

Deaths in New York City Are More Than Double the Usual Total

By Josh Katz and Margot Sanger-Katz April 10, 2020

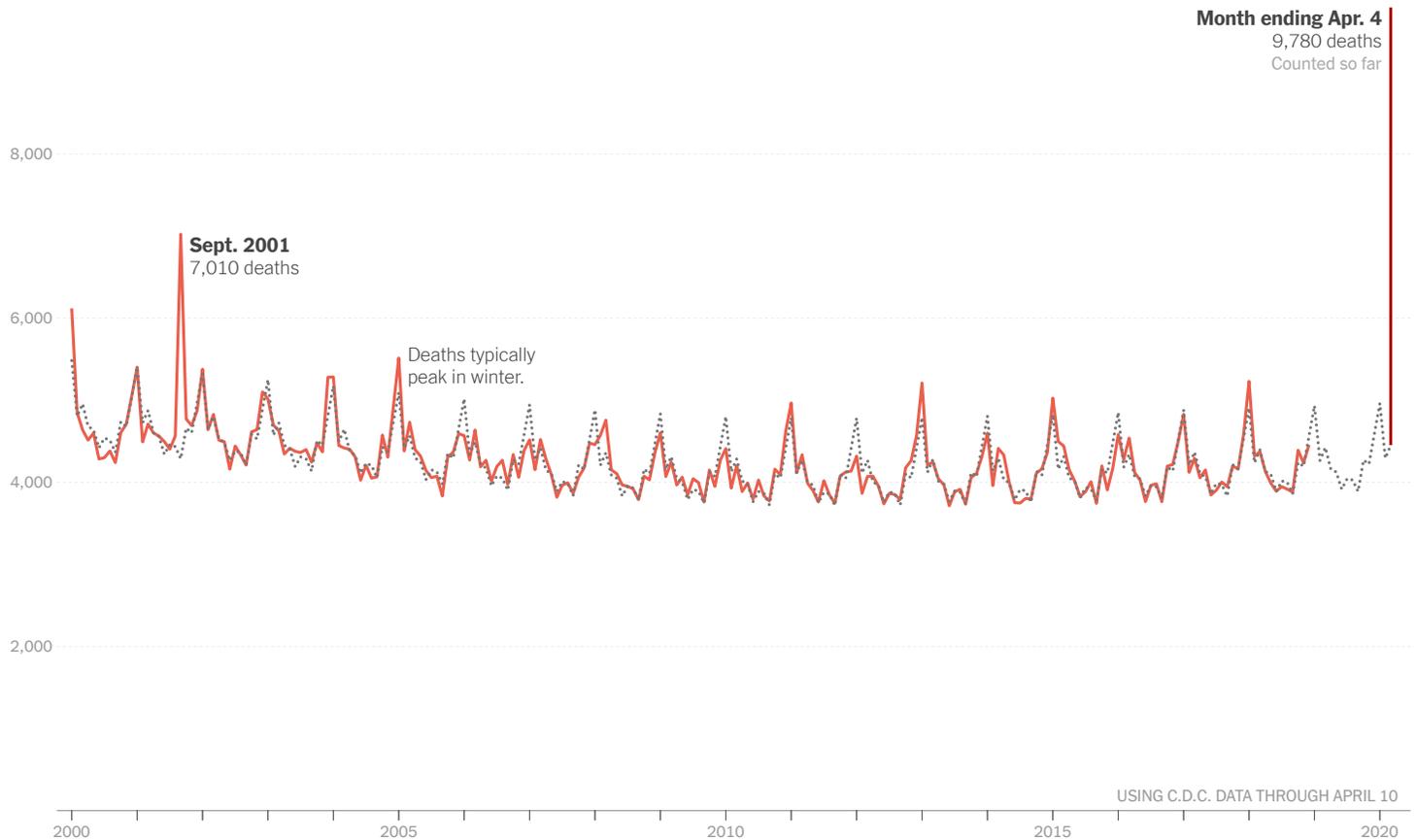
Over the 31 days ending April 4, more than twice the typical number of New Yorkers died.

That total for the city includes deaths directly linked to the novel coronavirus as well as those from other causes, like heart attacks and cancer. Even this is only a partial count; we expect this number to rise as more deaths are counted.

