Table 1.

	n (%)
HCPs	N=31
Respiratory Therapist	7 (23)
Registered Nurse	12 (39)
Medical Doctor	6 (19)
Certified Nurse Assistant	1 (3)
Speech Pathology	2 (7)
Radiologic Technologist	2 (7)
Phlebotomist	1 (3)
Height, cm (IQR)	165 (158-168)
Patients	N=12
Age (IQR)	70 (63-78)
Female	8 (67)
Length of Stay in Room, days (IQR)	10 (5-13)
Symptoms	
Shortness of Breath	8 (67)
Cough	9 (75)
Fever	6 (50)
Diarrhea	3 (25)
Vaccinated[1]	6 (50)
Length between AGP & Onset of Symptoms, days (IQR)	9 (7-15)
Length between AGP & COVID +, days (IQR)	4 (3-7)

[1] 2 doses of mRNA vaccines, Pfizer or Moderna, or 1 dose of others, Johnson & Johnson

Figure 1. Nine position-based medical mask pieces
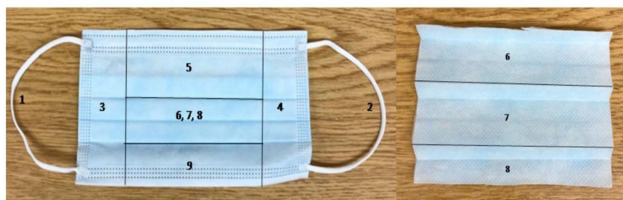
from routine clinical documentation. Study HCPs completed HCP-role–specific routine care (eg, assessing, administering medications, and maintaining oxygen supplementation) while in patient rooms and were observed by study team members. **Results:** We enrolled 31 HCPs between September and December 2021. HCP and patient characteristics are presented in Table 1. In total, 330 individual samples were obtained from 31 masks and 26 face shields among 12 patient rooms. Of the 330 samples, 0 samples were positive for SARS-CoV-2 via RT-PCR. Positive controls were successfully performed in the laboratory setting to confirm that the virus was recoverable using these methods. Notably, all samples were collected from HCPs caring for COVID-19 patients on high-flow, high-humidity Optiflow (AGP), with an average of 960 seconds (IQR, 525–1,680) spent in each room. In addition to Optiflow and routine care, study speech pathologists completed an additional AGP of fiberoptic endoscopic evaluation of swallowing. Notably, 29 (94%) of 31 study HCP had physical contact with their patient. **Conclusions:** Overall, mask contamination in HCPs treating patients with COVID-19 undergoing AGPs was not detectable while wearing face shields, despite patient contact and performing AGP.

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Poster Presentation - Poster Presentation
Subject Category: COVID-19
The role and relevance of asymptomatic healthcare worker testing in COVID-19 hospital outbreaks
Matthew Garrod; Katy Short; James Zlosnik and Natalie Prystajecky

Background: Many healthcare facilities have faced the decision of conducting point prevalence testing (PPT) of healthcare workers (HCW) during COVID-19 outbreaks. As a containment strategy, PPT can identify asymptomatic or presymptomatic cases for isolation. It is less clear how useful testing asymptomatic HCW is in understanding the spread and possible routes of transmission in an outbreak. This study investigated HCW cases identified through PPT during acute-care outbreaks in Fraser Health (FH), British Columbia, incorporating both epidemiological and whole-genome sequencing (WGS) data to determine their epidemiological source. **Methods:** This study was a retrospective review of cases associated with COVID-19 acute-care outbreaks in FH occurring between December 2020 and June 2021, when most of these infections were of the alpha and gamma lineages. All patients and HCWs with a positive COVID-19 test and epidemiologically linked to the outbreaks were included in the study. WGS results supported determination of epidemiological source for cases. The proportion of patient and HCW cases related to the outbreak was compared. All analyses were conducted using SAS version 4.3 software with the PROC GLM package. **Results:** Between December 2020 and June 2021, 49 acute-care COVID-19 outbreaks were declared. Point-prevalence testing of HCWs, in addition to routine patient PPT, was conducted in 28 outbreaks (57%), with 2,167 eligible HCWs (63%) tested. Testing identified 14 previously unknown HCW cases, representing 12.96% of all HCW cases epidemiologically linked to the outbreaks. None of these HCWs were determined to be the index case for their associated outbreak. There was no statistically significant difference between HCWs and patients regarding WGS failure rate, and all failed samples were removed from further analysis. Patients were 3.8 times as likely as HCWs to present as symptomatic when testing positive. HCWs were 2.2 times as likely as patients to have WGS results unrelated to the outbreak. **Discussion:** Although point-prevalence testing of HCW identified previously unknown cases, these cases were more likely than patients to be unrelated to the outbreak and therefore less useful in understanding the epidemiology of the outbreak. It is difficult to determine whether HCW PPT was effective at preventing transmission, especially with robust infection prevention measures already in place. Patients were more likely than HCWs to present as asymptomatic, however this may be due to the attribution of symptoms to other conditions. **Conclusions:** Point prevalence testing of HCWs during COVID-19 outbreaks may assist with preventing transmission but is less likely to contribute meaningful information to the investigation.

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Risk factors associated with SARS-CoV-2 transmission, outbreak duration, and mortality in Fraser Health acute-care settings
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Background: Transmission of SARS-CoV-2 in acute-care settings affects patients, healthcare workers, and the already-burdened healthcare system. An analysis of risk factors associated with outbreak severity was conducted to inform prevention strategies. **Methods:** This study was a cross-sectional analysis of COVID-19 outbreaks at Fraser Health (FH) acute-care sites between March 2020 and March 2021. Outbreak severity measures included COVID-19 attack rate, outbreak duration, and 30-day case mortality. Covariates at patient, outbreak, unit level, and facility level were included (Table 1). Generalized linear models with generalized estimation equations were used for all outcome measures, with outbreak duration and 30-day case mortality using multivariate negative binomial distributions, and attack rate using Gaussian distribution. A *P* value of .05 indicated statistical significance. Analyses were performed using SAS version 3.8 software, R version 4.1.0 software, and Stata version 16.0 software. **Results:** Between March 2020 and March 2021, 54 COVID-19 outbreaks were declared in FH acute-care sites involving 455 SARS-CoV-2–positive patients. The average outbreak duration was 23 days, the average attack rate was 28%, and the average 30-day all-cause mortality per outbreak was 2 deaths. The results of the full models are shown in Table 1. **Discussion:** We identified an inverse relationship between increased hand hygiene compliance during outbreaks and all 3 severity measures. Paradoxically, hand hygiene rates in the year prior to