

# Coronavirus: Can we avoid a second wave of infections?

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Credit: Francisco Farias Jr/public domain

Our unprecedented stay-home orders to check the deadly coronavirus'

spread are showing signs of success, but they can't last forever, and health officials are scrambling to figure out when and how they might ease the restrictions without unleashing a surge of new infections.

When they let us go out again, will we still be expected to wear masks? Will they be checking our temperatures at schools or our COVID-19 status to enter restaurants, stores and workplaces? Will there still be sneeze shields and six-foot spacing markers at the grocery checkouts?

Bay Area [health officials](#) are just starting to build consensus around what sorts of benchmarks might signal it's safe to begin lifting rigid social-distancing restrictions and how to go about it. They are keeping an eye overseas, as China just lifted its strict quarantine of Wuhan, the city where the outbreak originated, after 76 days.

"There's a lot to consider if we're going to make this work and not fall backwards and have to do this all over again," said former California Public Health Officer Dr. Karen Smith, who has been a lead adviser to Santa Clara County's health officer. "As far as I know nobody has a plan. A lot of people have ideas."

Since the Bay Area announced the nation's first stay-home orders March 16—and Gov. Gavin Newsom soon followed with a similar statewide decree—the rate of new infections has slowed, a sign of what epidemiologists call "flattening the curve" of new cases. But the virus has ravaged states that acted later like New York. Now, whether the Bay Area leads the way in reversing the lockdown remains to be seen. Local officials and Newsom have made clear it won't happen soon.

"We're working really hard thinking about what would the signals be in order to relax a little bit," Santa Clara County Health Officer Dr. Sara Cody said. "It's going to take a while to figure that out."

Only a few things will truly end the COVID-19 pandemic that has sickened more than 1.6 million people and killed more than 97,000 worldwide: an effective cure for the disease, a vaccine to shield people from it, or enough people catching it to build up "herd immunity" in the population. None of those are close.

"The timelines tend to be longer than we'd like," said Dr. Stephen Luby, an epidemiologist and professor of medicine at Stanford University who is researching vaccines. "There's only one time a vaccine was developed fast enough to interrupt an outbreak and that was in Hollywood in the movie "Contagion."

Only about 0.14% of the U.S. population is confirmed so far to have caught the disease, and although more people likely have been infected than tested, it is assumed the vast majority of people remain at risk of the illness when restrictions lift.

So [health experts](#) expect any lifting of restrictions will unleash new waves of infections. That, in fact, just happened this week in Singapore, a city-state whose early social distancing and aggressive testing and case monitoring were hailed as a model for containing the outbreak. It has since ordered schools and nonessential workplaces to close temporarily.

"One thing we know is when we start backing off of social distancing," Smith said, "there will be new transmissions because they will occur."

The key, Smith said, is to get to a point where the health system can effectively manage new spikes in cases without having to reimpose widespread lockdowns.

One key that epidemiologists agree will be needed is far more extensive testing to identify who has already been infected and when people become sick so they can be isolated and others who have come in contact

with them can be tracked down and monitored. A "roadmap to reopening" by the American Enterprise Institute, a Washington, D.C., think tank, said we'll need the capability to test 750,000 people a week. There have been 2.4 million tested in the U.S. to date, according to the COVID Tracking project.

Aggressive testing, tracing and monitoring of people who were in contact with the infected is what helped Asian countries hit earlier in the outbreak tamp down infection rates and limit public restrictions.

Before we get to that next phase, Smith said local officials will be looking to see that new hospitalization admissions—which they consider a more reliable indicator of both the extent and impact of infections—subside for at least two weeks to a level where hospitals have the capacity to handle new case clusters. That will vary from place to place.

"We want to first and foremost be sure to have adequate hospital capacity," Smith said. "And we have to test. We won't find cases if we're not testing and able to identify outbreaks."

Widespread availability of tests that could confirm that someone has unknowingly been infected and recovered from the disease—many get only mild symptoms more like a cold or influenza and don't get tested—will also be helpful.

"If you're immune, you can go back to work," Luby said. "Maybe that's who you can have as a front line health worker, a waiter at your table. We're not there, but that's much sooner, likely in weeks or months."

Luby said it would make sense to start lifting restrictions for people by age group because the disease hits harder with age.

"We are going to have to go back to work—the first thing we could do is let young people go back," Luby said. "The data are so clear it is older people who are more at risk."

That, too, would come with a major trade-off: Infected people without symptoms are still capable of spreading the virus.

Smith envisions a gradual reversal of the stay-home orders, likely starting at the statewide level and then regionally as local health officials gain confidence that sustained levels of new cases have dropped to a level where they can handle a new cluster of infections.

"Each community is going to have to respond to their local conditions," said Smith, who expects the Bay Area to act together as one community.

Shelter-in-place will gradually give way to allowing more types of businesses to open and permission for progressively larger public gatherings, with concerts, parades and sporting events the last to come back, Smith said.

Experts envision repeated, smaller infection spikes along the way.

"It will come in waves, maybe three waves, four waves," said Dr. Robyn Gershon, clinical professor at New York University School of Global Public Health.

And many of the markers of life with the [coronavirus](#)—keeping six feet apart from each other, wearing face masks in public—are likely to continue as restrictions ease. "I think people will get used to masking in public," Smith said.

With health departments already stretched thin, they will need help to effectively monitor the newly infected and their close contacts when



restrictions lift, Smith said. Health officials are looking at increasing staffing, perhaps with trained volunteers to do case monitoring, and using technology like cellphone applications to help.

The technology wouldn't be used to enforce restrictions like in China and some other Asian countries, Smith said, but more as a means of staying in contact with the infected or exposed.

"We just want to be continuously in contact with people, find out each day how they're doing, what symptoms they have," Smith said.

But while health officials are wary of removing restrictions too soon, they also worry the public will lose patience.

"The longer this goes on," Smith said. "the harder it is to tell people you have to keep interrupting your life."

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