

Failure to count COVID-19 nursing home deaths could dramatically skew US numbers

27 April 2020, by Thomas Perls

COVID-19 deaths in Massachusetts nursing homes

The cumulative number of COVID-19 deaths in Massachusetts nursing homes exceeds the number of COVID-19 deaths elsewhere in the state.



Credit: Chart: Tom Perls; The Conversation, CC-BY-ND

In New York state, 19 nursing homes have each reported [20 or more deaths](#) from COVID-19. A nursing home in New Jersey reported [70 deaths](#) out of its 500 residents. In the words of New York [Gov. Andrew Cuomo](#), these homes have become a "feeding frenzy" for the virus and "the single biggest fear."

With the clustering of people who are frail and have multiple other illnesses like [heart disease](#), stroke, chronic lung disease and diabetes, the [risk of severe illness and death](#) from COVID-19 is much higher in nursing homes.

Yet, the United States does not know how many people are dying from COVID-19 in part because the government is [only just now requiring nursing homes](#) to start reporting numbers of presumed and confirmed cases and deaths to the federal Centers for Disease Control and Prevention.

The missing cases could dramatically skew the national [death](#) count. When France started reporting death data from some of its nursing homes, the daily COVID-19 [fatality numbers](#)

[almost doubled](#).

[The Associated Press](#) conducted its own survey in the U.S. and found there had been nearly 11,000 COVID-related nursing home deaths across the country as of April 24. However, [just 23 states](#) have been publicly reporting nursing home deaths. States also vary in how and where they are [performing tests](#), and some count only proven cases and not also presumptive ones, leading to significant underestimates of the death toll.

As a geriatrician at [Boston Medical Center](#) and [researcher](#) at [Boston University School of Medicine](#), I have watched in dismay as COVID-19 has become a deadly flash flood among the very old people I care for and study. I would not be surprised if the deaths in nursing homes at least double the U.S. COVID-19 death count.

In Massachusetts, 77% of nursing homes affected

Hints of what [nursing homes](#) and their residents and staff are going through have emerged from the states that have started publicly sharing data about them.

With Massachusetts [Gov. Charlie Baker](#) leading the charge, [the Massachusetts Department of Public Health](#) is providing a daily update on nursing homes where residents or staff have either tested positive or are presumed to be infected with COVID-19.

As of April 25, [about 77% of Massachusetts nursing homes](#) – 299 of 389—had at least one case of COVID-19. That percentage will no doubt climb as the state carries out its mandated testing at nursing homes. About one-third of Massachusetts nursing homes reported more than 30 COVID-19 cases each among residents and staff.

Nursing homes are required to maintain infection

prevention protocols to prevent the spread of infectious diseases into and within their facilities. But COVID-19, which is much more contagious than the flu, has punched holes in even the most careful and diligent facilities. Some nursing homes have also been [in trouble](#) for past problems with infection control.

It was initially estimated that on average, a person infected with COVID-19 led to an additional 2.5 people becoming infected. This basic reproductive number is called R0. A [Los Alamos National Laboratory study](#) released April 7 indicates that this earlier estimate is woefully low and that the R0 is more like 5.7. For comparison, the R0 for flu is around 2.

Among nursing home residents, the reproductive number is likely even higher than the average of 5.7. Many of the brave and caring [staff](#) in these nursing homes become infected, likely because of the intensity of this higher R0 and their exposure time with residents. By one [report](#), nearly half of surveyed nursing homes reported staff staying home and not working because they had signs of or were proven to have COVID-19. The exposure to COVID-19 underscores how critical it is for [nursing homes](#) to get the adequate supplies of [personal protective equipment](#) they have been crying out for.

I believe it is likely that the majority of nursing homes throughout the U.S. and beyond have or will soon have multiple residents and staff who are COVID-19 positive. One large nursing home operator in Britain estimates that [two-thirds of its homes have outbreaks](#).

We haven't heard about most deaths yet

By the Centers for Disease Control and Prevention's latest estimate, the U.S. has about [15,600 nursing homes](#) with some 1.3 million residents. One quarter of those residents, about 425,000, are over the age of 80. In Massachusetts, the [average age of death](#) in confirmed COVID-19 cases is 82.

As of April 26, [56% of Massachusetts' COVID-19 deaths](#) occurred in nursing homes. The [World Health Organization](#) similarly estimates that half of

COVID-19 deaths in Europe and the Baltics are among their [4.1 million](#) nursing home residents. A minimum of 50% of the COVID-19 deaths occurring in nursing homes also agrees with the [Kaiser Family Foundation's](#) review of data from the 23 states that are publicly reporting nursing home deaths.

The limited scope of counting people who have died from COVID-19 is not just a U.S. problem. A representative of British nursing homes, [Care England](#), says that 7,500 people in nursing homes there have died due to COVID-19—five times the U.K. government's estimate of 1,600.

One indication of the high death toll from nursing homes comes from [Belgium](#). The country [has the highest per capita rate](#) of COVID-19 deaths in the world—57 per 100,000 people—primarily because [officials there include nursing homes' COVID-19 deaths](#) in the national count and they are including both presumed and proven cases. Like Massachusetts, more than half of COVID-19 deaths in Belgium occur [outside of hospitals](#).

The current U.S. rate, according to [Johns Hopkins University](#), is 16 per 100,000, but its reports are only as reliable as its [data sources](#), which include the CDC and state departments of health. [This rate is likely lower](#) than Belgium and 11 other countries because of the great variation across the U.S. in which data are not included, such as people who die outside of hospitals, and the data missing due to limited testing.

On April 19, the [Centers for Medicare Services](#) announced it would begin requiring U.S. [nursing homes](#) to report all confirmed or presumed COVID-19 cases to the CDC. I hope this will include past cases and deaths.

To get an accurate count, veterans' homes, assisted living centers, group homes and other senior housing facilities must be required to report their past and current COVID-19 cases and deaths, as well.

There is plenty we still do not know about for why nursing home residents have borne the brunt of this pandemic. As [Gov. Baker](#) has indicated, "This is a

topic that will get a lot of appropriate analysis after the fact."

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