as responsive to local, State and national requirements, which changed frequently as the pandemic evolved.

Conclusion: Our findings demonstrate how the hierarchy of controls can be applied and extended to guide pandemic IPC in general practice. We show how different controls (particularly engineering and administrative) often functioned in concert within practices; as well as externally. This invites us to consider not only how strategies might be ranked for reliability, but also how healthcare professionals can combine them for greater efficacy.

40. RISK FACTORS FOR CENTRAL VENOUS ACCESS DEVICE FAILURE DUE TO CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION (CLABSI): A MULTIVARIABLE ANALYSIS OF 1892 CATHETERS

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Introduction: Central venous access devices (CVAD) are a vital medical device but develop infectious complications necessitating premature removal. We examined risk factors for central line-associated blood stream infection (CLABSI) in patients ≥16 years to determine modifiable practices amenable to change.

Methods: In this secondary analysis of data from a 10-site randomised controlled trial, central line-associated blood stream infection (CLABSI), occlusion and dislodgement were examined using Cox proportional hazards regression models informed by Bayesian information criteria.

Results: 1892 CVADs were included in the multivariable analysis: 806 non-tunnelled CVADs (reference), 757 peripherally-inserted central catheters (PICCs) and 329 tunnelled CVADs. CLABSI was highest in tunnelled CVADs (n=39, 11.9%), compared with 5.3% for PICCs (n=40) and 2.6% for non-tunnelled CVADs (n=21). Factors associated with increased CLABSI for tunnelled and non-tunnelled CVADs was having only 1-2 lumens (Hazard Ratio [HR] 29.94, p<0.001; and HR 8.20, p=0.045, respectively). Multiple attempts/difficult insertions were also significantly associated with CLABSI in tunnelled CVADs (HR 6.26, p=0.013), and administration of blood products in PICCs (HR 1.70, p=0.04). Factors associated with lower rates of CLABSI were the use of an antimicrobial catheter and chlorhexidine gluconate dressing in non-tunnelled CVADs (HR 0.23, p=0.004; and HR 0.41, p=0.05, respectively).

Conclusion: Modifiable risk factors for CVAD complications have been identified, particularly observing strict infection prevention protocols when accessing heavily-used catheters with fewer lumens, and ensuring that tunnelled CVADs are inserted by experienced clinicians to limit multiple attempts. These findings can inform practice change to reduce the incidence of CLABSI and improve patient outcomes.

41. A MOVE TO LIGHT SURVEILLANCE FOR NATIONAL ORTHOPAEDIC SURGICAL SITE INFECTION REPORTING

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Introduction: Since 2013, the Health Quality & Safety Commission New Zealand has collected orthopaedic surgical site infection (SSI) data for publicly funded hip and knee arthroplasty procedures as part of the Surgical Site Infection Improvement Programme.

Process and outcome measures are captured. By 2019 district health boards (DHBs) had achieved 96-98% compliance for process measures (appropriate timing and dose of antibiotic prophylaxis, and alcohol-based skin antisepsis) and there was a 25% reduction in the median SSI rate. These results, and feedback about the resource required to collect data, led to an evaluation of the programme and introduction of a light surveillance reporting model.

Method: In October 2020, the option to shift to 'light surveillance' was implemented. This reduced mandatory data fields from 35 to 5. A review of SSI cases using a standardised investigation tool and a variable life-adjusted display (VLAD) report for early identification of an SSI risk increase was introduced. The findings are shared at quarterly network meetings.

Conclusion: The reduction in resource requirement for data collection provided by the shift from full to light surveillance has freed up time to focus on in-depth review of SSI cases. The SSI investigation tool and VLAD report provides a systematic approach to monitoring results.

42. THE EFFECT OF COVID-19 ON HEALTHCARE ASSOCIATED INFECTIONS IN 5 AUSTRALIAN HOSPITALS

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Introduction: The COVID-19 pandemic has had a significant impact on the healthcare environment including the increased use of Personal Protective Equipment (PPE) and awareness of hand hygiene in hospital settings. The aim of this study was to measure if heightened awareness of infection prevention and control (IPC) measures during COVID-19 influenced the rates of healthcare associated infections (HAI).

Methods: A 3 year retrospective review of laboratory data from 1 large private and 4 large public hospitals was undertaken. Monthly bloodstream infection (BSI) data, urinary tract infection (UTI) data and cerebrospinal fluid cerebrospinal fluid (CSF) data were collected from January 2017 to March 2021. Occupied bed days (OBDs) were used to generate HAI incidence per 10,000 OBDs. An interrupted time series analysis was undertaken to compare incidence pre and post February 2020.

Results: A total of 1,988 BSI, 1,697 UTI and 238 CSF episodes were identified. The overall rate of HAI aggregated for all sites did not differ significantly between the two periods. One hospital demonstrated a significant downwards trend following February 2020 (p=0.024) and a significant difference between the two periods. The aggregated BSI rate for all sites demonstrated a significant difference between the two periods (p=0.004). No other significant differences were identified.

Conclusion: Whilst there was no significant reduction in overall HAI rates for all sites aggregated, there was a downward trend. Factors to consider in this analysis include likely changes in patient populations with widespread cancellation of elective admissions and increased admission for COVID-19.

45. CLOSTRIDIODES DIFFICILE: THE VALUE OF WHOLE GENOME SEQUENCING TO RULE OUT A COMMON SOURCE HEALTHCARE ASSOCIATED OUTBREAK

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Introduction: Clostridioides difficile (C. difficile) is a Gram positive, anaerobic, spore forming bacterium. Asymptomatic bowel colonisation occurs, but C. difficile infection (CDI) can cause symptoms ranging from mild diarrhoea to pseudomembranous colitis. CDI is the most common cause of hospital-acquired diarrhoea. Outbreaks can be difficult to manage due to C. difficile spores’ survival for extended periods in the environment. Whole genome sequencing (WGS) can be helpful in outbreak management.

Methods: Five patients, who were co-located in a 30 bed aged care ward developed sudden onset diarrhoea. All 5 patients had been admitted for >48 hours, and all had recently received antibiotics. An outbreak investigation was initiated and control measures implemented. Laboratory testing