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Objectives: Data comparing the immunogenicity of Sputnik-V and Sinopharm vaccines in seropositive and seronegative groups are lacking. We compared the immunogenicity of Sputnik-V (Gam-COVID-Vac) and Sinopharm (BBIBP-CorV) vaccines in seronegative and seropositive groups. **Methods:** In total, 60 adults participated the study. The immune response after vaccination was assessed using enzyme immunoassay. IgG levels were measured in all participants at 3 time points: before vaccination, 42 days after the first vaccine dose, and 6 months after the first vaccine dose. The results of the SARS-CoV-2 antibody test were quantified according to the WHO First International Standard and expressed in international units (BAU per mL). **Results:** The study participants were divided into 2 groups: 30 people (50%) were vaccinated with Sputnik-V (Gam-COVID-Vac) and 30 people (50%) were vaccinated with Sinopharm (BBIBP-CorV). The groups had no difference in sex composition. The highest antibody levels were observed 42 days after vaccination in both the seronegative group ($P = .006$) and the seropositive group ($P < .001$). At 6 months after vaccination, the IgG value declined much farther among the seronegative group ($P = .003$) compared to those who had recovered from COVID-19 before vaccination. However, the "hybrid immunity" generated by the Sputnik-V vaccine had greater strength and duration ($P < .001$). **Conclusions:** This study showed that IgG levels in vaccinated individuals who previously recovered from SARS-CoV-2 infection ("hybrid immunity") were higher than in SARS-CoV-2–naïve individuals. In a comparative part of the study, the Sputnik-V vaccine had greater strength and duration of immune response across the 6-month observation period ($P < .001$).

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Subject Category: COVID-19
Abstract Number: SG-APSIC1176
Laboratory-acquired COVID-19 during the SARS-CoV-2 o (omicron) pandemic wave at a tertiary-care hospital in Korea

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Objectives: Laboratory-acquired infection (LAI) of SARS-CoV is well known, but MERS-CoV or SARS-CoV-2 LAI has not yet been reported. Beginning last November, COVID-19 cases increased among laboratory staff at our 2,700-bed tertiary-care hospital. A 7-day home-quarantine policy for healthcare workers when household members were confirmed with SARS-COV-2 was lifted February 28. We investigated LAI and its risk factors. **Methods:** From March 21 to 25, all confirmed cases of COVID-19 among 176 laboratory staff were surveyed with questionnaire to collect the following data: symptom onset and period, SARS-CoV-2 PCR–positive sample date, age, sex, infection in household members, close contact with COVID-19 confirmed staff, work type, work unit, possibility of LAI and LAI risk factors. **Results:** In total, 54 laboratory staff (30.1%) were confirmed with SARS-CoV-2 infection; first 1 person on November 28 and 1 person on November 30, 2021, then 13 in February 2022 and 39 later in 2022. Overall, 22 cases had previously infected household members, and 9 cases suspected that they had had hospital contact with an infected patients through phlebotomy or bedside tests. In total, 25 cases of possible LAI mainly occurred in clusters of 3, 6, or 7 people through person-to-person transmission of a coworker who had an infected family member. The remaining 9 cases, including 1 sample receptionist, 2 urine analysis technicians, and 6 SARS-CoV-2 PCR test staff, may have been infected through an infected sample. However, person-to-person transmission was still possible because most shared a changing room and lounge in the same work unit. **Conclusions:** The most important cause of LAI is person-to-person transmission between coworkers; therefore, home quarantine is an effective measure to prevent LAI when a household member is infected wish SARS-CoV-2. Handling of infected specimens may be the second most common cause of LAI.

