

Why Are So Many Americans Dying Right Now?

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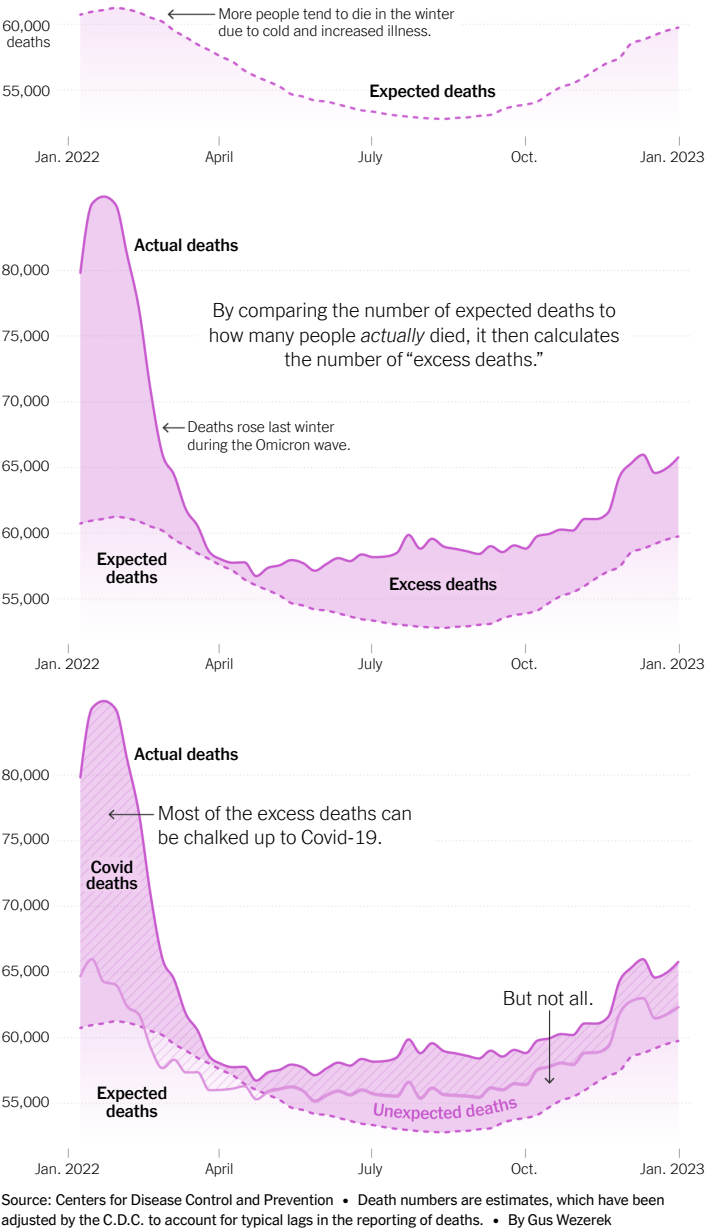
About 1.1 million Americans have officially died from Covid-19 since the start of the pandemic, a number that may be familiar by now. But here’s a less familiar one: According to one tabulation by the Centers for Disease Control and Prevention, more than 300,000 additional Americans have died over the past three years whom we would not have expected to in more normal times.

“Excess mortality” uses historical and demographic trends to estimate “expected” deaths in a population. Demographers and epidemiologists and all the rest of us can use that baseline to measure surprises: an especially bad flu season, for instance, or a novel coronavirus causing a pandemic.

Over the last three years, the country’s large excess mortality has been mostly attributed to Covid-19. But perhaps a quarter of the total, and at times a larger share than that, has been chalked up to other causes. I’ve come to think of this gap as our excess excess mortality — how much more extra and unexpected death the country has experienced during the pandemic than we have recognized as the direct result of infection.

How researchers estimate “excess deaths”

Using prepandemic mortality rates, the C.D.C. estimates how many people it expects would have died last year if Covid-19 didn’t exist.



