


Letter to the Editor

Medical facemasks are adequate for healthcare worker safety at outdoor coronavirus disease 2019 (COVID-19) drive-through testing centers

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To the Editor—Since the beginning of the coronavirus disease 2019 (COVID-19) pandemic, recommendations for healthcare worker (HCW) respiratory personal protective equipment (PPE) continue to be a topic of debate. The Centers for Disease Control and Prevention (CDC) recommends an N95 respirator or higher level of protection, plus eye protection.¹ However, the Infectious Disease Society of America (IDSA) infection prevention guideline recommends either a medical facemask or N95 respirator for routine care of patients with COVID-19, prioritizing respirators for aerosol-generating procedures (AGPs).² The HCW PPE guidance published by our state public health department, Oregon Health Authority (OHA), aligns with the IDSA guidance,³ as does our healthcare system, Oregon Health and Science University (OHSU). Importantly, OHSU considers both nasopharyngeal (NP) and oropharyngeal (OP) swab collection to be “routine care,” and not an AGP.

Starting on March 23, 2020, OHSU launched 2 large-scale drive-through COVID-19 community testing sites. One site is in an open-air sports stadium parking lot, and the second site was in an open-air convention center parking lot. On September 26, 2020, the second site was relocated to a large street-level parking garage to provide overhead coverage during inclement weather. Individuals drive through the site and interact with HCWs at 4 points: an entry point greeter, a station to create an appointment in the electronic health record (EHR), a visual assessment by a registered nurse (RN) with laboratory order entry into the EHR, and finally, a swab by a medical assistant (MA) inside an individual's vehicle. Each site has 7–10 MAs and 2–3 RNs working daily. In total, 90 RNs and 44 MAs have worked at least 1 shift at these sites. In addition to the community sites, the OHSU Occupational Health Department runs a drive-through testing facility on the medical campus, following similar work flows and testing

protocols as the community sites. The occupational health site is staffed by 1–2 MAs each 8-hour shift. Overall, 20 MAs have worked at least 1 shift at this site.

HCWs at all sites wear ASTM level 1 face masks and eye protection, predominantly face shields. The same mask is worn for the entire shift, changed only if it becomes moist or compromised. Each HCW clean their own face shield or goggles prior to the start of each shift, before donning and after doffing. Face shields or goggles are stored in paper bags between shifts, are not shared with other workers, and are discarded when compromised. HCWs wear gloves and disposable isolation gowns, which are both changed between vehicles. Hand hygiene is performed with alcohol-based hand sanitizer. The MA and RN staff wear scrubs as part of their professional uniforms.

Specimens for severe acute respiratory coronavirus virus 2 (SARS-CoV-2) polymerase chain reaction (PCR) assay are obtained by nasopharyngeal sampling, except during April when oropharyngeal swabs were used due to supply constraints. All testing sites accommodate symptomatic individuals, as well as asymptomatic persons being tested for medical reasons (eg, future scheduled AGP) or following public health testing guidelines (eg, known exposure to COVID-19).

Between March and October 2020, 55,217 tests were collected from the community testing sites; 3,937 (7.1%) of these tests were positive. Symptomatic individuals ($n = 28,826$) showed a monthly detected range of 3.6% to 10.6%. Tests from asymptomatic individuals showed a monthly detected range of 0% to 8.2% (Fig. 1). At the community testing sites, 2 HCWs developed symptoms compatible with COVID-19, sought testing through the occupational health site, and tested positive for SARS-CoV-2.

In the same period, 7,781 tests were collected at the occupational health site. Among them, 5,787 were from symptomatic employees with a monthly positive range between 1.8% and 5.7% (Fig. 1). The remainder from asymptomatic persons showed virus detection rates <1%. No HCWs from the occupational health site have had detected tests for SARS-CoV-2.

