infection control and prevention team and the department of neonatology. (3) We re-evaluated compliance with hand hygiene practices and cleaning of high-touch surfaces, then we compared the rates of positive MRDO cultures before and after these interventions. **Results:** Before the interventions, 453 hand hygiene observations were recorded and 322 high-touch-surface cleaning observations were recorded. The hand hygiene compliance rate improved significantly from 33.2% to 85.5% (PR, 11.9; 95% CI, 7.4–19.3; $P < .01$). The high-touch-surface cleaning rate increased from 82.4% to 93.5% (PR, 3.1, 95% CI, 1.5–6.4; $P < .01$). The rate of high-touch surfaces being cleaned with proper technique increased from 38.5% to 87.9% (PR, 11.6; 95% CI, 6.3–21.3; $P < .01$). In total, 103 swab samples were positive for MRDOs by culture before and after the intervention. The rate of positive MRDO cultures decreased from 80.8% to 64.7% ($P = .017$). **Conclusions:** Enhancing hand hygiene and high-touch-surface cleaning compliance helped reduce MRDO transmission in the Department Neonatology of Hung Vuong Hospital.

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Subject Category: IPC in Special Settings
Abstract Number: SG-APSIC1061
First-response infection prevention and control during COVID-19 outbreaks in residential aged-care facilities
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Objectives: COVID-19 has highlighted the importance of the hierarchy of controls and early implementation of transmission-based precautions during outbreaks in residential aged-care facilities (RACFs). The RACF outreach team is a service provided by the Sydney Local Health District (SLHD) that provides RACFs with expert clinical care and advice, along with outbreak management and infection control and prevention education. **Methods:** The RACF outreach team developed 2 unique IPC management tools designed to assist RACFs during the COVID-19 pandemic: (1) the comprehensive initial review and (2) first-responder assessment tool designed to assist the team in identifying high-risk issues during afterhours shifts. The tool reviews 5 key components in outbreak management: screening, PPE usage, resident care, communication and signage, and infection control and prevention. The outreach team provides an IPC report of the comprehensive initial review, which provides site-specific advice regarding zoning, cohorting, implementation of donning and doffing stations, safe staffing and workflows, ventilation, personal protective equipment (PPE) use, and PPE safety. The recommendations supplied in the SLHD IPC report are provided to facilities and are implemented at the facility level. These reviews are followed up in meetings of the outbreak management team conducted virtually via Zoom videoconferencing. These meetings include an RACF senior manager and a representative from the local PHU, the outreach service, the Australian Commonwealth, the Aged Care Commission, an SLHD executive manager, and an infectious diseases practitioner. **Results:** Since the outbreak of the SARS-CoV-2 o (omicron) variant began in Sydney, Australia, in November 2021, 58 facilities with >2,500 residents have been reviewed, and 57 of these facilities had a COVID-19 outbreak at some point during the pandemic. **Conclusions:** The RACFs in SLHD continue to report death rates <5% among all SARS-COV-2–positive residents.

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Subject Category: IPC in Special Settings
Abstract Number: SG-APSIC1031
Reappraisal of the effectiveness of a care bundle for patients with candidemia
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Objectives: Candidemia has become one of the leading causes of healthcare-associated bloodstream infection, particularly in the intensive care unit. The management of candidemia remains challenging. We reassessed the protective effectiveness of a comprehensive care bundle on the management of candidemia and the effects of compliance with each element on the outcomes of patients. **Methods:** This network meta-analysis was conducted using the frequentist method. The participants included adult patients both infected with candidemia and who received bundle care. The primary outcome was the all-cause mortality among the patients included. **Results:** Studies in which a care bundle was created for patients with candidemia were identified, and 5 eligible studies with 5,808 participants were enrolled for further analysis. The random-effects model of the overall odds ratio (OR) revealed a significant reduction in the risk of all-cause mortality compared with that of the controls (OR, 0.599; 95% CI, 0.378–0.949; $P = .025$), as well as a reduction in the risk of developing persistent candidemia compared with the controls (OR, 0.483; 95% CI, 0.245–0.952; $P = .008$). In addition, no single element reached a protective effectiveness to improve the clinical outcome. **Conclusions:** This meta-analysis demonstrated that the combination of core elements in the care bundle resulted in protective effects, in that the all-cause mortality rates and incidence rates were effectively reduced among patients with persistent candidemia.