You can estimate this “excess excess” in different ways: The Economist calculates that, in the United States, total excess mortality through the pandemic is 20 percent higher than the country’s official Covid death toll. A different C.D.C. data set suggests only about 10 percent higher. Other estimates range from lows of about 15 percent higher to nearly 50 percent higher. Nearly all suggest an “excess excess” of hundreds of thousands of deaths over the course of the pandemic.

In absolute terms the numbers have declined over time, as the Covid-19 death toll itself has declined, with vaccination and “natural” immunity and the less virulent Omicron strains. But the gap between Covid-19 mortality and overall excess mortality has proved remarkably, and mystifyingly, persistent.

Recent data can be noisy, as the C.D.C. slowly processes death certificates. But almost every week for more than six months, the agency has calculated that total excess mortality was 50 percent larger than and often almost twice as large as the number of official Covid-19 deaths, which we tend to regard as the central public health anomaly of the age.

And though the pattern has continued for three years, there isn’t medical or scientific consensus about what is driving it. Instead, perhaps several hundred thousand “unexpected” deaths have been explained only by loose conjecture. “We’ve got to figure this out,” the University of Minnesota epidemiologist Michael Osterholm told me. “And in order to do that, you’ve got to have that discussion: Wait a minute, this is bigger than people think.”

What are the hypotheses? The first is delayed care — that the pandemic made people postpone treatment for various problems, as doctors and hospitals triaged resources, sending them toward those ill with Covid-19 and away from other issues, and canceled visits and screenings prevented new diagnoses (and therefore treatment).

A second hypothesis is about the indirect effects of pandemic restrictions: not just missed medical care but social isolation, anxiety and unemployment, which can worsen a wide range of conditions, as well as, potentially, suicide and homicide and even car accidents and overdoses, to the extent they each deviated from historical patterns.

A third hypothesis is that Covid-19 infection does harm to the body that can linger after recovery for some people — not just in what is conventionally called long Covid, but also in other ways, by disturbing the function of various organ systems. (Damage to the cardiovascular system has been one particular area of research focus.) “We still don’t really grasp the entire spectrum and breadth of disease yet,” the Yale immunobiologist Akiko Iwasaki told me. “We are still learning,”

Over the last year, papers exploring another theory — involving the risks of these “post-acute sequelae” with reinfection, not just initial infection — have also raised a considerable amount of alarm. Nearly every one of the many experts I spoke to about these papers emphasized their shortcomings, most notably that its authors were looking only at health outcomes among those people who had gone to see a doctor, feeling ill. The effect size was, if real, almost surely much lower than the write-ups suggest, they told me. But nearly every expert also was careful to say that, all things being equal, a reinfection was indeed bad for you, that especially if you were not in great health you’d want to avoid them and that in particular cases a reinfection could certainly contribute to the death of a patient from causes other than classic Covid pneumonia.

Another hypothesis is that Covid infection damages immune function in some patients in a long-lasting way. Here, too, there have been papers published tracing immunological effects, though there has also been a lot of contestation and pushback against — and contextualizing for — narratives of significant and widespread immunological dysfunction.

I’ve laid out each of these hypotheses separately, but of course, they are not disentangled. Among the many lessons of the pandemic, for me, has been how much more complicated and baffling disease severity and death are, even beyond the heartbreak it causes — how unpredictable the progression of illness can be, how simplistic it often feels to apply a single cause of death, and how random individual outcomes can seem.

Yet we’ve wanted stories we drew from the pandemic to be straightforward and legible, no matter how messy and nuanced so many cases turned out to be. If someone has terminal cancer, but died six months before he might have otherwise because of a Covid-19 infection, to what do you attribute that death? What about those whose Alzheimer’s, obesity or anxiety worsened in isolation, then died with a Covid infection? Or those who simply hadn’t been tested for Covid? How exactly do you allocate responsibility for a particular death if two or three or five conditions contributed? And if Covid-19 was the fifth contributing cause, but the death would not have happened without that infection, are we supposed to call that dying “from” Covid or “with” Covid?