Our findings confirm that ASTM level 1 face masks (with eye protection, gowns and gloves) provide adequate protection for HCWs while collecting NP or OP swabs for SARS-CoV-2 testing in an outdoor drive-through setting. In >7 months of testing

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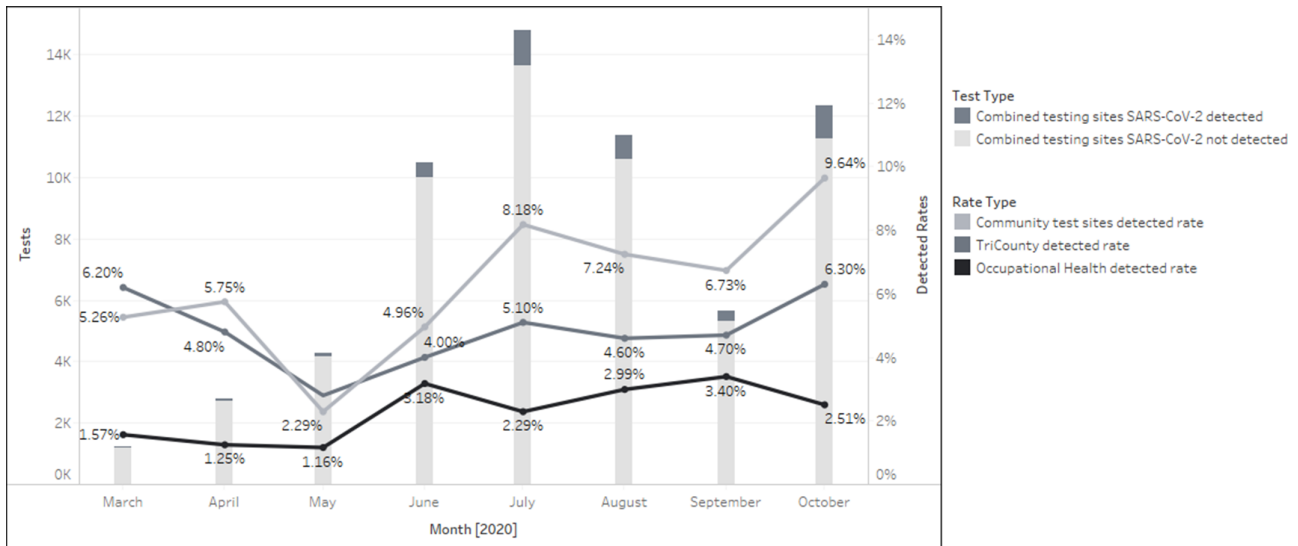


Fig. 1. SARS-CoV-2 tests by month at Oregon Health and Science University testing sites with local tricity (Multnomah, Washington, and Clackamas counties) detected rates. Test type: combined testing sites SARS-CoV-2 detected and combined testing sites SARS-CoV-2 not detected. Rate type: community test sites detected rate, tricity detected rate, and occupational health detected rate.

involving 4,104 individuals with PCR-detected SARS-CoV-2, only 2 HCWs (1 RN and 1 MA) became symptomatic; SARS-CoV-2 was detected by PCR in both. The occupational health exposure investigation did not identify any breaches in the RN's PPE use during patient care or work breaks. The results of the MA's exposure investigation are unknown at this time.

These observations have limitations. Our state has an overall low prevalence of COVID-19; thus, our findings may not reflect a level of risk to HCWs in other regions. Although HCWs complete a symptom-based electronic health survey prior to arriving to work each day, an HCW may have become infected but remained asymptomatic. In addition, underreporting of infected HCWs may have occurred if they sought testing outside our healthcare system.

Healthcare facilities continue to experience challenges with medical supply chains. N95 respirators should be prioritized for HCWs involved in AGPs on patients with proven or suspected COVID-19. Shifting ambulatory testing to outdoor areas and parking garages allows for natural airflow and ventilation, decreases indoor crowding, and thus can decrease the risk of viral transmission to individuals, including HCWs.⁴ To preserve PPE supplies while balancing HCW safety, regulatory bodies should allow healthcare facilities to determine the appropriate PPE for their employees, based on HCW-focused risk assessments, overall community disease prevalence, patient testing location (indoors versus outdoors), and length of anticipated close contact. Our experience demonstrates that NP and OP specimen collection can be

safely performed without use of N95 respirators as part of HCW PPE.

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