These numbers contradict the notion that many people who are dying from the new virus would have died shortly anyway. And they suggest that the current coronavirus death figures understate the real toll of the virus, either because of undercounting of coronavirus deaths, increases in deaths that are normally preventable, or both.

Deaths in New York City by month

Observed Expected



Notes: Counted deaths for the month ending April 4 include an additional 1,396 coronavirus deaths reported by the city that have not yet been added to the C.D.C. data.

Source: New York Times analysis of provisional data from the National Center for Health Statistics, Centers for Disease Control and Prevention; NYC Department of Health and Mental Hygiene.

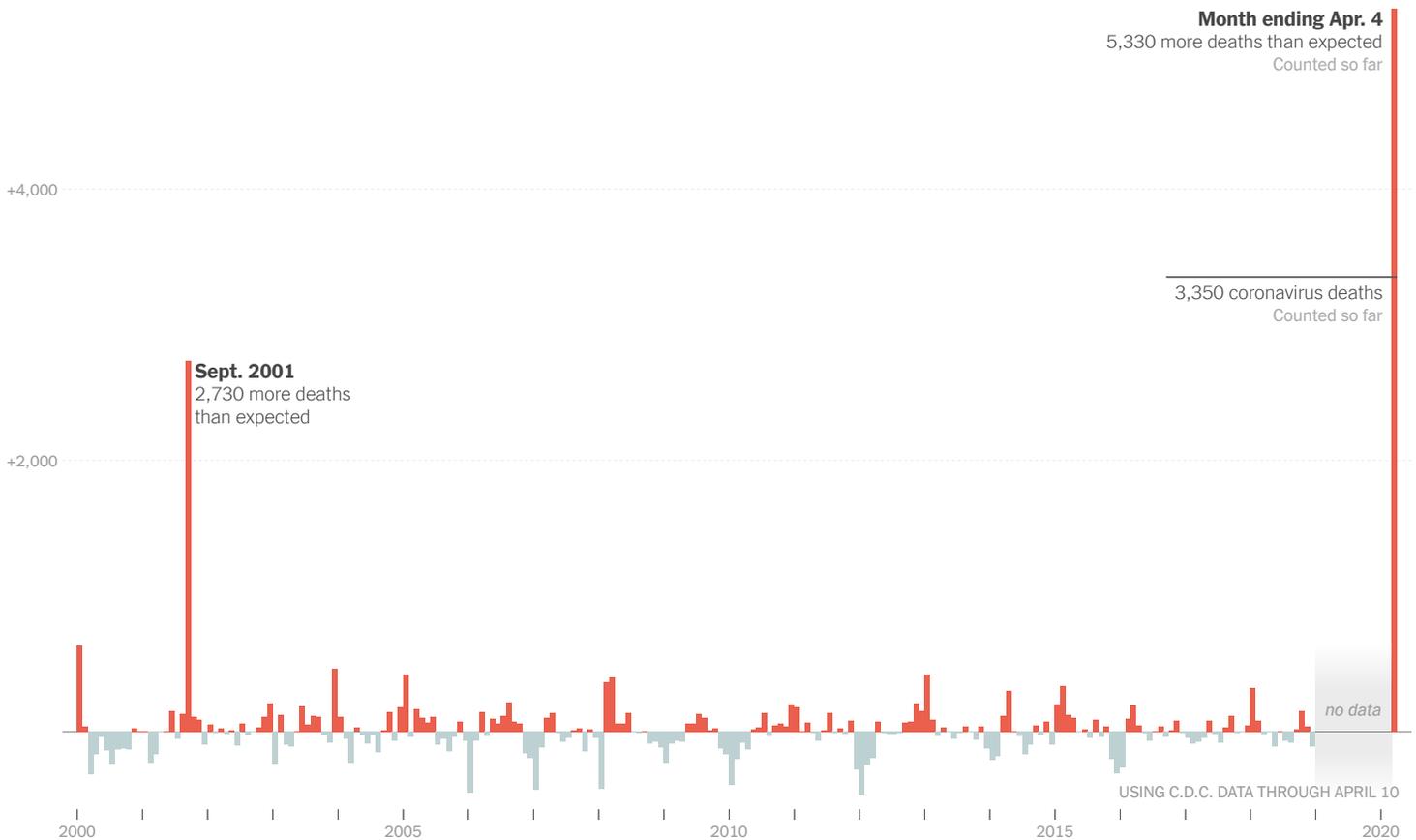
Detailed data about deaths are hard to collect in real time, and the best available numbers, still incomplete, can lag by up to two weeks. That also means that they do not include the last few days, when the highest number of coronavirus deaths so far have been recorded in the city.

