

BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Clinician perspectives early in the pandemic.

Hot off the press, a [new paper](#) published in *JAMA Network Open* looks at how clinicians working in critical care units or those involved in institutional planning responded to limited resources early in the covid-19 pandemic. In general, the idea of limited resources in United States hospital settings is by itself a highly unusual situation.

In this study, 61 clinicians from University of Washington and other institutions around the country were interviewed. Clinicians included intensivists (i.e. physicians working in intensive care units), kidney specialists, triage team members, trainees, palliative care specialists, nurse care coordinators, and others. Using semi-structured guides, clinicians were interviewed and, later, the interviews were transcribed and coded using software developed specifically for this kind of qualitative research in an effort to discover any common themes that emerged across the interviews.

Participants were on average 46 years of age, primarily female, and identified as White. Most (around three-quarters) of the interview participants were attending physicians.

Themes that emerged included concerns regarding planning for crisis capacity, adapting to limited resources, and adjusting to unprecedented barriers to delivering care for covid-19 patients.

One interesting common concern that emerged was the use of systematic approaches to allocations of limited resources. As we reported early in the pandemic, and as we are currently hearing from U.S. states in the Midwest and Pacific Northwest, when intensive care units become overwhelmed they are at risk of eventually running out of mechanical ventilators. In order to not burden frontline clinicians working in these critical care areas, systematic approaches were instituted so that the manner in which resources would be allocated in times of limited supply, pre-determined institutional policies were in place so that seemingly impossible decisions regarding rationing would not need to be made at the bedside.

Clinicians also discussed the role of moral distress in making these decisions during the pandemic. Other causes of uncertainty and stress included limited time with patients and families in-person, as well as the lack of scientific evidence early in the pandemic regarding the management of critically ill covid-19 patients.

This unique paper provides a glance into the minds of clinicians who were either on the frontlines of covid-19 outbreaks or involved in institutional planning. Whether these stressors remain is unknown; we know now much more than we did, though pandemic fatigue may also be more prominent now than initially. Nevertheless, the weight of decision fatigue, moral distress, navigating patient and family communications, and challenges around taking care of sick covid-19 patients will likely remain for months to come. [6 November 2020](#).

—Joshua Niforatos, MD

Household risk of SARS-CoV-2 secondary infection. Both the scientific community and the general public have put considerable thought and effort towards avoiding covid-19 in public places, like grocery stores and airplanes. But perhaps the greatest risk actually comes at home.

Health departments in Canada are [reporting](#) a spike in cases following Canadian Thanksgiving two weeks ago and a report published in the Center for Disease Control and Prevention's [MMWR](#) (*Morbidity and Mortality Weekly Report*) last week examined SARS-CoV-2 transmission in households. Researchers examined data from an ongoing CDC study of homes in Nashville and Marshfield, WI, between April-September. The average age of the first covid-19 patient in a household

(known as “index patients”) was 32 years; 14 percent were under age 18. Sixty-nine percent of the index patients reported spending greater than four hours in the same room with one or more household members the day before and 40 percent the day after illness onset. The median number of household members per bedroom was one, but index patients slept in the same room 40 percent of the time before illness onset and 30 percent after illness onset. These home exposures led to a “secondary infection rate” of 53 percent with a median onset of four days for symptom onset among household contacts. Seventy-five percent of secondary infections were identified within five days of the onset of symptoms in the index patients.

This study shows that in-home secondary infection is a serious risk to household members and that many aren’t taking necessary precautions, such as isolating ill family members. It also indicates that both children and adults are at risk when other family members are infected. Finally, it provides supporting the CDC’s declaration on [stays on residential evictions](#)--which are known to force families into moving in with relatives, thereby increasing the number of people per household and placing more people at higher risk. [3 November 2020](#).
—Christopher Sampson, MD, FACEP

New San Francisco study demonstrates imperfect science of contact tracing.

Of the many proposed methods to detect and prevent transmission of covid-19, contact tracing has received both attention and skepticism. How can you track down people who may have been in touch with a symptom-free person? In a letter published today in [JAMA Internal Medicine](#), researchers attempted to evaluate the efficacy of contact tracing performed in San Francisco, CA during its shelter-in-place restrictions between April 13th and June 8th. While the city did a decent job contacting individuals shortly after positive tests, the data suggests that even the best-intentioned contact tracing is no match for the infectivity of SARS-CoV-2.

Of the more than 1600 reported cases in San Francisco, approximately 85% of those individuals were contacted, generally within a day of their test result. However, the researchers noted that the average person waited around three days from symptom onset before receiving a test, and another day to get their test result. By the time immediate contacts had been notified, an average of six days had passed, allowing for a lengthy window of time to pass on the virus. This challenge was demonstrated in the data as well, as San Francisco’s positivity rate was 2.2% during this period. Around 10% of the contacts in this study later tested positive—a notably high “secondary attack rate.”

The authors note the obvious challenges of contact tracing: lags between infection, symptom onset, time to testing, and the time it takes to notify contacts. All of these factors contribute to individuals spreading covid-19 before they themselves know they have the virus. Furthermore, a larger proportion of contacts were members of the same household, often making quarantining less effective. Of course, more rapidly available testing could go a long way towards addressing these problems. Ultimately, contact tracing is a useful tool in assessing our ability to contain covid-19, but is by no means enough to eradicate the virus; nor is it truly feasible in many US cities. [2 November 2020](#).
—Fred Milgrim, MD

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.