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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Can we attend concerts again?

One societal aspect affected immensely by the pandemic has been sporting and live music events. The social impact is important, but the economic impact of large outdoor events being banned has been substantial.

In hopes of safely returning to some normalcy, German researchers sought to address the infectious risk of restarting some of these events by setting up an experimental indoor mass gathering event, described in a new study published on the preprint server medrxiv. A simulated pop concert for 1,400 participants was set up on August 22 in the Leipzig Arena. The exercise was so realistic that the organizers engaged German pop performer Tim Bendzko to perform for the audience. Each participant and staff member provided a negative SARS-CoV-2 test completed within 48 hours of the event and all concert goers were required to wear a N-95 during the event.

Three different seating scenarios were researched: (1) no restrictions; (2) checkerboard seating pattern with twice as many entrances/exits; (3) paired seating with 5 feet between groups, 4 times more entrances/exits. Each participant was monitored during the event with contact tracing devices. The event consisted of a 60-minute entry period followed by a 45-minute first half. A 20-minute intermission then occurred with simulated catering, followed by another 45-minute set. At the conclusion of the event, a 15-minute exit period occurred. The number and time of contacts within five feet were recorded. Contact numbers were high but when reduced to a 15-minute exposure threshold, the numbers decreased to below ten. The largest contact time was during entrance and exit. Not surprisingly, scenario 2 (checkerboard seating) and scenario 3 (paired seating with space between groups) reduced contact numbers. Aerosol exposure was also simulated during the event with the maximum number of exposed people per simulated infectious person estimated at ten.

The researchers explore what the implications of such "mass gathering events" in a community with relatively low case counts might be. Based on relatively low local incidence, if 100,000-200,000 people per month participated in such events, 0.4%, 1.1%, and 2.3% of all of a community's cases would be predicted to be attributable to the events (these estimates correspond to the three scenarios listed above). But if ventilation in the building was poor, the incidence would increase dramatically—up to 23%.

Among the surveyed participants, 89% felt wearing a N-95 was restrictive but acceptable if it meant attending a concert safely. How these finding apply to real-world settings is hard to extrapolate. At many sporting events and concerts people are often very close together and standing, unlike this carefully simulated seated concert. In addition, compliance with N-95 mask wearing could be difficult. Nevertheless, this study was still a bold attempt to try and explore what bringing some "normalcy" back to people's lives might entail, and what the costs might be.

—Christopher Sampson, MD, FACEP

Physicians are less likely to vote compared to the general population professions.

A new preprint slated to be published soon in the *Journal of General Internal Medicine* assess trends in physician voting over time. This topic is particularly timely given the election and the fact that healthcare workers are either overworked from the covid-19 pandemic or downright too fatigued to worry about voting during downtime.

Researchers from University of Michigan looked at data from the Current Population Survey (CPS) November Voter Supplement from 2004 through 2018. The CPS is household survey data from the U.S. Census Bureau. Voting rates and behaviors of healthcare providers (physicians, dentists, pharmacists, registered nurses, physician assistants) were compared to five other professions (postsecondary teachers, chief executives, civil engineers, social workers, lawyers).

The average age of the physicians in the study sample was 47.6 years of age, with 33.5 percent identifying as women. Unfortunately, healthcare providers were much less likely to vote compared to both the general public and the other aforementioned professions. Voting rates were 12 percent lower than expected when compared to the general public. Physicians were 30 percent *more* likely to vote by mail and 15 percent more likely to vote before election day when compared to the general public. When compared to the general public, healthcare providers were 70 percent more likely to report the main barrier for not voting or not registering to vote was "Too busy, conflicting work or school."

As healthcare providers on the frontline of the covid-19 pandemic, we at *Brief19* recognize and identify with the rationale provided by the respondents to the survey. Time has been limited in so many ways this year—and the mental exhaustion that comes from there "never being a normal day at work" is real. Thinking about things like registering to vote, and voting—whether by mail or in person—was sometimes the furthest thing from our minds, even as the issues being debated nationwide were frequently considered and discussed on a daily basis. Thinking about politics is one thing. But prioritizing yet another form of paperwork in our lives is another.

One silver-lining of the pandemic, however, may be the normalization and of mail-in registration and early and absentee voting. Nationwide efforts to educate citizens on these options appears to have been highly successful with respect to the general public, even though voting in person was ultimately a safe option, given the rollout of new guidelines. Nevertheless, we'd like to see the authors complete a follow-up study in a few years to see if trends in healthcare provider voting changed during the current presidential election and after.

—Joshua Niforatos, MD