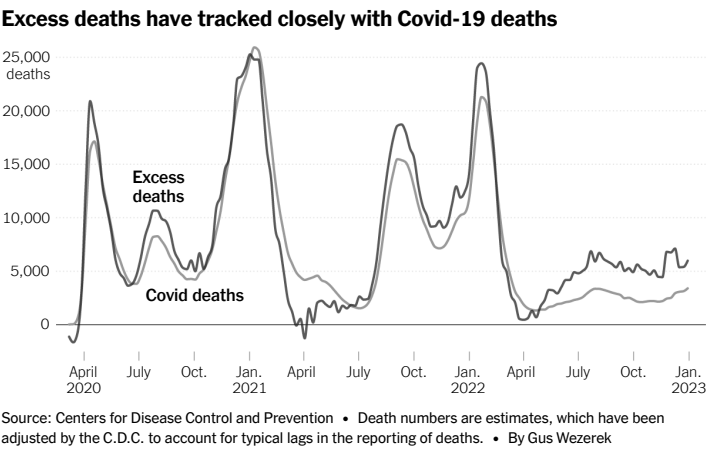
These are thorny questions, and periodically they produce heated debates about whether the country as a whole might be overestimating Covid-19 mortality, given that fewer patients are dying from Covid pneumonia now than did early in the pandemic, with Covid increasingly appearing as a secondary or contributing cause on death certificates. (The C.D.C. recently published two fact-checks of a Washington Post column that kicked off some recent debate.) But if we are systematically overcounting pandemic mortality by attributing deaths to Covid instead of other causes, then where are the country’s quite large numbers of deaths actually coming from?

Excess mortality calculations have their limitations: they depend on good data and good modeling, and even with both in hand, it isn’t easy to make projections more than a year or two into the future. Most of the modeling through the pandemic has been done with data from 2015 to 2019, meaning some of it is now eight years out of date; the C.D.C., which has not always handled its data as well as some European countries, uses data stretching back to 2013.

“We have to be a bit careful,” said Francois Balloux, a computational biologist at University College London, emphasizing the uncertainties in the models, the differences among them, and the ways that small adjustments to demographic assumptions can significantly change expected mortality projections and therefore excess mortality findings. But for all those limitations, one of the great powers of this modeling is that it allows you to pull back, out of the weeds of this or that debate, to see the big picture. And no matter the model, the big picture is pretty clear.

Each of the five hypotheses I mentioned above could plausibly explain some of this phenomenon, this excess excess, which also shows up in other countries at various scales.

But there are reasons to be skeptical that, even taken together, they represent a full explanation. Or, really, one big reason: the shape of the excess mortality curve itself, which tracks so closely with the chart of official Covid-19 deaths it looks less like several distinct stories than like high-end and low-end estimates of the same phenomenon.



The chart above is drawn from the C.D.C.’s lower-end estimates of excess deaths; The Economist’s charts can be found here. And as Harvard’s Jeremy Faust and Benjy Renton, examining their own excess-mortality data, have pointed out in a series of posts, each excess peak is matched by a Covid-19 peak. The same is true with each respective trough.

The conventional explanations do not fully explain this pattern. Presumably, if the excess excess was primarily a matter of delayed care, the impact would be skewed by the fact that care resumed with much less interruption after 2020. Many diseases take time to reach a terminal point, meaning that delayed diagnosis and care early in the pandemic might well be continuing to play out now.

But while it isn’t hard to tell a story about delayed cancer treatments and undiagnosed heart disease contributing significantly to overall mortality numbers, it’s a lot harder to explain why that effect would scale so neatly with waves of official Covid deaths. When it comes to cancer in particular — the disease that probably first comes to mind when considering these risks — one C.D.C. database suggests that there have been only about 28,000 “above average” deaths

from cancer during the full pandemic. That’s a small fraction of that excess excess and an even smaller fraction of the more than 1.5 million American deaths from cancer since 2020. (The C.D.C. attributes a much larger share of the excess excess to cardiovascular and circulatory diseases, Alzheimer’s and dementia.)

