

Should residents of hard-hit cities and towns be vaccinated before other groups? Some epidemiologists think so

By [Deanna Pan](#) Globe Staff, Updated December 23, 2020, 2 hours ago
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In Rhode Island, Central Falls health ambassador Elvin Toro, left, handed out a package of information and face masks amid the pandemic. PAT GREENHOUSE/GLOBE STAFF

In Central Falls, R.I., a tiny working-class city with a majority Latino population, the coronavirus has run rampant, triggering a crisis so dire public health officials believe [half of its residents](#) will have been infected by the end of this year.

Now Rhode Island is finalizing plans to move hard-pressed Central Falls to the front of the vaccination line, giving priority to a densely packed city full of immigrants and people of color who have contracted the deadly virus at staggering rates. Some epidemiologists believe that Massachusetts should consider a similar strategy for COVID hot spots such as Chelsea, Brockton, and Lawrence, places where residents, for a litany of reasons, find themselves at heightened risk.

“I think it makes a lot of sense,” said Jessica Leibler, an environmental epidemiologist at Boston University, “when we have data to suggest there are certain communities where risk is aggregated for various reasons,” such as housing density and occupational exposure.

An early virus hot spot, [Central Falls](#), a densely populated 1.29-square mile city of some 19,000 people, has the highest rate of COVID-19 cases per capita in Rhode Island, with 15,664 infections per 100,000. About two-thirds of the city’s residents are Latino and thousands are undocumented. Many work poorly paid factory and food-processing jobs and live in cramped triple-deckers, alongside several family members. Regular access to medical treatment is a luxury few can afford, and isolating the sick to prevent transmission can be nearly impossible.

Like all states, Rhode Island is rolling out its vaccination program in phases — starting with health care workers and residents of long-term care facilities, among others — before gradually opening up the eligibility pool to more residents. In a press briefing Tuesday, the state’s health director, Dr. Nicole Alexander-Scott, announced that Central Falls and other highly dense zip codes would be prioritized for vaccination in the first phase of the state’s distribution plan.

“Rhode Island will be vaccinating people based on their risk level, and we will continue to maintain a focus on equity,” Alexander-Scott said. “We are finalizing plans to vaccinate in Central Falls early on in the vaccination campaign, and we will move on to other zip codes and communities that are hardest hit as well.”

Samuel Scarpino, an assistant professor and head of the Emergent Epidemics Lab at Northeastern University, said states have an ethical imperative to use the vaccine to address the health inequities amplified by the pandemic, and communities that have suffered the worst should be prioritized.

“It’s clear in the data some individuals in essential roles are at much higher risk for infection than others,” Scarpino said. Decades of racism and xenophobia have allowed health disparities among people of color to flourish, he said, exacerbating the risks and consequences of catching COVID-19 as a result.

In Rhode Island, for example, Latino residents face 4.5 times the risk for contracting COVID-19, 6.7 times the risk of hospitalization, and 2.5 times the risk of death, compared with their white counterparts. The African American and Afro-Caribbean populations have 2.4 times the risk of infection, 4.1 times the risk of hospitalization, and 2.1 times the risk of death.

Massachusetts is making moves to ensure hard-hit communities have greater access to the vaccines, pledging to [set aside 20 percent](#) of its supply for vulnerable cities and towns with high rates of COVID-19 infections. The communities slated for extra doses will likely include places like Chelsea, Lawrence, and Brockton, where many residents are immigrants, people of color, and essential workers.

Distributing the vaccine based on location also makes sense on a practical level and could reduce vaccine waste, said Govind Persad, a medical ethicist at the University of Denver Sturm College of Law. For example, the vaccine developed by Pfizer-BioNTech has specific ultra-cold storage constraints that make it more difficult to dispense widely, he said.

“It’s not like you can take it all over the state to each person who’s personally at risk of getting [COVID-19] or spreading it,” he said. “There are reasons, given the sort of technical challenges of some of the super-cold storage vaccines, where people who are living close together might make sense for priority.”

The vaccines developed by Pfizer-BioNTech and Moderna have efficacy rates of roughly 95 percent in preventing COVID-19 symptoms. But it’s unknown, based on the clinical trials, whether the vaccines can interrupt disease transmission. Assuming the vaccines at least reduce, if not eliminate, a person’s infectiousness, Leibler said, a strategy that emphasizes geographic distribution could stem the spread of disease in surrounding communities as people travel for work, school, and other activities.

“As incidence [of COVID-19] increases in certain communities, it’s not always isolated to those existing communities, and communities surrounding those towns experience outbreaks and experience increases in cases as well,” she

said. “In terms of being able to focus our interventions on communities at high risk, that really benefits everybody by being able to reduce transmissibility where people are most exposed.”

But like every vaccination strategy — which must balance reducing hospitalizations and deaths, and protecting essential workers — there would be trade-offs to this kind of plan, Leibler noted.

“Clearly, at the moment, the vaccines are in limited supply, so in targeting them to specific communities, it means that other people at risk probably may not get vaccines as immediately as they would otherwise,” she said.

And implementing such a strategy could prove challenging, said Nason Maani, a public health researcher at Boston University who studies structural determinants of health. Public polling has repeatedly shown that Black and Latino Americans, who have suffered disproportionately from the pandemic, are the most reluctant to take the COVID-19 vaccines.

“Low-wage immigrant workers are less likely to be in regular contact with medical professionals, and more likely to fear contact with authorities” Maani explained in an e-mail. “Any fears of side effects may be accentuated because of limited health coverage or an inability to bridge gaps in employment or take sick leave.”

While the rapid development of the COVID-19 vaccines is a biomedical achievement, Maani added, the pandemic has revealed and exploited long-standing societal fissures along racial and ethnic lines that the nation still has yet to address.

“This is an example of where a vaccine alone isn’t a silver bullet,” he said.

Edward Fitzpatrick of the Globe staff contributed to this report.