Background: The emergence and spread of carbapenem-resistant Pseudomonas aeruginosa (CRPA) is a serious cause of nosocomial infections in critically ill patients. Objectives: The aim of this study was to determine the prevalence of CRPA and carriage of class B Metallo-
-lactamase resistant genes in intensive care units (ICUs) from patients with surgical-site infection or ventilator-associated pneumonia at a Surgical Specialty Hospitals in Iraq. The identification of P. aeruginosa in clinical specimens was confirmed by polymerase chain reaction (PCR) amplification of a molecular marker—opLR gene. A total of 50 (62.5%) P. aeruginosa isolates were identified with antibiotic resistance profile (4% pan drug resistant [PDR], 20% extensively drug resistant [XDR] and 76% multidrug resistant). Twelve (24%) isolates were CRPA positive, in which the most prevalent MBL-encoding gene was blaVIM (58.3%), blaNDM (41.7%), and blaIMP (33.3%).

Conclusions: Alarmingly, high prevalence of CRPA with predominance of MBL-encoding genes was detected. The XDR and PDR resistance phenotypes have become highly prevalent for this nosocomial pathogen in ICU patients that may cause a therapeutic impasse. The MBL-encoding genes were predominant among clinical isolates of P. aeruginosa. These findings emphasize on adherence to infection prevention and control standard precautions, early detection of CRPA isolates and development of to effectively reduce the burden of carbapenem resistance.

Introduction: Tuberculosis (TB) is a significant public health problem in Papua New Guinea (PNG). Poor infection prevention and control (IPC) measures in healthcare settings may partly contribute to the high burden of TB in PNG. This study examines the implementation of the TB infection prevention and control (TBIPC) policy introduced by the national health department in 2011 in rural hospitals in the Highlands and Momase region of PNG.

Methods: A self-administered structured questionnaire adapted from the WHO TBIPC framework and site observations were undertaken to assess the TBIPC activities. Questionnaires and observation data were analysed using SPSS. Fishers’ exact test was performed to determine the similarities and differences in TBIPC practices between the health facilities. Significance was assessed at p = .05. Ethics approval was given by Griffith University Human Research Ethics Committee (GU Ref No: 2021/921).

Results: Ten of thirteen rural hospitals in the Highlands and Momase region (78%) were surveyed. The majority (N = 8,801) of rural hospitals have inadequate TBIPC programs. Two (20%) facilities have intermediate or advanced TBIPC programs. The facility with advanced TBIPC employed a doctor with public health training. COVID-19 pandemic has provided the impetus to strengthen IPC programs in rural health facilities. Significant differences in TBIPC practices were identified across the two regions (p = 0.03).

Conclusion: Overall, TBIPC guidelines were inadequate in rural hospitals in PNG. The significant differences in TBIPC practices in rural hospitals remain a severe challenge to the TB control efforts. Public health training for health workers could play an important role in IPC programs.

Introduction: The occurrence of a urinary tract infection (UTI) increases with age and is highest among those living in care homes in the UK. Several factors predispose older people to UTI and resistance to antibiotics used to treat UTI is now common. One third of admissions to hospital from care homes in the UK are due to UTI and emergency admissions to hospitals have increased markedly. Over-diagnosis of UTI is recognised as a problem in care homes, and it is not clear how complex diagnostic algorithms are understood and applied. Guidance, for preventing UTI in care homes is limited and fails to account for the context in which care is delivered or the challenges presented by residents with complex health needs. Systems that support early recognition of UTI by care home staff are critical to driving improvements in UTI prevention and improve resident experience.

Methods: A realist synthesis was conducted in four iterative stages: construction of a theoretical framework and initial programme theory(ies); the retrieval, review and synthesis of evidence; testing/refining programme theory(ies) and formulation of recommendations for the prevention and recognition of UTI in care home settings.

Results: Nine programme theories were developed in three key areas, strategies to prevent UTI/CAUTI; strategies to support the recognition of UTI/CAUTI; and making best practice happen.

Conclusion: We have produced unique recommendations that are relevant for care home settings, which we believe can be incorporated into policy, guidance and educational programmes to help reduce the incidence of UTI, recurrent UTI and CAUTI.

Introduction: The COVID-19 pandemic placed a renewed focus on transmission of respiratory infections in healthcare settings. However, little is known about the direct and indirect impacts on surveillance and infection prevention and control activities to limit transmission of other communicable diseases such as multidrug-resistant organisms (MDROs).

Methods: We conducted retrospective cross-sectional audits of compliance with routine screening and cleaning practices for MDROs (including vancomycin-resistant enterococci [VRE] and extended-spectrum beta-lactamase-[ESBL]-producing and carbapenemase-producing [CPE] Enterobacteriaceae) in a tertiary hospital, where patients admitted to high-risk wards are screened upon admission and weekly. We correlated this with observed transmission events and an organisation-wide point-prevalence survey for MDRO colonisation.

Results: Compliance with routine MDRO screening practices was lower than pre-pandemic. Additionally, interventions to limit environmental contamination with CPE had been neglected during the pandemic. This corresponded with an increase in CPE transmission. Audits of clinical staff infection prevention and control practices found missed opportunities to screen and identify colonised patients, as well as curtailed control measures during the pandemic, both correlating with MDRO transmission.
Conclusion: Ongoing engagement of staff and senior decision makers in healthcare facilities is critical to maintaining infection control standards. At our institution, we found a lapse in standards during the COVID-19 pandemic was associated with an increase in MDRO transmission.

132. HOW USING THE MEDICATION ADMINISTRATION EVALUATION FEEDBACK TOOL IMPROVES NURSES INFECTION PREVENTION STRATEGIES: STEPPED WEDGE CLUSTER RANDOMISED TRIAL

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Introduction: The Medication Administration Evaluation Feedback Tool (MAEFT) is a validated 22 criteria best practice checklist, to evaluate nursing adherence to medication administration guidelines, including infection prevention strategies and antimicrobial management.

Methods: The study was a sequential, incomplete, stepped-wedge, cluster randomised trial with three one-month phases: control, intervention and follow-up intervention. It included two hospitals, six randomised wards, with fifteen consented nurses in each ward (total n=90). The intervention used the MAEFT for nurses to self-assess their performance before being observed administering medications and provided formative feedback on their performance. Participant acceptability was measured with a 10-question survey.

Results: Control, nurses adhered to guidelines 88% of the time (IQR: 83-93), compared with 94% (89-100) (p<0.001) with the intervention, and 95% (93-100) (p<0.001) with follow-up. For self-assessment, participants believed they adhered to guidelines 92% of the time (85-98) with the intervention and 97% (87-100) at follow-up (p<0.001). There was 21% improvement conducting the 5 moments of hand hygiene, 25% increase labelling medicines such as antibiotics, 33% improvement refusing to administer a prescription that is not correct, 49% improvement in asking the patient if they knew what the medication was for, 13% increase in both asking the patient what they are allergic to and conducting a 2-nurse check of high-risk medications such as antibiotics at the bedside. Participants found the process a positive experience.

Conclusion: The study shows that using the MAEFT demonstrates a statistically significant improvement in nurse’s compliance with medication administration including antibiotics, compared to prior to the intervention.