complete resolution is expected within 10–14 days, leaving transient post-inflammatory hyperpigmentation

Conclusion
Prompt bedside recognition of Paederus dermatitis in the returning traveller can prevent unwarranted antibiotic therapy, serology, imaging and patient anxiety, aligning with antimicrobial stewardship goals.

229: Hepatic fascioliasis with associated chronic spontaneous urticaria and angioedema in a returning traveller

Nick Coulthard[1], Dr Nadia Allan[1], Dr Aidan Ireland[1], Dr Suzanne Elcombe[1], Dr Ewan Hunter[1], Dr David Ashley Price[1], Dr Clive Graham[2]
[1]Newcastle Upon Tyne Hospitals Nhs Foundation Trust, [2]North Cumbria University Hospitals NHS Trust

Background

Fasciola hepatica is a liver fluke with a wide geographic distribution. While it typically presents with hepatobiliary symptoms, immune-mediated phenomena such as urticaria and angioedema occur less frequently and may be under-recognised. While case reports and epidemiological studies suggest an association between parasitic infections and chronic spontaneous urticaria (CSU), there are few data specifically linking Fasciola hepatica with CSU.

Case presentation

A 28-year-old Vietnamese male was referred to Infectious Diseases by his GP with a two-month history of urticarial rash and angioedema, and a one-month history of upper abdominal discomfort, diarrhoea, nausea, night sweats, fatigue, cough and weight loss following travel to central Vietnam to visit family. He was noted to have a marked eosinophilia, peaking at 12.52 (0.04 - 0.4) x10^9/L, deranged LFTs and hepatomegaly. MRCP demonstrated generalised parenchymal changes in the liver, with multifocal low density intrahepatic bile duct distension in the left lobe. Fasciola serology was strongly positive at titre 1:1024. He was referred to the Allergy and Immunology service who diagnosed CSU with angioedema and started high-dose cetirizine 20mg twice daily. The patient was treated with triclabendazole and remains under follow up. After discussion with the national Clinical Parasitology Network MDT, the patient was also treated empirically for strongyloides, opisthorchis species and clonorchis sinensis, due to shared epidemiological risks.

Conclusion

Parasitic infections should be considered as a potential trigger of CSU and angioedema in patients who have epidemiological risks.

(Word count: 234)

249: Intestinal schistosomiasis masquerading as inflammatory bowel disease: an illustrative case of a chronic parasitic infection in a migrant

Ronan Murphy[1,2], Dr Evangelos Vryonis[2], Dr Vjeran Cajic[1]
[1]Academic Department of Military Medicine, [2]University Hospitals Coventry and Warwickshire

Introduction:
Schistosomiasis is a parasitic infection caused by the schistosoma flukes, and can cause chronic intestinal disease due to inflammation from schistosoma egg deposition in tissues. Schistosomiasis is endemic to the tropics and is associated with fresh water exposure due to the essential life cycle stage within freshwater snails. Cases of chronic intestinal schistosomiasis in the UK are rare.

Case Details:
A 30-year old male migrant from Eritrea presented to his GP with chronic bloody diarrhoea and weight loss, and was referred to gastroenterology with suspected inflammatory bowel disease after a previous colonoscopy at a previous hospital had demonstrated granulomatous inflammation with a presumed diagnosis of ulcerative colitis. He had a positive faecal calprotectin and faecal immunochemical test for blood, but no eosinophilia. He underwent MRI of his small bowel which was normal, and colonoscopy, following which histopathological examination of a biopsy demonstrated granulomatous inflammation with helminth eggs seen. He was referred to the infectious diseases department - serology was strongly positive for schistosoma antibodies, and stool and urine microscopy was negative for schistosoma ova. He was treated with praziquantel and his symptoms improved.

Discussion:
This case illustrates a rare but important presentation, and demonstrates the importance of considering chronic imported infections in migrant populations. This patient was initially suspected of having inflammatory bowel disease, but a repeat colonscopy was performed due to the travel history, and this revealed the diagnosis and allowed appropriate therapy to be commenced.

265: Navigating Severe Falciparum Malaria in a Traveller with Asplenia: Clinical Challenges and Importance of Preventive Strategies

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Background:
The pivotal role of the spleen in the immunological and mechanical clearance of parasitised erythrocytes in malaria is well known. We present a case of severe Plasmodium falciparum malaria in an asplenic individual, highlighting the therapeutic challenges and implications for practice.

