The corresponding prevalence estimates for these 3 groups in 2018 were 3.7% (95% CI, 3.0%-4.6%), 7.9% (95% CI, 7.1%-8.6%), and 4.4% (95% CI, 3.7%-5.4%), respectively. The lowest prevalence of serious psychological distress among the subgroups examined in April 2020 was observed in adults aged 55 years or older (7.3% [95% CI, 4.8%-10.9%]). In April 2020, 13.8% (95% CI, 11.4%-16.6%) of US adults reported that they always or often felt lonely.

Discussion | The prevalence of reported symptoms of psychological distress among US adults was higher in 2020 during the COVID-19 pandemic than in 2018. This finding builds on prior research documenting psychological distress among health care workers responding to COVID-19.4

The measure of serious psychological distress derived from the Kessler 6 scale has been shown to accurately predict serious mental illness,2 suggesting acute distress during COVID-19 may transfer to longer-term psychiatric disorders. In April 2020, 13.8% of US adults reported that they always or often felt lonely. In comparison, a national survey using an identical measure of loneliness found that 11% of US adults reported always or often feeling lonely in April and May 2018.5 Because loneliness increased only slightly from 2018 to 2020, other factors may be driving psychological distress during the COVID-19 pandemic.

The NORC AmeriSpeak panel used probability-based recruitment consistent with best-practice standards for survey research,6 but results may be vulnerable to sampling biases. The degree to which US adults classified as essential workers during the COVID-19 pandemic were represented in the survey sample is unknown. While both surveys are designed to be nationally representative of US adults, the survey sample is unknown. While both surveys are designed to be nationally representative of US adults, the sampling and recruitment methods and mode of administration varied in the Johns Hopkins April 2020 and NHIS 2018 surveys. There is a potential for selection bias if individuals were more likely to respond to a survey about psychological distress in April 2020 vs 2018.

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Concept and design: McGinty, Han, Barry.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: McGinty.

Critical revision of the manuscript for important intellectual content: All authors.

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Supervision: McGinty, Han, Barry.

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1. Dennis JM. Technical Overview of the AmeriSpeak Panel NORC’s Probability-Based Household Panel. NORC at the University of Chicago; 2019.


Correlation Between N95 Extended Use and Reuse and Fit Failure in an Emergency Department

Frontline health care workers are at high risk of contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes coronavirus disease 2019 (COVID-19).1 Personal protective equipment (PPE), including N95 respirators (N95s), is essential for prevention of COVID-19. The Centers for Disease Control and Prevention recommends that health care workers dispose of N95s after a single patient encounter. However, it recommends N95 extended use (wearing the same N95 for multiple patient encounters) and limited reuse (storing an N95 between encounters for use over multiple encounters) during critical PPE shortages.2,3 There are limited data regarding N95 reuse and extended use. Existing studies were conducted in laboratories, not clinical environments.4,5 Inadequate supplies of N95s have forced many emergency departments to implement various N95 reuse and extended use policies but without empirical evidence of their effectiveness. We examined the prevalence of N95 fit test failure while reusing 2 common types of N95 masks.

Methods | We performed a cross-sectional study of N95 fit at the University of California, San Francisco (UCSF) emergency department from April 4 to April 6, 2020. We enrolled a convenience sample of health care workers (physicians, nurses, nurse practitioners, physician assistants, and patient care technicians) on their clinical shifts when the researchers...
were present. All had passed a standard Occupational Safety and Health Administration–mandated N95 fit test within the last 1 to 2 years. We performed a qualitative fit test of dome-shaped (3M 1860) and duckbill (Kimberly-Clark 46727 or Halyard 46867) N95s (Figure) during various stages of extended use/reuse using a standardized hood and 3M FT-32 bitter testing solution. If participants could taste the solution, they failed the fit test and were fit with a new N95. We recorded health care worker characteristics, mask type, shifts used, and donnings/doffings. Our primary outcome was N95 fit test failure.

Results | Among 68 participants, 66.2% were women and 48.5% were nurses. Dome-shaped N95s were used by 51 of 68 (75.0%); 17 of 68 (25.0%) used duckbill N95s. Overall, 38.2% of participants failed the fit test; 12 of 17 (70.6%) duckbill masks failed, compared with 14 of 51 (27.5%) dome-shaped masks. Among wearers of dome-shaped masks, fit test failure was associated with increased use. N95 failure may contribute to SARS-CoV-2 transmission despite PPE use and deserves further study. Based on these preliminary data, health systems should closely evaluate N95 fit during extended use or reuse and limit duckbill mask use if alternatives are available.

Discussion | This study found duckbill N95s had a high failure rate. Failure of dome-shaped masks was associated with increased use. N95 failure may contribute to SARS-CoV-2 transmission despite PPE use and deserves further study. Based on these preliminary data, health systems should closely evaluate N95 fit during extended use or reuse and limit duckbill mask use if alternatives are available.

