

Coronavirus is spreading under the radar in US homeless shelters

Close living quarters and a lack of testing among homeless people across the United States threaten the nation's ability to control the pandemic, researchers say.

Amy Maxmen



COVID-19 testing for homeless people is rare, but necessary. Credit: Al Seib/Los Angeles Times/Getty

Researchers are beginning to test homeless individuals in the United States for the virus that causes COVID-19 — and are discovering that the situation is out of control: tests are rare and outbreaks are spreading below the radar.

The lack of testing and assistance for people living in group settings — such as those in homeless shelters, nursing homes and prisons — threatens their lives as well as the nation’s ability to curb COVID-19, because these communities can rapidly become the epicentres of new outbreaks that will spread, say researchers. Scientists are now scrambling to collect data and to model the transmission of coronavirus under different group-living situations in hopes of guiding strategies to curb outbreaks.

Evidence-based solutions might protect not only the roughly 1.4 million people who use a homeless shelter or transitional housing in the United States each year — a growing population as unemployment soars and prisons release people to ease crowding — but also other people who don’t have the luxury of separating themselves from others. “What we’re seeing in this first wave in the US is that the largest clusters are in populations where people don’t have a lot of agency,” says Gina Neff, a sociologist at the University of Oxford, UK. “These populations will become the sources of new outbreaks, even when we feel like we kind of have it under control.”



‘Distancing is impossible’: refugee camps race to avert coronavirus catastrophe

Current testing policies are missing a significant amount of infections in at-risk groups. In one recent study, researchers found that only one individual out of 147 who tested positive in a homeless shelter in Boston, Massachusetts, would have met the official criterion for testing — a fever¹.

Missed cases are a major problem because the disease has been shown to spread like wildfire in communal spaces. Singapore, for example, seemed to have successfully controlled the epidemic, until thousands of cases were discovered among migrant workers living in overcrowded dormitories.

In the United States, surveying homeless populations is hampered by a lack of resources available for people living below the poverty line. Private rooms are hard to come by, as are funds for medical care and contact tracing. “The moment you get a positive test, there’s a spider web of decisions to make,” explains Shana McDevitt, a researcher working on COVID-19 testing at the University of California, Berkeley. “We are in a period of time where the policies need to catch up to the tests.”

Shelters given space

Before COVID-19 was reported in China, Helen Chu, an infectious-disease specialist at the University of Washington in Seattle, and her colleagues were studying how the influenza virus spreads through homeless communities. “We wanted to develop a strategy that could be implemented for treatment and prevention in case a pandemic hit,” she says. Coronavirus swooped in before they could finish. In March, Chu’s team began surveying its study participants for the new coronavirus, too. So far, she says, most of those who have tested positive don’t have obvious COVID-19 symptoms.

Researchers found something similar in Boston. In the study of 147 people testing positive at one shelter, just 11 reported a cough¹. That study is changing practices at the network of shelters

affiliated with the Boston Health Care for the Homeless Program, says Travis Baggett, director of research at the programme and an author on the study. “Until that point, we were screening people by checking their temperatures, and using that as the basis for testing,” he explains. “But our data show that if we aren’t more proactive, we’ll be too late to prevent an outbreak.”



The simulations driving the world’s response to COVID-19

But most shelters still reserve tests for people with symptoms — or they only test broadly after an outbreak has occurred. The results of this policy are troubling. By the time a person from a shelter in San Francisco had been diagnosed with COVID-19 in April, for example, more than 90 other residents and 10 people who worked there were already infected. To influence policies, Baggett is running computer simulations to work out how many people will become infected, hospitalized or die from COVID-19 if the situation remains as it is — compared with the result if people are tested on a regular basis, regardless of symptoms. Costs are taken into account, too. “We’re trying to inform policymakers about different ways of doing things,” he says.



At a convention centre in Seattle, Washington, beds are spaced two metres apart to reduce the spread of coronavirus. Credit: Karen Ducey/Getty

Towards a similar goal, another team of researchers from three US universities released a report in late March that lays out some minimal needs that might slow the spread of COVID-19 among homeless people, such as providing rooms for individuals at high risk of severe disease because of underlying health conditions. In projecting the “costs of inaction”, they find that, without further interventions, more than 21,300 homeless people in the United States will need to be hospitalized for COVID-19, and 3,400 will die. The authors assume a higher rate of transmission than that in the general population, and more-severe cases because of the prevalence of underlying diseases. Although the average age of homeless individuals in several cities is around 50, studies have found that they experience strokes, falls and other health issues typical of people in their 70s and 80s.

Canaries in the coal mine

Health departments in the United States have started implementing interventions, such as relocating homeless people to stadiums, where beds are spaced two metres apart. And in San Francisco, Seattle and other cities, officials have reserved hotels as places in which to isolate people with COVID-19 who don't have homes. Yet the vast majority of homeless individuals still

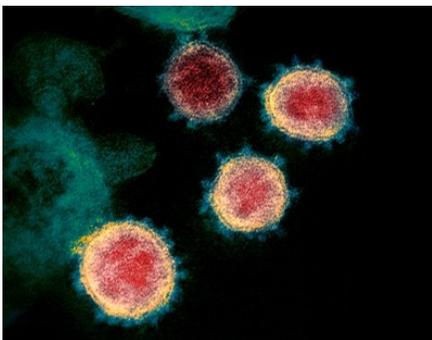
remain in group facilities or in tents on the street, says Margot Kushel, a researcher–clinician who studies homelessness at the University of California, San Francisco.

She points out that many of the people sleeping in shelters have low-paid ‘essential jobs’, such as those in grocery shops and warehouses. This means they could become infected at work or in the shelters, and spread the virus to others. “I’m not going to stop advocating for the use of hotels and dorms,” she says, “but I’m also pushing for a harm-reduction approach based on science.” Kushel says that, with data on how many people are infected in different settings, her team can estimate how often to screen, how far apart people need to be, whether distributing face masks helps, and whether encampments are safer than indoor options. This last aspect matters in California, because about 91,000 people there live outside.



Whose coronavirus strategy worked best? Scientists hunt most effective policies

A related problem, he says, is that California is releasing thousands of inmates from prisons and jails to decrease the risk of outbreaks there, but they aren't being tested first — and many have nowhere to go. “It’s a mess,” he says. “I want to make sure my employees and our folks are safe, and there’s no way to know that.”



But these comparisons require many more data on rates of infection. The shortcoming is not necessarily because ample tests don’t exist. For example, McDevitt says that her team at the University of California, Berkeley, has extra testing capability, but doctors and health officials are reluctant to recommend that everyone in a shelter is screened because officials lack plans for how to follow-up on the results when infected people have no health insurance, money or housing. Furthermore, she says, a positive result means that the health department must work out who else the person might have been in contact with — and screen them. It’s a laborious task, but one McDevitt wants to see done. She says surveillance of homeless populations can also inform policymakers about whether an outbreak is waxing or waning in their communities, because people there are so vulnerable to infections. “They’re kind of a canary in the coal mine,” she says.

Many social workers await a stronger public-health response, too. Donald Frazier, the executive director of Building Opportunities for Self-Sufficiency, a non-profit organization based in Berkeley, says he cannot let new individuals into the shelters in his network without tests to reveal their coronavirus

status. Researchers working to dampen the toll of COVID-19 in other crowded spaces, such as nursing homes and meat-packing plants, worry that policymakers aren’t concerned enough about outbreaks among marginalized populations. Kushel says, “As scientists, it’s our role to raise up these issues and help the public understand how viruses do discriminate, since we live in an inequitable world.”

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