

Data Suggest Only About 30% of COVID Deaths Were Actually 'From' COVID-19



A new analysis suggests COVID-19 was reported more frequently than it should have been as an underlying cause of death, inflating COVID-19 mortality numbers and attributing deaths from other causes to the virus.

In a [preprint paper](#) published in Research Gate, researchers aimed to identify who truly died “from” COVID-19 versus who died “with” COVID-19 but were included in U.S. COVID-19 mortality numbers.

To determine if COVID-19 was overreported as an underlying cause of death, researchers calculated the overreporting adjustment factor and [compared the ratio of reporting](#) COVID-19 as a multiple-or contributing-cause of death versus an

underlying cause of death on death certificates from 2020 to 2022. They also examined how “pneumonia and influenza” were reported on death certificates from 2010 to 2022.

An overreporting adjustment factor for mortality is a statistical correction applied to [mortality data](#) to account for the propensity of certain death counts reported more frequently or inaccurately than others. It typically involves comparing reported death counts to a more accurate independent benchmark, which helps ensure data reflect the true incidence of deaths in a population. Here, the researchers chose pneumonia and influenza because the conditions are similar in nature to COVID-19, and they could compare patterns using mortality data before and after the pandemic began in 2020.

According to the preprint, data show COVID-19 was systematically overreported as an underlying cause of death during the pandemic by an average of about three times for all ages compared to influenza and pneumonia during the same period—and was highest in those aged 15 to 54. Additionally, only about one-third of influenza and pneumonia-related deaths were reported as underlying causes, whereas almost all COVID-19-related deaths were reported as “deaths from COVID-19.”

When comparing underlying cause death rates for different age groups for COVID-19 with death rates from influenza and pneumonia, researchers observed that underlying cause COVID-19 death rates were higher than those for influenza and pneumonia in the 15 to 24 and older age groups. After adjusting to obtain the overreporting factor, they found COVID-19 death rates were still higher than they were for influenza and pneumonia for ages 25 to 34 and older and equal for those aged 15 to 24.

About 30 percent of influenza and pneumonia-related deaths were registered as an underlying cause of death on death certificates, whereas 90 percent of COVID-19 deaths were

recorded as the underlying cause of death in 2020 and 2021. In 2022, 76 percent of COVID-19 deaths were registered as the underlying cause.

“There was a systematic overreporting of deaths from COVID when we analyze versus the flu and pneumonia, as almost all COVID deaths were reported as the underlying cause,” Edward Dowd, founder of Phinance Technologies said. “Basically, when one wants to understand the pandemic, only about 30 percent of the reported COVID-19 deaths were ‘from COVID-19’ as the underlying cause,” Mr. Dowd said.

How the US Counts COVID-19 Deaths

Each country has its own criteria for determining what constitutes a COVID-19-related death. The United States uses the World Health Organization’s (WHO) [classification system](#) to categorize and code mortality data from death certificates.

The WHO defines the [underlying cause of death](#) as “the disease or injury which initiated the chain of events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury.” The underlying cause of death is chosen from the conditions listed by the physician on the death certificate. When the physician records multiple causes or conditions, the underlying cause is determined by the sequence of conditions that led to the death on the certificate, ICD provisions, and selection rules.

“The WHO methodology for identifying COVID-19-related deaths cast a wide net for potential classification of COVID-19 as either the underlying cause of death or a contributory cause of death, which could lead to over-reporting relative to other diseases. This led to criticisms of suspected over-counting of COVID-19-related deaths during the pandemic. As an example, a CDC mortality report indicated that COVID-19 was the sole cause of only about 5% of listed COVID-19 deaths,” the authors of the analysis wrote.

Each death certificate contains a single underlying cause of death and up to 20 additional multiple or contributing causes. According to the Centers for Disease Control and Prevention (CDC), properly classifying the death on a death certificate is important for mortality trends that inform public health risks and policy decisions.

Causes of Overreporting COVID-19 Deaths

According to the analysis, incentives for recording positive COVID-19 tests may have contributed to an overreporting bias in deaths attributed to COVID-19 compared to other diseases. Since the beginning of the pandemic, COVID-19 deaths have included those who died with COVID-19 and from COVID-19, and more recently, those who died of conditions attributed to long COVID, even if they had not tested positive for the virus in recent months or years.

The White House acknowledged early on that health officials were taking a [very liberal approach](#) to mortality regarding COVID-19.

“There are other countries that if you had a preexisting condition, and let’s say the virus caused you to go to the ICU and then have a heart or kidney problem, some countries are recording that as a heart issue or a kidney issue and not a COVID-19 death,” former White House coronavirus response coordinator, Dr. Deborah Birx told reporters during an April 2020 press briefing.

“Right now, we’re still recording it, and the great thing about having forms that come in and a form that has the ability to mark it as ‘COVID-19 infection’ the intent is right now that if someone dies with COVID-19, we are counting that as a COVID-19 death,” Dr. Birx said.

State [health departments](#) use the CDC's [standardized surveillance case definition](#) and [uniform criteria](#) to define a disease for public health surveillance. They also report COVID-19 cases through the agency's National Notifiable Diseases Surveillance System. At the beginning of the pandemic, the CDC's definition of COVID-19 was "[very simplistic](#)," and health departments recorded anyone with a positive COVID-19 diagnosis at the time of death a COVID-19 death, even if a clear alternative cause of death existed.

Likewise, medical examiners and coroners [follow CDC guidelines](#) when completing death certificates, and the agency's National Center for Health Statistics provides standardized forms and procedures for certifying deaths, including how to determine underlying causes of death and report related causes.

CDC guidance states that in cases where a "definite diagnosis of COVID-19 cannot be made, but is suspected or likely," it is "acceptable" to report COVID-19 on the death certificate as "probable" or "presumed" and certifiers can use their best clinical judgment in determining whether an individual likely had COVID-19. It's this same discretion that allows long COVID to be [counted as a COVID-19 death](#) long after an individual tested positive for infection.

The CDC broadly defines [long COVID](#) as "signs, symptoms, and conditions that continue to develop after acute COVID-19 infection" that can last for "weeks, months, or years." The term is also used to refer to post-acute sequelae of SARS-CoV-2 infection (PASC), long-haul COVID, and post-acute COVID-19.

The CDC guidance gives a physician or medical examiner discretion to classify long COVID as a COVID-19 fatality, and the CDC death certificate guidance allows for PASC to be listed as an underlying cause of death, which may affect COVID-19 mortality numbers.

A December 2022 [Vital Statistics Rapid Release Report](#) published by the CDC identified 3,544 deaths in the National Vital Statistics System that mentioned long COVID key terms and were coded as COVID-19 deaths in the United States from Jan. 1, 2020, through June 30, 2022.