

proactively maintain an adequate PPE supply. The team consisted of staff from multiple departments including infection prevention, environmental health and safety, operational efficiency, and supply chain. The healthcare system solicited donations of PPE, and our team was tasked with developing a sustainable method to provide healthcare workers with safe and effective N-95 respirators. Respirators are normally fitted to our 6,000+ healthcare workers through a fit-testing process using 4 models of N-95s. We received >60 models, many in small quantities, posing a new level of complexity that prevented use of our typical fit-testing method. **Methods:** Donated respirators were manually verified on the CDC/NIOSH website to validate approval or approved alternative. A categorization system was developed, and respirators were sorted based on quality, style, and condition. User seal checks replaced qualitative fit testing due to the uncertain and quickly changing respirator supply. Staff were educated about the importance of performing a seal check to evaluate respirator fit and were provided instructions for what to do if they failed a seal check. We performed limited quantitative fit testing on a small group previously fit tested to 1 of the 4 models of N-95s normally stocked to identify the most effective alternative respirators to serve as substitute N-95s. **Results:** We were able to provide staff with new N-95s and delay the release of reprocessed N-95s. Overall, 18 models of respirators were tested on staff for filtration effectiveness and fit. We deemed 61% masks to be of last resort, and these were not released. We determined that 39% were acceptable as an alternative for at least 1 of our usual respirator models. However, only 3 models (17%) available in small quantities fit wearers whose size was in shortest supply. This scarcity led to the evaluation and purchase of a new respirator prototype for small N-95 wearers, which was an important success of our team's work and for staff safety. **Conclusions:** Collaboration between teams from a variety of backgrounds, using both qualitative and quantitative data, resulted in a sustainable method for receiving, sorting, and evaluating donated N-95 respirators, ensuring the delivery of a steady supply of effective N-95 respirators to our staff. This quality-driven approach was an efficient and effective strategy to maintain our N-95 respirator supply during a pandemic driven global shortage.

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#### **Presentation Type:**

Poster Presentation

**Subject Category:** COVID-19

#### **Prevalence of SARS-CoV-2 Antibody in Healthcare Workers in Central Pennsylvania**

Taesung Kwon; Stacy Kenyon; Kimberly Kilheeneey; Stanley Martin and Mark Shelly

**Background:** Determining the incidence of SARS-CoV-2 in healthcare workers (HCW) is important in assessing the safety of the work environment. Though of limited use in acute illness, serologic testing can detect some infections that occur undetected. We compared the prevalence of antibodies to SARS-CoV-2 to a place of work, exposure by role and department, and use of various prevention methods. **Methods:** Healthcare workers (HCWs) working in Geisinger Health System were offered voluntary serology through Employee Health. Before they had blood taken, they completed a brief questionnaire. Testing was conducted from June 15 to September 4, 2020. Blood was analyzed for SARS-CoV-2 immunoglobulin G (IgG) (Roche and Diasorin platforms). **Results:** In total, 2,295 employees and contract workers providing care at Geisinger facilities were tested. Most of this group, 2,037 (88.8%), were involved in direct patient care. In total, 101 tests returned positive, a rate of 4.4% (95% CI, 3.6%–5.3%). Of 54 HCWs with a positive NAAT for SARS-CoV-2, positive serology results were found in 48, a sensitivity of 89% (95% CI, 78%–95%). Those involved in patient care were slightly more likely to become infected, 91 of 2,037 (4.6%) compared to 10 of 258 who were not involved in patient care (3.9%;  $P = .68$ ). Those with unprotected exposure to a known case of COVID-19 were more likely than those not exposed to be positive for SARS-CoV-2, 51 of 792 (6.4% vs 3.3%;  $P = .0008$ ). This risk was highest for those exposed outside work (7 of 33; 21%;  $P = .003$ ). HCWs working in COVID-19 units were positive at a rate of 4.0% (95% CI, 3.8%–5.4%), no more than other inpatient areas, which were 5.0% positive (95% CI, 3.8%–6.4%).

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HCWs working with outpatients were at slightly lower risk, 2.8% positivity (95% CI, 1.9%–4.1%). The rates of infection ranged between 3.3% and 5.0% by job category. Employees were asked about symptoms experienced since March 2020. Positive serology occurred in 39 (2.8%) of 1,414 employees who did not recall any symptoms. Symptoms related to COVID-19, except sore throat, were strongly correlated with positive serology. **Conclusions:** When provided a safe work environment, the risk of COVID-19 in employees is comparable to that in the surrounding communities. Persons with patient care responsibilities have an absolute risk that is marginally higher.

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#### **Cost of Personal Protective Equipment During the First Wave of COVID-19**

Alfredo Mena Lora; Mirza Ali; Sherrie Spencer; Eden Takhsh; Candice Krill and Susan Bleasdale

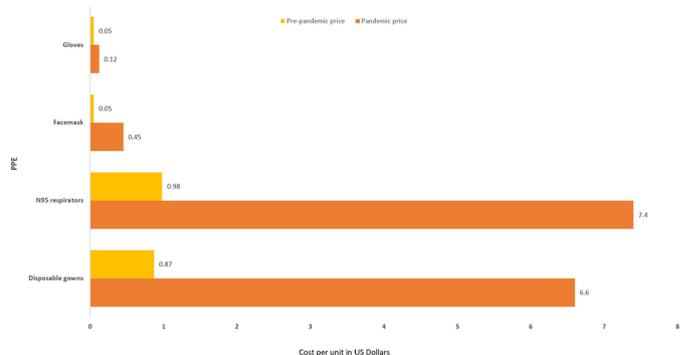
**Background:** As the world prepared for and responded to the COVID-19 pandemic in early 2020, a rapid increase in demand for personal protective equipment (PPE) led to severe shortages worldwide. Acquisition of PPE in the general market was an integral part of pandemic response, along with the safeguarding of hospital supplies. We seek to quantify the difference in cost per unit (CPU) of PPE during the first wave of COVID-19 compared to prepandemic prices. **Methods:** We performed a retrospective review of market prices for PPE during the first surge of the pandemic in Chicago. Cost of PPE was tabulated and compared with prepandemic prices. The maximum cost per unit (CPU) of PPE was tabulated for each week, and the average cost throughout the pandemic was calculated. Disposable gowns, washable gowns, N95 respirators, face masks, and gloves were included in our analysis. **Results:** PPE prices were significantly higher during the pandemic compared to prepandemic prices (Figure 1). Disposable gown CPU peaked at \$12 during the first week of March, 13.7 times higher than prepandemic prices, and the average gown CPU was 7.5 times higher than prepandemic prices. N95 respirators had a peak CPU of \$12, and average CPU was 8 times higher than prepandemic prices. Face-mask CPU peaked at \$0.55, 11 times higher, and averaged 9 times higher the regular price. Gloves averaged 2.5 times higher than the prepandemic CPU. **Conclusions:** Market prices for PPE were significantly elevated during the first weeks of the pandemic and remained high throughout the first wave of COVID-19. Multiple factors likely contributed to high prices, including demand shock, disrupted supply chains, and a rush to acquisition by healthcare systems and the general population alike. The impact of COVID-19 on prices highlights the importance of supply chains and national stockpiles for pandemic preparedness.

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**Figure 1.**