Case presentation:
A man in his 60s with a background of post-traumatic surgical asplenia presented with fever and chills after recent travel to Gabon, having taken no malaria chemoprophylaxis or asplenia-related medical prophylaxis/vaccinations. A diagnosis of severe P. falciparum malaria was confirmed by molecular test and peripheral smear (hyperparasitaemia >20%). Laboratory findings revealed leucocytosis and thrombocytopenia, but no anaemia. His renal function and liver function, only mildly deranged, showing no signs of organ failure. Despite 10 days of intravenous artesunate followed by a week of oral quinine and doxycycline, and close monitoring in ITU, the patient's clinical course was complicated by persistent hyperparasitaemia and recurrent fevers. Expert review of malaria films confirmed non-viable parasites. His asplenia contributed to both the severity of the disease and impaired immune response, necessitating prolonged antimalarial therapy and vigilant supportive care. The patient showed clinical improvement post the prolonged treatment, with peripheral smears turning negative two weeks post-treatment.

Conclusion:
This case illustrates the significant challenges in managing severe P. falciparum malaria in asplenic individuals, as they may experience higher parasite loads, delayed clearance, and increased risk of complications. Management is often prolonged and complex, highlighting the importance of pre-travel counselling and chemoprophylaxis, early recognition of risk factors, and a multidisciplinary approach to care.

Tropical infections

129: Imported Illness in Irish Emergency Departments: Insights from Tertiary Center Presentations

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Background: Imported infections present challenges for emergency departments in Ireland due to increasing global mobility. This audit evaluates how well current clinical practice at two Irish tertiary centres aligns with existing national guidance on managing imported infections, with the aim of informing quality improvement and supporting early recognition and appropriate care.
Methods: A retrospective review of 72 patients presenting with imported infections to the emergency departments of Mater University Hospital (MMUH, n=46) and Galway University Hospital (GUH, n=26) was carried out. Demographics, travel history, clinical presentation, diagnostics, and clinical outcomes were analysed.
Results: Among 72 cases, 79.2% presented with documented fever. Malaria accounted for 34.7% of all diagnoses, making it the leading cause of imported infections. Nigeria was the most common travel destination (32.0%), followed by other West African nations. The overall diagnostic confirmation rate was 61.1%, leaving 38.9% of cases without definitive diagnosis. Visiting friends and relatives represented 65.4% of reason for travel where documented. Critical care admission was required in 5.6% of cases. Median time from symptom onset to presentation was 9 days. Other significant pathogens included rickettsial infections (5.6%), shigella infection (5.6%) and typhoid (1.4%). Malaria prophylaxis uptake appeared low with only 21% with documented prophylaxis. Risk factor exposure was poorly recorded with no sexual exposure history documented in 58% cases. Travel vaccination status was undocumented in 92.6% of cases.
Conclusions: High rates of undiagnosed cases and poor documentation highlight the need for a standardized imported fever pathway to improve adherence to imported infection management guidance.

139: Fever in Returning Travellers: A Quality Review from Aberdeen Royal Infirmary

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Background:
Returning travellers with fever represent a diverse clinical group requiring broad diagnostic consideration. Early review by the Infectious Diseases team plays a crucial role in the management. In this audit, timely ID input facilitated appropriate diagnostic workup, risk stratification, and targeted therapy
Methods:
This audit was conducted over a four-month period within the infectious diseases department at Aberdeen Royal Infirmary. All adult patients presenting with fever and a history of international travel within 60 days of presentation were prospectively reviewed and included in the analysis. Data collected included demographics, travel history and destinations , presenting symptoms, investigations, final diagnoses, and adherence to local management protocols and infection prevention measures.
Results:
A total number of 55 patients were included in this audit, which was conducted over period of 4 months. The most common travel regions were South Asia (35%) followed by Sub-Saharan Africa (31%) and Europe (21%). In this cohort, malaria was the most common diagnosis (17%), followed by viral upper respiratory tract infections (15%) . Other diagnoses included dengue fever, typhoid, Chikungunya and nonspecific viral illnesses. However, nearly 30% of cases, no definitive cause was identified.
Conclusion:
This prospective single-centre audit evaluated the local epidemiology and patterns of imported infections and highlighted the variability of risk factors, clinical presentation and outcome. Standardised assessment tools and enhanced ID referral protocols may improve outcomes and patient safety. It is always very important to reinforce the importance of taking detailed travel history and improve clinician awareness of tropical and emerging infections.

313: “When Travel Fever Hides Below: Melioidosis Masquerading as Prostatic Abscess”

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Objective

To raise awareness of melioidosis as a potential diagnosis in returning travelers presenting with atypical symptoms, and to highlight the importance of detailed patient history and timely blood cultures.

