U.S. deaths soared in early weeks of pandemic, far exceeding number attributed to covid-19

An analysis of federal data for the first time estimates excess deaths -- the number beyond what would normally be expected -- during that period.

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In the early weeks of the coronavirus epidemic, the United States recorded an estimated 15,400 excess deaths, nearly two times as many as were publicly attributed to covid-19 at the time, according to an analysis of federal data conducted for The Washington Post by a research team led by the Yale School of Public Health.

The excess deaths — the number beyond what would normally be expected for that time of year — occurred during March and through April 4, a time when 8,128 coronavirus deaths were reported.

The excess deaths are not necessarily attributable directly to covid-19, the disease caused by the coronavirus. They could include people who died because of the epidemic but not from the disease, such as those who were afraid to seek medical treatment for unrelated illnesses, as well as some number of deaths that are part of the ordinary variation in the death rate. The count is also affected by increases or decreases in other categories of deaths, such as suicides, homicides and motor vehicle accidents.

But in any pandemic, higher-than-normal mortality is a starting point for scientists seeking to understand the full impact of the disease.

The Yale analysis for the first time estimates excess deaths, both nationally and in each state, in those five weeks. Relying on data that the National Center for Health Statistics (NCHS) released Friday, the analysis paints a picture of unusually high mortality that will come into sharper view as more data becomes available.

The analysis calculates excess deaths by using a model to estimate how many people probably would have died absent the pandemic, and then subtracting that number from the overall deaths reported by the NCHS.

The analysis suggests that the deaths announced in the weeks leading up to April 4, based on reports from state public health departments, failed to capture the full impact
of the pandemic. Those incomplete numbers were widely cited at a time when many states were making critical decisions about closing businesses and taking other actions to stem the spread of the virus.

The analysis also suggests that the death toll from the pandemic is significantly higher than has been reported, said Daniel Weinberger, a Yale professor of epidemiology and the leader of the research team. As of Sunday, more than 54,000 people had been killed by the novel coronavirus, according to numbers reported by state health departments and compiled by The Post.

“It’s really important to get the right numbers to inform policymakers so they can understand how the epidemic is evolving and how severe it is in different places,” Weinberger said.

The national tally also shapes the public’s perception of how serious the disease is, and therefore how necessary it is to continue social distancing despite economic disruption. The figure has political implications for President Trump, who initially played down the threat of the virus and whose administration failed to ramp up covid-19 testing quickly, allowing the virus to spread undetected for weeks.

Some of Trump’s defenders have claimed that covid-19 death figures are inflated because they may include people who died with the disease but not of it.

“The death toll is being held up by everyone, really, as a pretty direct metric for assessing the competence of the federal response,” said Jeremy Konyndyk, a former USAID official who helped lead the U.S. response to the Ebola outbreak and other international disasters during the Obama administration.

The problem of undercounting coronavirus deaths is not unique to this pandemic or to the United States. In many countries, insufficient testing is a major obstacle to understanding the scale of the pandemic.

In the United States, public health experts say reporting lags, along with the fact that nearly every state initially counted only cases in which the coronavirus was confirmed through a test, contributed to an incomplete picture of deaths in those early weeks.

The NCHS recently started keeping its own tally of covid-19 deaths, separate from the tallies based on states’ reports to the Centers for Disease Control and Prevention.

The NCHS’s tally, based on death certificates, attempts to correct for reporting lags and includes cases that lacked a lab confirmation of the coronavirus. But even the NCHS covid-19 death total from those early weeks — 10,505 as of Sunday — is only two-thirds of the excess deaths in the Yale estimate.

No jurisdiction has been as aggressive as New York City, the U.S. epicenter of the epidemic, in revising its death counts from those early weeks. As of Saturday, the city
had added 2,542 covid-19 deaths to those figures, driving the total from that period up to 5,085. The newly added deaths were almost equally split between cases that were confirmed through lab testing and cases that were deemed “probable” covid-19 deaths based only on symptoms and exposure.

The revisions brought the covid-19 total for New York City closer to the Yale analysis’s estimate of 6,300 excess deaths during that period.

A handful of states have also begun reporting probable deaths in recent days, generally by adding them to current tallies rather than by publicly revising figures from past weeks. Most states have not added probable deaths. For example, New York state, unlike New York City, has not.

The Yale analysis estimates that, excluding New York City, approximately 1,700 more New York state residents than would be expected had died as of April 4 — far more than the 1,022 counted as covid-19 deaths.

Gov. Andrew M. Cuomo (D) acknowledged at a news conference last week that his state’s tally is “not an accurate total number of deaths, in my opinion.”

“That number is going to go up,” he said. “Those deaths are only hospitalization or nursing home deaths. That does not have what are called at-home deaths.”

The family of Long Island resident Adrian Sokoloff say they believe he is one of the uncounted. The retired owner of a pet products company, he had just celebrated his 99th birthday when he started showing symptoms of covid-19 on March 19, his daughter Karen Sokoloff said. His family said his pulmonologist diagnosed him with covid-19 because of spiking fevers and coughing — and because two of his caregivers had come down with chills and lost their sense of taste, a telltale sign of the virus.

Sokoloff’s children had decided not to take him to a hospital out of fear that he would die there alone. They couldn’t get him tested for covid-19 at home.

On March 29, he died at home in Sands Point, N.Y. His death certificate reads, “congestive heart failure,” according to his daughter.