Limitations include the study’s cross-sectional design; a cohort study is needed to determine directionality. The duration of wear and number of donnings/doffings were self-reported and may not be precise or accurate estimates. Precise time of failure was not measured. Prior studies have shown an inherent N95 fit failure rate, which may have affected outcomes. This observational study was subject to confounding

Table. Characteristics of Participants and Prevalence of Fit Failure (Dome-Shaped Masks Only)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total (N = 51)</th>
<th>Fit pass (n = 37)</th>
<th>Fit fail (n = 14)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex, No. (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>33 (100)</td>
<td>23 (69.7)</td>
<td>10 (30.3)</td>
<td>.74^a</td>
</tr>
<tr>
<td>Men</td>
<td>18 (100)</td>
<td>14 (77.8)</td>
<td>4 (22.2)</td>
<td></td>
</tr>
<tr>
<td>Health care worker type, No. (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>27 (100)</td>
<td>20 (74.1)</td>
<td>7 (25.9)</td>
<td>.77^a</td>
</tr>
<tr>
<td>Physician</td>
<td>11 (100)</td>
<td>7 (63.6)</td>
<td>4 (36.4)</td>
<td></td>
</tr>
<tr>
<td>PCT/APP/otherb</td>
<td>13 (100)</td>
<td>10 (76.9)</td>
<td>3 (23.1)</td>
<td></td>
</tr>
<tr>
<td>Hours mask worn, median (IQR)</td>
<td>12 (6-18)</td>
<td>12 (6-16)</td>
<td>14 (10-30)</td>
<td>.048^c</td>
</tr>
<tr>
<td>Shifts mask worn, median (IQR)</td>
<td>3 (2-4)</td>
<td>2 (1-3)</td>
<td>4 (3-5)</td>
<td>&lt;.001^c</td>
</tr>
<tr>
<td>Donnings/doffings, median (IQR)</td>
<td>10 (5.5-15.5)</td>
<td>8 (4-12)</td>
<td>15 (13-18)</td>
<td>&lt;.001^c</td>
</tr>
<tr>
<td>Shifts mask worn, No. (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>11 (100)</td>
<td>11 (100)</td>
<td>0</td>
<td>&lt;.001^a</td>
</tr>
<tr>
<td>2</td>
<td>12 (100)</td>
<td>11 (91.7)</td>
<td>1 (8.3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>13 (100)</td>
<td>10 (76.9)</td>
<td>3 (23.1)</td>
<td></td>
</tr>
<tr>
<td>&gt;3</td>
<td>15 (100)</td>
<td>5 (33.3)</td>
<td>10 (66.7)</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: APP, advanced practice provider; IQR, interquartile range; PCT, patient care technician.
^a By Fisher exact test.
^b Advanced practice provider includes nurse practitioners and physician assistants. Other includes registration clerks and pharmacists.
^c By 2-sample Wilcoxon rank sum test.

Letters

Figure. N95 Mask Types

Left, dome-shaped. Right, duckbill.

Table. Characteristics of Participants and Prevalence of Fit Failure (Dome-Shaped Masks Only)
Admissions to Veterans Affairs Hospitals for Emergency Conditions During the COVID-19 Pandemic

Anecdotal reports suggest hospitalizations, including for emergency conditions and elective procedures, have declined during the coronavirus disease 2019 (COVID-19) pandemic. Reduced hospitalizations for conditions requiring timely treatment may have significant public health consequences.

The Department of Veterans Affairs (VA) is the largest health system in the US. The VA has ensured continuously available treatment for emergency conditions and canceled elective procedures during the COVID-19 pandemic. This study evaluated changes in the number of admissions to VA hospitals overall and for 6 common emergency conditions during the pandemic.

Methods | We analyzed data from the VA's Corporate Data Warehouse, a national repository of electronic health records from visits to any VA facility. We describe trends in VA hospitalizations overall, for 6 common emergency conditions, and for COVID-19 during the first 16 weeks of 2019 and 2020 among a previously established cohort of adults enrolled in VA care between 2008 and 2018. We compared the number and demographic characteristics of patients hospitalized during weeks 5 to 10 (January 29 to March 10) and weeks 11 to 16 (March 11 to April 21) of 2020 overall, among demographic subgroups, and by International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) principal diagnosis codes I60-169 for stroke, I21-I22 for myocardial infarction, 150 for heart failure, J44 for chronic obstructive pulmonary disease (COPD), K35-K37 for appendicitis, and J10-J18 for pneumonia. Incidence rate ratios (IRRs) comparing daily hospitalization counts during weeks 11 to 16 of 2020 vs January 1, 2019, through week 10 of 2020 were estimated using Poisson regressions that adjusted for seasonal variation and secular trends with week-of-year and year fixed effects.

Analyses were performed using Stata version 15 (StataCorp). The institutional review board at VA New York Harbor Healthcare System approved this study and waived patient informed consent.

Results | The number of patients in our cohort admitted to VA inpatient facilities decreased from 77,624 in weeks 5 to 10 of 2020 to 45,155 in weeks 11 to 16, a reduction of 41.9% (IRR, 0.57; 95% CI, 0.51-0.64) (Figure and Table). The mean age was 66.6 years (SD, 14.0 years), with 93.5% men, 69.0% white, and 24.6% black. The characteristics and case severity of patients admitted during weeks 5 to 10 vs weeks 11 to 16 of 2020 were similar (Table).

The number of patients admitted in weeks 5 to 10 vs weeks 11 to 16 of 2020 with a principal diagnosis of stroke decreased from 1375 to 661 (−51.9%; IRR, 0.44; 95% CI, 0.33-0.59), for myocardial infarction from 795 to 475 (−40.3%; IRR, 0.59; 95% CI, 0.50-0.69), for COPD from 1701 to 877 (−48.4%; IRR, 0.51; 95% CI, 0.38-0.68), for heart failure from 1255 to 639 (−49.1%; IRR, 0.53; 95% CI, 0.42-0.67), and for appendicitis from 236 to 134 (−56.7%; IRR, 0.56; 95% CI, 0.45-0.70). In contrast, the number of patients admitted overall and for each condition did not decline during the same period of 2019. For pneumonia, admissions decreased during weeks 11 to 16 by −13.7% in 2019 and by −28.3% in 2020 (IRR, 0.79; 95% CI, 0.65-0.95); when excluding patients who tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), pneumonia admissions decreased by ~45.7% in 2020 (IRR, 0.61; 95% CI, 0.49-0.77).