Table 1: Effect Estimates for Outbreak Severity

Risk Factors	Effect Estimates		
	Attack Rate	30-Day Case Mortality	Outbreak Duration
Length of stay	0.006‡		0.02‡
Comorbidity total factor	0.142‡		0.11*
Hand hygiene rates during outbreak	-1.775‡	-10.32*	-5.24‡
Hand hygiene rates prior to outbreak		0.04‡	2.68‡
Bed Moves	0.468‡		
Unit age	0.003*		0.02‡
Nursing hours to patient days	0.017*		
Facility Type			
Regional	-0.15*		-0.34*
Community (reference)	---		---
Region			
North	-0.118*	-1.34‡	-0.31‡
South	-0.084	-0.31	0.23
East (reference)	---	---	---

*: $p<0.05$; ‡: $p<0.01$

Table 1.

	Infected contacts (n=10)	Uninfected contacts (n=201)	Univariate odds ratio, 95% CI, p-value	p-value
Index case Ct value, median units, IQR	17.33, 6.74	18.7, 5.9	0.961 [0.849, 1.08]	0.511
Index vaccinated, n (%)	8 (80.0%)	155 (77.1%)	1.19 [0.244, 5.79]	0.829
Index immunocompromised, n (%)	2 (20.0%)	36 (17.9%)	1.15 [0.233, 5.62]	0.868
Age of index, mean ±sd	65.5 ± 13.1	63.6 ± 19.3	1.00 [0.970, 1.04]	0.759
Index symptomatic, n (%)	7 (70.0%)	133 (66.2%)	1.19 [0.299, 4.76]	0.800
Air-conditioned ward, n (%)	2 (20.0%)	47 (23.4%)	0.819 [0.168, 3.99]	0.802
Ward with air blowers, n (%)	4 (40.0%)	66 (32.8%)	1.36 [0.372, 5.00]	0.643
Proximity of contact within 2 metres, n (%)	3 (30.0%)	53 (26.4%)	1.20 [0.299, 4.80]	0.802
Duration of contact, hrs, mean ± sd	80.2 ± 44.9	42.3 ± 40.7	1.02 [1.00, 1.03]*	0.0121
Contact vaccinated, n (%)	9 (90.0%)	163 (82.7%)	1.88 [0.230,15.3]	0.525
Contact immunocompromised, n (%)	3 (30.0%)	43 (21.4%)	1.57 [0.391, 6.35]	0.535
Age of contact, mean ± sd	69.1 ± 11.4	61.2 ± 20.3	1.02[0.985, 1.07]	0.192

*statistically significant odds ratio for each hour of contact duration in the same room

the pandemic were positively associated with duration and mortality. Increased unit age was also associated with increases in each of the severity measures. Comorbidity total factor was correlated with outbreak attack rate and duration, demonstrating the importance of individual patient characteristics in an outbreak. **Conclusions:** Our findings highlight the importance of hand hygiene practices during an outbreak. Additionally, it is important to understand the difficulties faced by older facilities, many of which face infrastructural challenges. This study reinforces the need to incorporate infection control standards into healthcare planning and construction.
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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: COVID-19
Duration of exposure is the most important risk factor for nosocomial COVID-19 in open multibed wards
Hwang Ching Chan; Alicia Ang; Nazira Fauzi; Revathi Sridhar; Annie Poh; Isaac Low; Dale Fisher; Paul Tambyah and Jyoti Somani

Background: The National University Hospital (NUH) is a 1,200 bed tertiary-care hospital with no documented nosocomial transmission of COVID-19 among patients for the first year and a half of the pandemic, despite 65% of the patients being housed in 4- to 8-bedded open cubicles with shared bathrooms. However, this arrangement changed in late September 2021 with large community clusters including in healthcare institutions nationally associated with the spread of the δ (delta) variant of SARS-CoV-2. We conducted a retrospective review of hospital epidemiology data to determine risk factors for SARS-COV-2 transmission during this period. **Methods:** Index patients were defined as the first patient in an open cubicle with a confirmed positive SARS-CoV-2 PCR test. Contacts were defined as being in the same cubicle as a patient before isolation from 2 days before symptom onset, up to 7 days from positive test if asymptomatic. Clinical and patient movement data were obtained manually from routine clinical records. Proximity of the contact from the index was classified as within, or more than, 2 m away, according to the prevailing definition from the Singapore Ministry of Health. A univariate analysis was performed to identify risk factors for nosocomial acquisition of SARS-CoV-2. The analysis was deemed exempt from ethics review (reference no. NHG-DSRB-2021/01026). **Results:** From October 1 to November 30, 2021, 30 index cases occurred in open cubicles identified (median, 9 days after admission; IQR, 19 days). Contact tracing yielded 211 contacts, of whom 10 (4.7%) were infected. Linear regression analysis found the duration of contact for each hour spent in the same room as the index case was the only statistically significant risk variable for contracting COVID-

19, with an odds ratio 1.02 (Table 1). **Conclusions:** Patients in open cubicles are at risk for nosocomial transmission of COVID-19 and other infections. The duration of contact appeared to be more important than vaccination status of index or ward ventilation status. Larger multicentered studies are needed to validate this finding, which has significant implications for infection prevention strategies and pandemic planning.
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Rapid identification and isolation of patients with COVID-19 reduces the odds of transmission to hospital roommates
Jessica Alban; Patrick Burke; Joanne Sitaras and Thomas Fraser

Background: The Cleveland Clinic Main Campus is a multispecialty academic medical center with 1,200 adult patient beds, 58% of which are double occupancy. Our facility relies on double-occupancy rooms to provide needed care during the COVID-19 pandemic. Inherently, double occupancy poses a greater risk of exposure to SARS-CoV-2 despite mitigation efforts. We investigated the incidence of postexposure SARS-CoV-2 infection in double-occupancy rooms and evaluated risk factors for viral transmission. **Methods:** Early in the observation period patients were tested for SARS-CoV-2 based on clinical suspicion. By June 2020, all admitted patients were tested. Symptomatic patients were admitted with pending tests under transmission-based precautions. Asymptomatic patients were managed with standard precautions including patients admitted to double-occupancy rooms. A double-occupancy exposure event was defined as an uninfected patient sharing a room with a patient positive for SARS-CoV-2. All patient exposures were tracked and evaluated by the infection prevention (IP) team. The IP prospective review of source patients included determination of lowest cycle threshold (Ct) value of first COVID-19 test, and whether their infection was hospital or community onset. Review of exposed patients included sex, age, and exposure time (in hours) to the source patient. Postexposure infection was defined as a positive test for SARS-CoV-2 in the exposed population within 14 days of the defined exposure event. We fit a multivariable logistic regression model to estimate the effect of exposure time on the odds of postexposure infection in susceptible roommates. **Results:** From March 15 to December 15, 2020, 172 susceptible patients were exposed to a roommate with COVID-19. Also, 28 exposed patients met our definition for postexposure infection (attack rate, 16%). The frequency of postexposure infection was higher in patients for whom the source was hospital-onset versus community-onset disease (25% vs 10%; $P = .01$) and when the source patient's Ct value was below the median value of 21.1 (26% vs 11% p **Conclusions:** We identified a postexposure infection attack rate of 16% for double-occupancy patients in