Death from some causes, like car accidents, may be down at a time when many people are staying at home to prevent the spread of the virus. But any such reductions appear to be outweighed by increases in other causes of deaths.

“The extent of damage from the virus may be greater than we anticipated, and the indirect effects of the virus may be greater than we anticipated,” said Harlan Krumholz, a cardiologist and professor at Yale Medical School, who is particularly concerned that patients with cardiac conditions are not seeking care because of the fear of being infected with coronavirus. “Meaning that the overall toll is much greater.”

The overall rise in deaths suggests that the combination of crowded hospitals, an overtaxed ambulance system and a fearful population could have resulted in more deaths among people with heart attacks, strokes or other ailments who might have survived in normal circumstances.

Deaths in New York City above or below normal



Notes: Counted deaths for the month ending April 4 include an additional 1,396 coronavirus deaths reported by the city that have not yet been added to the C.D.C. data.

Source: New York Times analysis of provisional data from the National Center for Health Statistics, Centers for Disease Control and Prevention; NYC Department of Health and Mental Hygiene.

The measurements in our chart rely on a New York Times analysis of provisional data from the National Center for Health Statistics, along with historical data from the C.D.C. and the city's Department of Health. They capture the number of people who died within the city limits in each month since January 2000. The historical numbers include some small adjustments because of differences in how the two public health organizations measure deaths in the city.

The recent numbers are most likely an undercount. Even in normal times, death certificates take time to be processed and collected, and complete death tallies can take weeks to become final. This is especially true for cases involving coronavirus. "Covid deaths all have to be manually coded," said Bob Anderson, chief of the mortality statistics branch at the C.D.C.'s National Center for Health Statistics, adding that death counts from New York City typically lag actual deaths by 10 or 11 days.

But even if the current count is perfect, roughly 9,780 people have died of all causes over the past month in New York City, about 5,000 more than is typical.

The numbers for the last two weeks of the period are even more stark: nearly 7,000 dead, more than three times as many deaths as would normally be expected this time of year.

As our charts show, deaths are strongly seasonal: On average, more people die in winter and fewer in summer. These fluctuations aren't just related to the flu. In a typical year, the vast majority of the variation in mortality is driven by seasonal variation in the number of heart disease deaths.

But the deaths over the last month dwarf what would be expected from seasonal variations, and look more like a mass casualty event. The city's medical examiner's office is holding bodies in refrigerated trailers outside of hospitals. City emergency medical technicians are declaring deaths in homes and on the streets instead of bringing people to hospitals.

Robert A. Jensen, the chairman of Kenyon International, a firm that helps communities respond to major disasters and attacks, said the scale of the event would leave a lasting mark on the city.

"The reminders will be cemeteries," he said, describing European burial areas devoted to victims of the 1918 Spanish flu epidemic. "There will be whole sections that have March, April and May 2020."

Methodology

Our calculations rely on four slightly different measurements of deaths in New York City over the past two decades.

Two C.D.C. data sets measure deaths in close to real time. One is the FluView system, which provides weekly all-cause mortality figures to help local officials evaluate flu seasons. The second is a new coronavirus dashboard of provisional death counts, which provides partly counted totals for all deaths that happened from Jan. 26 through the most recent Saturday. Both of these data sets measure all deaths that occur in the city.

The city's health department also measures deaths that occur in the city, and provided monthly data for 2010 through 2017. We supplemented these numbers with data from the C.D.C., which keeps statistics on deaths among all people whose homes are in the city, regardless of where the deaths occur. The resident and nonresident numbers differ by small but consistent ways over time, so we adjusted the C.D.C. figures to approximate the city health data.

The exception was September 2001, when many more nonresidents died in New York City than in a typical September. To adjust for this, we added all nonresident World Trade Center deaths to the total from the C.D.C data.

In general, provisional data on deaths understates the final totals because it takes time for local authorities to count and report all deaths to the C.D.C. This means that our recent total, as high as it is, is probably smaller than the real number.

To partly account for this lag, we added the 1,396 coronavirus deaths that occurred through April 4 that have been reported by the city, but that have not yet been added to the C.D.C. data, to the total deaths counted figure.