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Subject Category: COVID-19
Abstract Number: SG-APSIC1204
Time-based deisolation of generally asymptomatic immunocompetent COVID-19 patients on day 8 of infection to clean wards is safe

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Objectives: The National University Hospital (NUH) is a tertiary-care teaching hospital in Singapore with 60% of patients in 6–8-bed cubicles. NUH recently changed to a time-based deisolation criterion for immunocompetent COVID-19 patients in cohort wards who are afebrile and improved but did not meet the antigen rapid test negative criteria at day 5–6 and who required continued hospital care. The MOH guidelines and studies of viral load trajectory from the SARS-CoV-2 δ (delta) variant suggest that by day 8 of infection, viral loads drop and the risk of transmission is low. We defined a cycle threshold (Ct) value ≥25 as the point at which virus cultures are negative. We assessed whether a time-based deisolation at day 8 correlated with Ct ≥25 during the SARS-CoV-2 o (omicron) variant pandemic surge. **Methods:** Data for patients and staff with confirmed positive COVID-19 PCR between January to March 2022 were collected. These data comprised a convenience sample collected retrospectively by the epidemiology team and the obstetrics and gynecology team and were used to deisolate patients. Nasopharyngeal (NP) swabs were sent for PCR for all admissions, to confirm diagnosis, for deisolation and/or transfer, and for staff suspected to have COVID-19 as part of hospital staff policy. **Results:** Overall, 403 observations were obtained. For 145 NP swabs tested by SARS-CoV-2 PCR on day 1, the median Ct value was 19.55 (IQR, 9.01). The median Ct for 87 observations on day 2 was 15.95 (IQR, 3.45). The median Ct value for 14 observations on day 8 was 24.22 (IQR, 5.19). From day 9 to day 37, with 47 observations, the Ct was generally >25. **Conclusions:** During the SARS-CoV-2 o (omicron) surge, NP swabs sent on day 8 had a median Ct value of 24.22. After day 8, the median Ct was >25. The discontinuation of isolation precautions on day 8 balances the use of dedicated COVID-19 beds with risk mitigation of transmission for recovered patients who require ongoing hospitalization. Small sample size and heterogeneous reasons for testing NP swabs after day 5 likely skewed our results and limits the generalizability of our results.

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Subject Category: COVID-19
Abstract Number: SG-APSIC1126
Controlling SARS-CoV-2 infection in inpatients through a grouping system at Ho Chi Minh Children's Hospital 1 in Vietnam

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Objectives: At the onset of COVID-19, whenever SARS-CoV-2 was detected at Children's Hospital 1 (CH1), the related department or building was closed for extensive tracing, testing, and medical isolation. This process disrupted

hospital activities, reduced the efficiency of patient care, and used medical resources. To address this problem, CH1 implemented a system of grouping inpatients to color-coded areas from June to December 2021. **Methods:** In this retrospective study, we describe the system of grouping inpatients to color-coded areas based on SARS-CoV-2 test result at a 1,600-bed, national pediatric hospital in Ho Chi Minh City. **Results:** Inpatients were first separated into those with or without respiratory symptoms, and secondly to different color-coded areas based on SARS-CoV-2 test result and hospitalization length: red zone (days 1–3), orange zone (days 3–7), and green zone (day 7 onward). Prior to admission, all patients were tested with a SARS-CoV-2 rapid diagnostic test. If negative, the patient was admitted to the red zone. On days 3 and 7 of hospitalization, the patient was tested using a pooled RT-PCR method. Patients negative on day 3 were relocated to the orange zone; patients negative on day 7 were relocated to the green zone. A patient with a positive test result at any time point was transferred to a COVID-19 zone. One caregiver was allowed to stay with 1 patient with similar testing regimen. A mobile transportation team was set up to deliver food and other necessities; thus, movement was restricted and interaction was prevented among zones. After this system was implemented, COVID-19 cases were detected early, with most positive cases in the red zone (19.6%) and the orange zone (2.8%), with only 1 case in the green zone (0.7%). **Conclusions:** The system of grouping patients to color-coded areas helped prevent SARS-CoV-2 transmission within the hospital, allowing undisrupted operation.