Case Summary

A 52-year-old previously healthy man, recently returned from Thailand, presented with a 3-week history of fever, incomplete bowel evacuation, and reduced urine output. On admission, he was hypotensive and required resuscitation. Typhoid fever was initially suspected, and empirical ceftriaxone therapy was started. Despite treatment, he continued to experience fever spikes, bowel difficulties, and increased drowsiness. CT scan and lumbar puncture were unremarkable.

The first blood culture was negative. However, a repeat culture during a fever spike grew Burkholderia pseudomallei. Antibiotics were changed to Meropenem due to suspected brain involvement, leading to clinical improvement. CT abdomen and pelvis revealed a prostatic abscess, which was drained; abscess cultures also grew B. pseudomallei, explaining his symptoms. MRI brain showed no brain involvement, so Meropenem was switched to Ceftazidime. He remains on Cotrimoxazole and is under ongoing follow-up.

Discussion :

1) Detailed travel history was crucial to suspecting Melioidosis.

2) Prostatic abscess can present with bowel and urinary symptoms, making thorough symptom evaluation essential.

3) Initial blood cultures may be negative; repeat cultures during fever spikes are vital for diagnosis.

4) Early recognition, imaging, abscess drainage, and targeted antimicrobial therapy are key for successful recovery.

Viral infections

69: Development of virus-like particle based vaccine candidate against porcine circovirus disease of pig

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Introduction:
Porcine circovirus (PCV) is one of the most economically important swine pathogens around the globe. However, in recent years PCV2d is the predominant genotype in India as similar to global genotypic shift. The commercial virus like particle vaccine mostly produced based on PCV2a capsid protein is unable to control the PCV2d infections due to the variation of antigenic epitopes of emerging PCV2d genotypes.
Objective:
To produce empty capsid particle vaccine candidate for PCV2d in insect cell system and in vivo animal study in porcine model
Material method & Discussion
In this study, PCV2d_ Indian isolate capsid sequence has been selected for synthesis in baculovirus expression system. The synthesized sequence was cloned into pOPINE vector, and subsequently transformed into baculovirus to produce recombinant baculovirus and expressed in insect cell line (Tnao38). To improve the production of the empty capsid particle alternative insect cell system was used as earlier study reported that Tnao38 cell. The expression of PCV2d capsid protein in insect cell was analyzed by western blot. The expressed capsid protein was also assembled into empty capsid particle, confirmed by Transmission electron microscopy. Further characterization and in vivo immunological study of the empty capsid showed positive seroconversion. The in vivo challenge study is ongoing and will present later.
Conclusion:
Overall the empty capsid particle vaccine candidate for PCV2d was expressed and assembled in insect cell. The in vivo animal study showed that potential use of Vaccine candidate for PCV2 infection.

79: Understanding the interaction between Streptococcus pneumoniae and Respiratory syncytial virus in a novel controlled human infection model

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Background
Streptococcus pneumoniae (Spn) and Respiratory syncytial virus (RSV) are important respiratory pathogens, thought to interact synergistically to increase infection severity. Controlled human infection model (CHIM) studies present a unique opportunity to study these dynamics further.

Methods
In a novel outpatient RSV-Spn, co-infection CHIM study, healthy volunteers aged 18–55 were randomised 1:1 to receive primary Spn serotype 6B or RSV-A nasal inoculation, with reciprocal inoculation 7 days later. Participants were monitored for 60 days. We collected upper respiratory clinical symptom (URCS) scores on a daily e-diary for 21 days after primary inoculation (self-scored between 0-4 across 8 symptoms with 32 as the maximum).

Results
We enrolled 111 participants (median age 26 years [Q1–Q3: 22–34]; 43% (48/111) female). We observed no serious adverse events in this trial. Three episodes of otitis media (adverse events of special interest) were observed, which all resolved with no significant sequelae after antibiotic treatment. Ninety-five patients were included in the analysis of URCS scores.
Mean URCS scores by carriage/infection status were: Spn+ve/RSV+ve (n=44) 1.53 (SD 2.01); Spn+ve/RSV-ve (n=17) 0.85 (SD 1.66); Spn-ve/RSV+ve (n=16) 1.37 (SD 2.15); and Spn-ve/RSV-ve (n=18) 0.25 (SD 0.69). The difference across cohorts was highly significant ($p<0.001$) when compared with one-way analysis of variance.

Conclusions
This model was safe and well tolerated with most symptoms reported as mild-moderate, which supports its use as a tool to evaluate how vaccines may reduce the risk of severe infection. There is a modest increase in URCS scores with co-infection compared to individual infections.