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Subject Category: IPC in Special Settings
Abstract Number: SG-APSIC1146
Reducing bacterial contamination in the dental unit waterline (DUWL) in dental clinics
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Objectives: We evaluated the effectiveness of using appropriate chemical(s) to treat the dental unit waterline (DUWL), and we recommended appropriate strategies to manage the DUWL system to maintain bacteria concentration below minimum recommended levels. **Methods:** Initial water samples were collected aseptically from the handpieces of the DUWL in dental clinics to assess the bacterial load prior to treatment of the dental unit. The dental staff were educated on the management and treatment of the DUWL. Appropriate chemicals were introduced to the DUWL system. Following the treatment, samples of water from the DUWLs were collected to assess the bacterial load. **Results:** The US CDC recommends a safe level of bacterial load of <500 CFU per mL of heterotrophic bacteria in the standard for drinking water by the US EPA. Initial results for the DUWL water showed unacceptably high levels of bacterial load between 1,930 and 35,000 CFU per mL prior to treatment. Subsequent sampling of DUWL water with treatment of appropriate chemicals showed vast reductions of the bacterial loads in all the dental units, with bacterial counts between <1 and 72 CFU per mL. **Conclusions:** It is important to ensure ongoing education and regular treatment with appropriate chemical and effective management and monitoring of all DUWLs from dental chairs to ensure that the water produced meets safe drinking standards.

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Subject Category: Multidrug-Resistant (MDR) Organisms
Abstract Number: SG-APSIC1080
Surveillance and control efforts for carbapenemase-producing gram-negative bacteria at a high-burden tertiary-care healthcare facility in Ho Chi Minh City, Vietnam
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Objectives: In Vietnam, although surveillance and control of multidrug-resistant organisms is a national priority, information on the burden of these pathogens remains scarce. At the University Medical Center in Ho Chi Minh City, we assessed the proportion of carbapanemase-producing carbapenem-resistant organisms (CP-CRO) and evaluated an intervention package to prevent transmission of carbapenemase-producing carbapenem-resistant Enterobacterieacea (CP-CRE) in the intensive care unit (ICU). **Methods:** All gram-negative isolates collected between November 2018 to April 2019 were tested for carbapenem resistance using the disc-diffusion method. Carbapenem-resistant bacteria, defined as meropenem resistant, were tested for phenotypic carbapenemase-production using the Becton Dickinson Phoenix CPO Detect assay. An intervention package, including placement of patients in cohorts, enhanced barrier precautions, enhanced discharge environmental cleaning, and CP-CRE rectal screening, was implemented from July 2019 through December 2020. During this period, all ICU patients were screened on admission, and negative patients were rescreened every 2 days or 7 days until discharge, death, or CRE-positive result. Admission prevalence and incidence of CP-CRE transmission was calculated among CP-CRE infected or colonized patients. **Results:** Among 599 gram-negative isolates collected, 108 were carbapenem-resistant isolates, of which 107 (99%) were CP-CRO by the phenotypic method. Most CP-CRO were *Acinetobacter baumannii* (42%) and *Klebsiella pneumoniae* (36%). Of 1,206 patients, 433 (35.9%) were already colonized or infected with CP-CRE before admission to the ICU. The incidence rate (cases per 100 risk days) of CP-CRE colonization or infection during ICU treatment decreased from 11.5 before the intervention to 2.9 after the implementation of the intervention package. The average number of days to change from a negative to positive screening result in the intervention phase was 7.4, compared with 4.9 days during preintervention phase. **Conclusions:** Nearly all CROs isolated from our ICU are carbapenemase-producing CROs, with high presence on admission as well as new acquisition during an ICU stay. An intervention package containing enhanced infection control measures was effective in reducing CP-CRE transmission.