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Subject Category: COVID-19
Abstract Number: SG-APSIC1162
Challenges in building and running a 4,000-bed COVID-19 intensive care unit in an exhibition center
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Objectives: To describe the design process for a hospital in an exhibition center. We discuss challenges during the building process and areas in which risk assessments had to be made and practices modified to mitigate suboptimal conditions. **Methods:** UK National Health Service designers and military planners worked in conjunction with the infection prevention and control team (IPCT) to work with the existing infrastructure. The clinical area was deemed to be an aerosol-generating procedure (AGP) zone because it was entirely an intensive care unit. The challenges included no oxygen line, a lack of hot water, minimal access to cold water, almost no drainage, and a lack of physical space in which to carry out many necessary procedures. These challenges were overcome either by design or by changes to usual practices through mitigation measures. The IPCT had key roles in ensuring staff and patient safety and personal protective equipment (PPE) inventory management as well as donning and doffing procedures. **Results:** The Nightingale Hospital became a fully functioning ICU within 10 days of the build commencing, and the first patients were admitted within a few days. The hospital was used only sparingly because the national pandemic lockdown was in effect. In total, 72 patients were admitted, with a survival rate of 63%, comparable to established ICUs. Transmission rates of COVID-19 in staff were very low among those working clinically. The unit closed in June 2020 but reopened in January 2021 for rehabilitation with a smaller number of beds but better facilities as a result of our experience in the first iteration. **Conclusions:** A temporary hospital was built in an exhibition center to successfully manage a number of patients. Even in a temporary hospital facility that was limited in services, successful outcomes were achieved.

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Subject Category: COVID-19
Abstract Number: SG-APSIC1098
Impact of the COVID-19 pandemic on influenza vaccination uptake among healthcare workers
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Objectives: Influenza vaccination is encouraged for all healthcare workers (HCWs) to reduce the risk of acquiring the infection and onward transmission to colleagues and patients during the influenza season. Thus, vaccination was introduced at Singapore General Hospital (SGH) in 2007 and has been offered to all HCWs at no cost. The HCW influenza vaccination program is conducted annually in October and biannually during years with vaccine mismatch. However, influenza vaccine uptake remained low among HCWs. We sought to determine the impact of the coronavirus disease 2019 (COVID-19) pandemic on influenza vaccine uptake among HCWs. **Methods:** At SGH, 2 methods of vaccine delivery are offered: centralized (1-month drop-in system during office hours) and decentralized (administered by vaccination teams in offices or ward staff in inpatient locations). In the 4-year study period between 2018 and 2021, 6 influenza vaccination exercise campaigns were conducted during 8 influenza seasons. During each exercise, ~9,000 HCWs were eligible for vaccination. **Results:** Prior to the COVID-19 pandemic, vaccine uptake in the Southern Hemisphere was 77.6% (6,964 of 8,977) in 2018 and 84.2% (7,296 of 8,670) in 2019. During the COVID-19 pandemic in 2020, vaccine uptake in the Southern Hemisphere increased by 10% to 94.1% (8,361 of 8,889). In the Northern Hemisphere, vaccine uptake was 79.2% (7,114 of 8,977) in 2018, and this increased by 17.9% to 97.1% (8,926 of 9,194) during the COVID-19 pandemic in 2020. During the 2021 Southern Hemisphere influenza season, no vaccination program was conducted because the risk of influenza was considered low due to the closure of international borders and the implementation of public health measures. In addition, priority was given to COVID-19 vaccination efforts. **Conclusions:** Increased uptake of the influenza vaccination was observed during the COVID-19 pandemic. Anxiety created by the respiratory disease pandemic and debate surrounding vaccines likely contributed to increased awareness and uptake in influenza vaccine among HCWs.

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Subject Category: COVID-19
Abstract Number: SG-APSIC1117
Healthcare-associated infections among the obstetrics and gynecology patients with confirmed COVID-19 in Hung Vuong Hospital, Vietnam
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