## **Presentation Type:**

Poster Presentation - Poster Presentation

Subject Category: COVID-19

CDC COVID-19 healthcare infection prevention and control assistance to health departments, January 2020–December 2021

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Background: Throughout the COVID-19 pandemic, CDC Division of Healthcare Quality Promotion (DHQP) has provided technical assistance in support of state, tribal, local, and territorial health departments for COVID-19 healthcare outbreak management and infection prevention and control (IPC). We characterized the volume and trends of technical assistance provided during the pandemic to inform the future needs of health departments for COVID-19 healthcare IPC and DHQP resources required to meet these needs. Methods: In January 2020, DHQP began receiving COVID-19 IPC TA requests directly from health departments for remote assistance or from CDC staff on field deployments providing onsite support. DHQP subject-matter experts provided responses via e-mail or, for more complex inquiries, outbreaks, or field deployments, via phone consultations. Records of e-mail communications and phone consultations were entered into an inquiry database for tracking. We calculated the number, mean, and range of technical-assistance responses by jurisdiction and by month from January 2020 through December 2021. We designated months as high-volume periods for technical assistance if inquiries surpassed the 75th percentile. Results: In total, 1,869 IPC technical-assistance responses were provided. Of all technical-assistance responses, 1,725 (92%) were to state or local health departments, 115 (6%) were tribal nations, and 28 (2%) were US territories. IPC technical assistance was provided to all 50 states and the District of Columbia, 16 tribal nations, and 5 US territories. The average total number of technical assistance responses per site during the 24-month period was 34 to state and local HDs (range, 2-111), 6 to tribal nations (when tribal nation was specified; range, 1-17), and 6 to US territories (range, 1-15). E-mail communications comprised 1,164 responses (62%); phone consultations made up the remaining 705 responses (38%). Of phone consultations, 350 (50%) were with CDC field deployers providing onsite support to health departments. The average number of technical-assistance responses provided each month across all jurisdictions was 78 (range, 0-334); months with high volumes included April-August 2020 and January 2021. Conclusions: These findings highlight the high-level collaboration between federal and state, tribal, local, and territorial health department partners in remote and onsite support of COVID-19 prevention and response efforts in healthcare settings. Variations in monthly volumes of health-department COVID-19 healthcare IPC technical assistance requests may reflect factors such as fluctuations in community infection rates and changes in CDC IPC guidance. The ability to provide effective technical assistance during pandemic response depends on the CDC maintaining sufficient healthcare IPC staffing and expertise.

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Monoclonal antibody therapy for prevention of severe disease in nosocomial COVID-19

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**Background:** In November 2020, the FDA issued an emergency use authorization (EUA) for monoclonal antibodies (mAbs) to be used in outpatients with COVID-19 infections who are at a high risk of progressing to severe disease. However, becuase the EUA had limited indications for inpatients, data on their use in hospitalized patients are limited. In this study, we have described the use of mAbs among hospitalized patients with

nosocomial COVID-19. Methods: We retrospectively analyzed cases of nosocomial COVID-19 in 2 tertiary-care hospitals from November 1, 2020, to October 11, 2021, and we identified patients who received mAbs. The study period was prior to the o (omicron) variant (B.1.1.529) being detected in the United States, and infections in the patients were likely primarily with the  $\alpha$  alpha variant (B.1.1.7) and the  $\delta$  (delta) variant (B.1.617.2) of SARS-CoV-2, which responded well to treatment with bamlanivimab and casirivimab-imdevimab. All patients had a negative SARS-CoV-2 PCR on admission. Data on clinical outcomes, including administration of medications for COVID-19, increases in oxygen requirements, ICU admission, mechanical ventilation, and death were collected by a review of the electronic medical record. The study was approved by the institutional review board with expedited approval. Descriptive statistics, such as means and standard deviations of continuous variables and proportions of categorical events or variables, were tabulated to describe patient characteristics and outcomes. Results: The 71 patients included in the study (age range, 39-89 years; median age, 70 years; 51% female) received either bamlanivimab (n = 31) or casirivimab-imdevimab (n = 40). The length of stay ranged from 6 to 242 days (median, 26 days). The comorbidities present included cardiovascular disease (56%), diabetes (45%), obesity (31%), autoimmune disease or immunosuppression (27%), kidney disease (23%), and pulmonary disease (20%). Most of the patients included in the study were incompletely vaccinated or unvaccinated (94%) and were negative for SARS-CoV-2 antibodies (81%). Prior to receiving the mAbs, 23% of patients required supplemental oxygen, including 3 patients who required mechanical ventilation. These patients required oxygen support due to non-COVID-19-related conditions. After mAb infusion, 72% of patients had no increase in their oxygen requirements, and 93% did not progress to mechanical ventilation. Overall, 7 deaths were attributed to COVID-19 among the studied patients (10%). Conclusions: Our study describes the use of mAbs in hospitalized patients with nosocomial COVID-19. Most of the patients who received mAbs had no progression to severe COVID-19, despite having significant comorbidities. The use of mAbs in nosocomial COVID-19 may be associated with beneficial outcomes.

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Challenges in IPC training for non-healthcare workers

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**Background:** In the last 2 years of the COVID-19 pandemic, Singapore has been forced to explore alternative sites to quarantine persons or manage infected cases during surge periods in a national effort not to overwhelm the public healthcare facilities. External quarantine facilities were created at the EXPO and further extended to D'Resort and other hotels in May 2020. Infection prevention (IP) practices were implemented at these external facilities, where training non-healthcare staff to quickly learn and understand these required practices has been challenging. A team of staff from different clinical disciplines was formed to manage the COVID-19 patients at these facilities. The Infection Prevention and Epidemiology (IPE) department was invited to train all staff, including the clinical team, management agency, and security staff, regarding IP measures. We have described the system and approach used in the rapid training of all staff in IP measures where the goal is zero transmission while providing care to COVID-19 patients. Methods: Training materials were developed to facilitate rapid learning by all staff; medical jargon was avoided. Curriculum included precautions to be taken while performing terminal cleaning of patient rooms, serving meals, disinfecting phones and thermometers, as well as donning and doffing personal protective equipment (PPE). "Green" and "red" zones were created to assist staff in remembering appropriate PPE to be used. PPE training was provided using slides and