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Subject Category: Multidrug-Resistant (MDR) Organisms
Abstract Number: SG-APSIC1095

Acquisition rate of carbapenemase-producing organisms (CPOs) among hospital contacts of CPO patients: An interim subgroup analysis of a cohort study

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Objectives: The increase in carbapenemase-producing organism (CPO) transmission among hospitalized patients is a growing concern. Studies investigating the transmission of CPO to epidemiologically linked contacts are scarce. We conducted an interim subgroup analysis of the ongoing multicenter household transmission of CPO in Singapore (CaPES-C) study to identify the acquisition rate of CPO among epidemiologically linked contacts of hospitalized CPO patients. **Methods:** This multicenter prospective cohort study was conducted between January and December 2021. We recruited CPO-positive patients and their epidemiologically linked contacts. Stool samples were collected from the patients at baseline, day 3, day 7, and at weeks 2, 3, 4, 5, 6, 12, 24, 36, and 48. Additionally, a sample was collected at the time of discharge from the hospital. Xpert Carba-R test was used to detect CPO genotypes in the stool samples. In this interim analysis, we calculated the acquisition rate of CPO among the epidemiologically linked hospital contacts of CPO positive patients using Stata version 15 software. **Results:** We recruited 22 (56.4%) CPO-positive index patients [*bla*NDM, n = 7 (31.8%); *bla*IMP, n = 3 (13.6%); *bla*OXA-48, n = 10 (45.5%), others, n = 2 (9.1%)] and 14 (35.9%) epidemiologically linked hospital contacts. The median age of CPO-positive patients was 72.5 years (IQR, 62–82) and 15 (68.2%) were female. The median age for the epidemiologically linked contacts was 82.5 years (IQR, 70–85) and 4 (28.6%) were female. After 1,082 patient days, 2 (14.3%) epidemiologically linked contacts tested positive for CPO giving an acquisition rate of 1.85 per 1,000 patient days (95% CI, 0.46 – 7.39). One of these participants acquired a concordant genotype (*bla*OXA-48) at day 7 and the other acquired a discordant genotype (CPO positive index, *bla*IMP; epidemiologically linked contact, *bla*NDM) at week 12 of follow-up. **Conclusions:** This small interim analysis revealed a high conversion rate among epidemiologically linked hospital contacts. A larger study is needed to understand the influence of genotypes, hospital environment, and human behavior on the transmission of CPO in hospitals.

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Subject Category: Multidrug-Resistant (MDR) Organisms
Abstract Number: SG-APSIC1073

Incidence and predictors of *Escherichia coli*–producing extended-spectrum beta-lactamase (ESBL-Ec) in Queensland, Australia, from 2010 to 2019: A population-based spatial analysis

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Objectives: The dissemination of *Escherichia coli*–producing extended-spectrum β-lactamase (ESBL-Ec) is evident in the community. In this population-based spatial analysis, we sought to describe the distribution of ESBL-Ec and to identify predictors of incidence in the community. **Methods:** The study population was defined as individuals with the ESBL-Ec isolate in Queensland, Australia, from 2010 to 2019. Annual choropleth maps and a global Moran index were constructed to describe ESBL-Ec distribution. Getis-Ord Gi* was performed to identify "hot spots" of statistical significance. Using demographic factors and incidence per postal area from 2016, multivariable analyses with or without spatially structured random effects were performed. **Results:** In total, 12,786 individuals with ESBL-Ec isolate were identified. The incidence rate increased annually from 9.1 per 100,000 residents in 2010 to 49.8 per 100,000 residents in 2019. The geographical distribution changed from random to clustered in 2014. Hot spots were more frequently identified in the Outback and Far North Queensland, where remote communities and hotter weather are prevalent. Multivariable spatial analysis suggests that communities with higher socioeconomic status (RR, 0.66; 95% CI, 0.55–0.79 per 100 units) and employment in the agricultural industry