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Shutdowns and stay-at-home orders may be slowing spread of coronavirus, new data show

By [Andrew Ryan](#), [Kay Lazar](#) and [Matt Rocheleau](#) Globe Staff, Updated April 1, 2020, 7:07 a.m.



Summer Street during the mid-afternoon traffic hour viewed from the Fort Point Channel towards downtown Boston. DAVID L. RYAN/GLOBE STAFF

The first potential hints have surfaced that the dramatic social distancing measures in Massachusetts and beyond are slowing the advance of the coronavirus, evidence public health officials say underscores the importance of keeping people home to blunt the impact of an increasingly deadly pandemic.

Even while the number of positive test results continues to climb in Massachusetts, the pace of the increase has appeared to stabilize. Similarly, while the number of COVID-19 patients hospitalized at Massachusetts General Hospital continues to rise, the increase has been more gradual in recent days, although it is too early to be called a trend, according to the chief of infectious disease, Dr. Rochelle Walensky.

“We’re talking about the slowing down of an uphill trend, but the uphill trend is still continuing,” Walensky said. “Does it give us a reason to be hopeful? Absolutely. Is it time to let up? Absolutely not.”

The relentless flow of data points — infections, number of tests administered, and deaths, among others — can be challenging for even the most experienced health care providers and modelers to interpret. Deaths can spike even amid progress, because they reflect infections that occurred in prior days or weeks. On Tuesday, Massachusetts officials reported that the number of people who died of COVID-19 had jumped nearly 60 percent since Monday.

Perhaps the most intriguing data point came from Kinsa, a company that has been analyzing data from a million smart thermometers in homes across the United States. Kinsa’s data showed that since social distancing directives have taken hold, flu-like illnesses have decreased throughout much of the country, including in Massachusetts.

The innovative Kinsa data, first reported by The New York Times, is based on 150,000 daily thermometer readings and excited infectious disease experts like Dr. William Schaffner, who compared the data to World War II radar systems that offered early warning signs of what was to come.

“If you interpret the data carefully, cautiously, you might get some encouragement that social distancing is having some effect,” said Schaffner, a professor of preventive medicine and infectious diseases at Vanderbilt University Medical Center. “You would like to have all of this confirmed, but it might bring a small smile to your face during a generally dark time.”

National Institute of Allergy and Infectious Diseases Director Anthony Fauci said Tuesday, “The mitigation is actually working, and will work.”

“We’re starting to see glimmers that that is actually having some dampening effect,” Fauci told CNN in an interview. “But that does not take away from the seriousness. ... We clearly are seeing cases going up.”

Still, each day brings a new set of numbers which can make it hard to follow the trajectory of pandemic. For example, Massachusetts last Wednesday reported that the number of positive cases surged nearly 60 percent in a single day. But that flood of new cases came as the number of tests for the virus jumped by a similar proportion.

Since that spike, the number of new cases has leveled off, but so has the number of tests, noted Northeastern University assistant professor Samuel Scarpino. At this point in the pandemic, epidemiologists say the rise in confirmed cases is a largely a reflection of widespread testing.

The death toll can also be a misleading indicator, because the death rate often lags behind the rate of new infections. People often suffer for days if not weeks before they die, said professor David Hutton of the University of Michigan School of Public Health.

Washington state has reported 195 deaths, which is roughly double that of Massachusetts. But public health experts [believe](#) that the virus will peak in Washington and Massachusetts at roughly the same time in mid-April. Both states

are expected to sustain about the same number of deaths.

Meanwhile, the per capita death rate in Massachusetts is far below that of New York, where some 1,550 people have died. In New York, there have been nearly 80 deaths for every million people, whereas in Massachusetts there have been nearly 13 deaths per million.

Dr. Larry Madoff, medical director of the Bureau of Infectious Diseases at the Massachusetts Department of Public Health, said in a released statement Tuesday night that the agency “continues to monitor and analyze what the numbers mean, and the many factors that contribute to these trends, including testing availability, that make it challenging to immediately interpret changes in cases on a daily basis.”

In his daily press briefing Tuesday, Governor Charlie Baker underscored the long road ahead as he urged people to follow social distancing guidelines “to prevent the spread because it will make a huge difference in this fight.”

“The next couple of weeks are going to be critical in this battle,” Baker said. “Everyone needs to play their part. People need to stay home as much as possible.”

The advance of COVID-19 has been difficult to track even as the pandemic has consigned tens of millions of people to their homes and ground the global economy to a halt. Early struggles to test for the virus allowed people to continue to unknowingly spread it.

The incubation period for COVID-19 — the time from infection to symptoms of the disease — is believed to be about five days but can be as much as 14 days. Massachusetts General Hospital is not ready to call the slight slowing of COVID-19 hospitalizations a trend, according to Walensky, the infectious disease chief.

It may be a hiccup in the data, Walensky said, noting that projections indicate Massachusetts will likely not see its peak in cases until mid-April.



HANDOUT (CUSTOM CREDIT)/HANDOUT

The smart thermometers from Kinsa have been used since 2015 to track outbreaks of the flu. The Internet-connected thermometers upload temperature readings to a database that is used to create a fever map of the United States.

With more than a million in use, the thermometers mirror population density across the country and can show data

down to the county level, according to company spokesperson Nita Nehru. While the thermometers do not specifically track COVID-19, the data does show concentrations of people with fevers, which can be an indicator of coronavirus.

Since widespread stay-at-home orders have been in place, fevers have decreased across the country, including in Massachusetts, according to the data. In Suffolk County, which includes Boston, illness has decreased by 10 percent. The company did not provide the precise number of thermometers in use here, but Nehru said in Massachusetts there were over 10,000 temperature readings a day.

“Illness across the US is declining,” Nehru said. “Now to be clear, we’re not saying that coronavirus cases are going to stop in the near term or go down in the near term. What we are saying is that by people not being in contact with one another, you’re breaking the chain of infection. You are stopping transmission events from happening.”

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