Accidental and nonmedical deaths — car crashes, homicide, suicide, overdose — have been elevated throughout the pandemic, but not enough to explain the full excess excess. During periods of significant Covid-19 spread, Faust says, these deaths have represented barely 5 percent of excess mortality; during periods of low Covid mortality, they have explained as much as a quarter for all adults. That’s because, though deaths from those causes jumped in the summer of 2020, they have stayed pretty flat ever since. (They are also concentrated in the young, while excess has, like the official Covid-19 toll, skewed old.)

If long Covid or post-acute sequelae were primarily responsible, we might expect to see a spike in non-Covid excess deaths at some interval following each particular wave of infection — perhaps a few weeks or perhaps a few months later. (If vaccination risk was playing a role, it might create the same pattern, but that’s not what the curves show.) As with immune dysfunction and reinfection risk, we might also expect to see the share of non-Covid excess mortality growing over time, because the cumulative number of infections has been growing over time, too. But while there were more American infections in 2022 than in either of the previous two years, in absolute terms the excess excess was actually smaller than in 2020.

Faust believes he has at least part of an answer to the puzzle: that the excess excess mortality is, to a large extent, made up of deaths from Covid-19 that occurred at home and were not properly recorded or registered as a result.

The story he tells goes like this: A grandmother or grandfather is found nonresponsive at home; an ambulance is called; the paramedics declare the person dead; the grandparent wasn’t tested for Covid recently but had been feeling bad for a few days, according to the relatives, who themselves recently had Covid; the deceased also had heart disease, and so that is registered as the cause of death. In a hospital setting, in theory, doctors might add Covid to a death certificate in more cases than is justified, since all patients will have been tested and, because of in-hospital transmission, many will be positive. But in an at-home setting, you can’t attribute a death to Covid-19 without a positive test, which means there may be a significant share of those deaths going undiagnosed.

Throughout the pandemic, about 20 percent of in-hospital deaths have been attributed to Covid-19, compared to barely 2 percent of deaths at home. If you roughly triple the share of at-home deaths attributed to Covid — still well short of the share in hospitals — you make the Covid death toll a bit larger but almost entirely eliminate the excess excess gap. And if you adjust it to match the share of deaths attributed to Covid everywhere but homes — hospitals, outpatient clinics, nursing homes — you actually overshoot the gap.

Faust’s own analysis suggests that the excess excess is larger during periods of low testing and smaller during periods of high testing. “I suspect, in the fullness of time,” he said, “we’re going to figure out that of these 200,000 to 300,000 excess deaths, that 80 to 90 percent of them were just Covid.”

You could argue about whether infection was a primary or merely a contributing cause of these deaths. But the reason we have so many, Faust says, is the Covid waves that were coincident with them. Our public health surveillance may be better than other countries, but it probably isn’t perfect.

Where does this leave us? More Americans are still dying than expected, which means at some point the United States may have to reset its expectations for how many will die in a given year at least a bit higher. The country long ago walked away from most mitigation measures beyond vaccination. (And even there, booster uptake has been quite low.) This week, the Biden administration declared it would bring an end to the Covid-19 public health emergency in May, which means that whatever the intuitive implications of these questions, it’s unlikely that, however they are resolved, all that much about pandemic policy will change.

And yet the story of the pandemic looks quite different depending on how we make sense of that excess excess. If we attribute most of those hundreds of thousands of additional deaths to Covid infection — probably the least complicated, Occam’s razor explanation — it raises the direct toll of Covid-19 in the United States to close to 1.5 million. If we attribute it to delayed care and social isolation, it implies some amount of pandemic overreach, and if we attribute it to long Covid and post-acute sequelae it suggests the possibility of an ongoing public health burden. It would be nice to really know.

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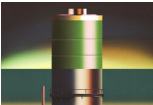
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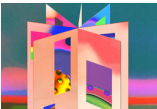
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