184: Cytomegalovirus infection following immunosuppression for immune checkpoint inhibitor complications – a retrospective case series at a tertiary centre

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Immune checkpoint inhibitors (ICI) are increasingly used to treat a diverse range of solid organ cancers. Clinically significant cytomegalovirus (CMV) infection resulting from immunosuppression for ICI toxicity was noted in our patient cohort, but guidance on CMV monitoring in these patients is not yet established.

In our centre over 18 months, 1111 patients received ICI, of which 15 patients on immunosuppression for toxicity developed CMV infection requiring antiviral treatment. Seven presented with CMV colitis, one with pneumonitis and seven with significant reactivations in blood. None had primary CMV infection.

The pre-immunotherapy performance status of these 15 patients was one or less. Principal underlying diagnoses were lung adenocarcinoma (33%), renal cell cancer (27%) and melanoma (20%); with single agent ICI treatment (pembrolizumab or nivolumab) (67%) or combination ICI (ipilimumab and nivolumab) (33%). ICI toxicities, mainly colitis (31%) and myocarditis (21%), were all treated with prolonged high dose corticosteroids (over 20mg for over 4 weeks). Nine patients received additional immunosuppressive agents, maximum five.

Median time from starting steroids to significant CMV infection was 79 days . Median peak CMV viral load was 5290 IU/mL and median nadir lymphocyte count preceding infection was 0.47 x10^9/L. Median gap between an initial negative CMV sample and detection was 44 days, and median delay to CMV sampling in 8 patients not screened on admission was 40 days.

With more patients on ICI, significant CMV infection due to prolonged immunosuppression for toxicities is also rising. Characterisation of this cohort will allow development of guidance for CMV monitoring.

237: A possible case of TBE virus complex encephalitis acquired on Dartmoor

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Background
Tick-borne encephalitis virus (TBEV) is a rare infection transmitted by infected Ixodes ticks. Two PCR-confirmed UK-acquired cases have been reported to date (1,2).

Case presentation
A 46-year-old equine veterinarian presented with headache, ataxia and fever following a tick bite on Dartmoor 3 weeks earlier. The illness demonstrated a biphasic clinical course, with initial lethargy and arthralgia resolving after 48 hours, followed by neurological symptoms 7 days later. CSF analysis showed lymphocytosis and raised protein in keeping with viral meningoencephalitis, however routine viral PCR testing was negative. CSF and serology samples were sent to the Rare and Imported Pathogens Laboratory (RIPL), who identified positive TBEV IgG in serum and CSF. TBEV PCR was negative.

Discussion
Diagnosis of TBEV complex is complicated by brief PCR positivity, and flavivirus antibody cross-reactivity. Here, the clinical presentation, tick exposure and serological testing are in keeping with acute infection with TBEV complex, which includes TBEV and Louping ill virus (LIV). Both have been described in the UK (1,3).

Conclusion
This possible case of TBE is notable as TBEV has not previously been detected in Dartmoor ticks. This may indicate evolving migration of TBEV in the UK, possibly attributable to environmental changes including climate. Tick sampling is underway to further evaluate, and may have implications on risk assessment and prevention strategies.

315: Moor than Expected?

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Background
Tick-borne encephalitis (TBE) is a flavivirus infection transmitted by ticks, classically presenting as a biphasic febrile illness with frequent neurological involvement. TBE has been acquired in the UK since 2019, but it remains rare[1]. We describe a probable UK-acquired case from Dartmoor, Devon, and outline diagnostic barriers unique to the UK.

Case presentation
An 18-year-old male presented with a five-day history of headache, fever, vomiting, and anorexia, progressing to drowsiness, agitation, and disorientation. A lumbar puncture revealed lymphocytic pleocytosis and empirical ceftriaxone and acyclovir were initiated. Brain MRI and EEG were unremarkable. Multiplex CSF syndromic PCR and culture were negative. The patient reported no foreign travel but had camped on Dartmoor with tick bites two weeks before symptom onset. He had not received any flavivirus vaccines. He improved with supportive care and was discharged after three days. Extended testing at the Rare and Imported Pathogens Laboratory detected serum anti-TBEV IgM/IgG antibodies, absent intrathecal IgG synthesis, and sub-threshold CSF PCR signals.

Discussion
Although TBE is now recognised as endemic in the UK, case confirmation remains challenging. In continental Europe, laboratory diagnosis is mainly based on the presence of specific IgM/IgG serum antibodies[2], whereas in the UK confirmation requires a fourfold increase in anti-TBEV IgG titre or a positive PCR result, reducing the likelihood of confirmation in the neurological phase[3],[4]. Increased awareness plus broader access to validated anti-TBEV IgM testing and virus neutralisation assays discriminating other flavivirus infections are needed to confirm cases more reliably[5].

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