

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Infection Control in Low and Middle-Income Countries**An infection prevention and control program established in the wake of the Ebola epidemic: Where are we, and how well are we doing?**

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Background: Infection prevention and control (IPC) is a clinical and public health discipline based on a scientific approach and practical preventive and control measures. During the 2014–2016 West African Ebola outbreak, the high number of healthcare worker infections was attributed to inadequate IPC in Sierra Leone. This stimulated the establishment of national and subnational IPC programs. Since then, IPC has remained a priority to improve the health systems and strategic interventions during public health emergencies. Therefore, we conducted a detailed review to assess the status of the IPC programs. **Methods:** A descriptive analysis of the status of IPC programs in Sierra Leone was done using data from IPC assessments conducted in 2022 by the national IPC team, reviews of reports on program implementation, and experts' objective opinions. **Results: Performance.** The national IPC assessment revealed strengths in 4 of 6 WHO IPC core components, with an overall score of 61% positioned at the 'intermediate' level of implementation. The best-performing component was 'IPC guidelines' (92%) with evidenced-based guidelines being developed and implemented over the years. Secondly, 'Education and training' (71%) made progress in basic and advanced IPC training, including the development of a preservice training curriculum. Also, 'monitoring and audit and feedback' (69%) and 'IPC program' (61%) met the basic requirements of an established Monitoring & Evaluation (M&E) system. Similar progress was made at the healthcare facility level, but with major gaps in 'workload, staffing, bed-occupancy' and 'safe or built environment.' **Sustainability efforts.** Evidence-based data on IPC have always been scarce due to a limited capacity to conduct IPC research. The Structured Operational Research and Training Initiative (SORT-IT) on antimicrobial resistance has helped promote evidence-informed decisions and build OR capacity that is relevant to improving program performance. In 2019, Sierra Leone instituted in-country production of alcohol-based handrub and liquid soap as a strategic intervention for providing hand hygiene products for use in healthcare facilities. This intervention was essential during the peak of the COVID-19 pandemic. Although most aspects of IPC implementation are government led with strong leadership support, stable funding and sustainability planning are yet to be achieved and will be crucial for long-term success. **Conclusions:** Most aspects of the IPC core components have been well implemented at the national level since the establishment of the IPC program. However, the program should continue improving the scope and quality of implementation and focus on the development of long-term plans to sustain existing gains and further

improve on gap areas at the national level and especially the healthcare-facility level.

Disclosures: None*Antimicrobial Stewardship & Healthcare Epidemiology* 2023;3(Suppl. S2):s76

doi:10.1017/ash.2023.328

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Poster Presentation - Poster Presentation

Subject Category: Infections in Immunocompromised Patients**Trajectories of SARS-CoV-2 viral shedding among admitted patients at a tertiary-care center in California, 2020–2022**

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Background: SARS-CoV-2 viral load decreases over time after illness onset. However, immunocompromised patients may take longer for viral load decrease or have a more erratic viral-load trajectory. We used strand-specific assay data from admitted patients to evaluate viral-load trajectories after illness onset. **Methods:** We reviewed records of hospitalized patients with a positive SARS-CoV-2 PCR and tested using the strand-specific SARS-CoV-2 PCR during July 2020–April 2022. At Stanford Healthcare, we use a 2-step reverse real-time polymerase chain reaction (rRT-PCR) assay specific to the minus strand of the SARS-CoV-2 envelope gene to assess infectivity. Restricting our analysis to each patient's first strand-specific assay, we used logistic regression models to compare patients with single versus multiple assays. Among patients with multiple tests, we compared those who had an upward trajectory in cycle threshold (Ct) values (a surrogate of decreasing viral load) versus those who did not. We analyzed presence of symptoms, immunocompromised state, immunosuppression reason, and severe COVID-19 leading to ICU care in univariate and multivariate models that further adjust for additional covariates. Significant differences were assessed using logistic regression odds ratios and an α level of 0.05. **Results:** In total, 848 inpatients were included. Among them, 703 were tested only once and 145 were tested 2–6 times. The longest duration of minus-strand detection was 163 days. In univariate analyses, patients with a single minus-strand assay had lower odds of being symptomatic (OR, 0.55), of being immunocompromised (OR, 0.58), and of being admitted to the ICU with severe COVID-19 (OR, 0.49). In the multivariate analysis, being admitted to the ICU with severe COVID-19 was the only significant variable associated with having >1 test (OR, 2.44). Among patients who had multiple strand-specific SARS-CoV-2 assays, 119 had upward minus-strand trends of Ct values (as expected) and 26 did not. Being immunocompromised was associated with nonrising minus-strand CT values (OR, 33.3) when holding all other covariates in the model constant. **Conclusions:** Immunocompromised patients with COVID-19 tend to actively replicate for longer and have unexpected viral trajectories compared to immunocompetent patients. Among immunocompromised patients, suspension of transmission-based precautions may require a case-by-case evaluation.

Disclosures: None*Antimicrobial Stewardship & Healthcare Epidemiology* 2023;3(Suppl. S2):s76

doi:10.1017/ash.2023.329

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Poster Presentation - Poster Presentation

Subject Category: Infections in Immunocompromised Patients**"Acute urinary antibiotics"—A simple metric to identify outpatient antibiotic stewardship opportunities in renal transplant**

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Background: *International Classification of Diseases, Tenth Edition* (ICD-10) data help track outpatient antibiotic prescribing but lack validation in immunocompromised populations or subspecialty clinics for this purpose. Asymptomatic bacteriuria (ASB) and urinary tract infection (UTI) are

Performance (%) of National IPC program across six IPC core components in 2022