She says her father’s death should be reflected in the covid-19 death toll and fears that an artificially low count is giving some states license to reopen their economies prematurely. “You have to have the data to make an intelligent decision, and if you’re not counting the number of people who died from this, then you’re not making an intelligent decision,” she said.

In New Jersey, another hard-hit state, 9,854 people died during the period covered by the analysis — approximately 2,200 more than would be expected, according to the Yale estimates. Of those, however, only 846 were counted as covid-19 deaths.
Marco Navarro, an EMT who works in three northern New Jersey cities, said that before the pandemic, he could go two to three weeks without seeing a cardiac arrest or a call that required his team to perform CPR. Now it happens two or three times a day.

No one knows why. Is the virus attacking the heart? Are blood clots causing cardiac issues? Are people terrified they will contract the virus in a hospital ignoring their symptoms and staying home until it’s too late, as many doctors have concluded?

“I don’t really have an answer,” said Navarro, who works in Union City and sometimes in Jersey City and North Bergen.

Interviews and 911 call data from other cities also suggest a spike in the numbers of people dying at home, a circumstance that makes them less likely to be tested for the coronavirus or included in the official death counts. For instance, the updates New York City has made to its covid-19 death tolls include hundreds of such at-home deaths.

As of mid-April, paramedics for the Chicago Fire Department were seeing about four times as many calls as usual in which the patient is beyond resuscitation and pronounced dead at the scene, spoke sman Larry Langford said. Normally there are about four such cases; now, some days, there are more than 20. In Detroit, as ProPublica has reported, 911 call data show that the number of calls coded “dead person observed” spiked in the first 10 days of April.

But in dozens of states, the Yale analysis shows that the reported number of overall deaths are either unchanged or even slightly down compared with historical patterns.

In some states, the epidemic started later and spread less quickly and so had killed few people as of early April. Relatively small numbers of covid-19 deaths may have been offset by decreases in fatal car accidents or other such traumatic events that are less likely when people are sequestered in their homes.

Lags in the reporting of overall deaths could also play a role, Weinberger said. Though the federal government’s provisional death count through April 4 is more complete than its count for more recent weeks, it remains incomplete, and the number of overall deaths is likely to continue to rise in coming months as states report additional deaths from those weeks. The number of overall deaths nationwide and in each state won’t be known with confidence until at least a year from now, Weinberger said.

In Washington, the first state to battle a large-scale outbreak, 310 people were originally reported to have died of the virus as of April 4. The state has since published data showing that, in fact, nearly 600 people had died of covid-19 as of that date. Because of the state’s relatively robust testing and contact-tracing infrastructure, experts say, the covid-19 death count there is likely more accurate than in other states. The overall number of deaths in Washington during those weeks climbed by only about 100 over the number that would normally be expected, according to the Yale analysis. That could be in part because fewer people have been dying on the roads. Statewide,
there have been 34 fatal collisions in March and April to date — about half the usual number for this time of year, according to data from 2018 and 2019.

There are signs that traffic fatalities are declining more broadly. Data collected by ESO, a company that provides software for about a third of EMS services nationwide, show a steep decline in calls for motor vehicle accidents as stay-at-home orders have taken hold.

Crime patterns are changing in some places, too. Miami did not report a single homicide for seven weeks and six days, from mid-February to mid-April, police said. The last time the city was free of homicides for that long was in 1957.

Gov. Ron DeSantis (R) has been pushing to lift restrictions in Florida as soon as possible to reopen the economy. According to the Yale estimate, the state had only a small number of excess deaths through early April, about 200, and that number is almost equal to the official covid-19 tally.

“We expect there is some level of undercounting,” said Natalie Dean, a professor of biostatistics at the University of Florida. “It’s clear we are missing deaths.”

In Louisiana, the Yale analysis seems to run counter to what might be expected based on news headlines.

The state is enduring one of the worst coronavirus outbreaks in the country after more than 1 million people gathered for Mardi Gras festivities in New Orleans in February. The analysis estimates, however, that although 408 people were reported to have died of covid-19 by April 4, Louisiana had slightly fewer deaths overall than normal during the preceding five weeks. According to the Yale team’s estimates, Louisiana has recently been among the slower states to report deaths.

Joe Kanter, an assistant state health officer for the Louisiana Department of Health, confirmed that as of the end of March, the state had not yet seen a surge in deaths overall compared with prior years. He said he believes that Louisiana’s covid-19 count is as close to accurate as possible, pointing out that last week, the state began reporting probable deaths in addition to those confirmed by lab tests.

But some officials in that state say the coronavirus death toll will end up higher than is currently known, according to emails obtained by Columbia University’s Brown Institute for Media Innovation that were shared with The Post.

In an April 4 email, New Orleans Health Director Jennifer Avegno noted a spike in paramedics’ reports of deaths on scene and of cardiac arrests requiring advanced life support, including CPR. The number of such reports in March was 24 percent higher than it had been in March 2019.

“Thus I would probably add about 15% or so to the known death toll,” she wrote to two city officials. “However — no city or state will be factoring this in or reporting it, so I
don’t think we should either. We should just assume that the deaths are about 15% more than we can count, but not include them in official modeling, because we will never really know.”

In a phone interview on Thursday, Avegno said she is concerned about elected officials across the country reopening cities and states based on what she believes is an undercount of covid-19 cases and deaths.

“I worry that the numbers give them a false sense of security that they may be communicating to the public,” she said. “They may think the number of cases is more limited but they are not testing widely enough to know.”

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