National Vital Statistics System

Provisional Death Counts for Coronavirus Disease (COVID-19)

Note: Provisional death counts are based on death certificate data received and coded by the National Center for Health Statistics as of April 10, 2020. Death counts are delayed and may differ from other published sources (see Technical Notes). Counts will be updated periodically. Additional information will be added to this site as available.

The provisional counts for coronavirus disease (COVID-19) deaths are based on a current flow of mortality data in the National Vital Statistics System. National provisional counts include deaths occurring within the 50 states and the District of Columbia that have been received and coded as of the date specified. It is important to note that it can take several weeks for death records to be submitted to National Center for Health Statistics (NCHS), processed, coded, and tabulated. Therefore, the data shown on this page may be incomplete, and will likely not include all deaths that occurred during a given time period, especially for the more recent time periods. Death counts for earlier weeks are continually revised and may increase or decrease as new and updated death certificate data are received from the states by NCHS. COVID-19 death counts shown here may differ from other published sources, as data currently are lagged by an average of 1–2 weeks.

The provisional data presented on this page include the weekly provisional count of deaths in the United States due to COVID-19, deaths from all causes and percent of expected deaths (i.e., number of deaths received over number of deaths expected based on data from previous years), pneumonia deaths (excluding pneumonia deaths involving influenza), pneumonia deaths, and influenza deaths involving COVID-19; (a) by week ending date, (b) by age at death, (c) by sex, and (d) by specific jurisdictions. Future updates to this release may include additional detail such as demographic characteristics, additional causes of death (e.g., acute respiratory distress syndrome or other comorbidities), or estimates based on models that account for reporting delays to generate more accurate predicted provisional counts.

Pneumonia and influenza deaths are included to provide context for understanding the completeness of COVID-19 mortality data and related trends. Deaths due to COVID-19 may be misclassified as pneumonia or influenza deaths in the absence of positive test results, and these conditions may appear on death certificates as a comorbid condition. Thus, increases in pneumonia or influenza deaths may be an indicator of excess COVID-19-related mortality. Additionally, estimates of completeness for influenza or pneumonia deaths may provide context for understanding the lag in reporting for COVID-19 deaths, as it is anticipated that these causes would have similar delays in reporting, processing, and coding. However, it is possible that reporting of COVID-19 mortality may be slower or faster than for other causes of death, and that the delay may change over time. Analyses to better understand and quantify reporting delays for COVID-19 deaths and related causes are underway. The list of causes provided in these tables may expand in future releases as more data are received, and other potentially comorbid conditions are determined.

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Table 1. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by week ending date, United States. Week ending 2/1/2020 to 4/4/2020.*

Data as of April 10, 2020

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Week ending date in which the death occurred	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Percent of Expected Deaths[2]	Pneumonia Deaths (J12.0–J18.9)[3]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[3]	Influenza Deaths (J09–J11)[4]	Population[5]
Total Deaths	**4,984**	511,424	89	36,423	2,341	4,541	327,167,434
2/1/2020	**0**	56,402	95	3,618	0	452	327,167,434
2/8/2020	**0**	56,737	95	3,601	0	483	327,167,434
2/15/2020	**0**	55,273	94	3,580	0	489	327,167,434
2/22/2020	**0**	54,859	94	3,427	0	502	327,167,434
2/29/2020	**5**	54,513	95	3,464	3	573	327,167,434
3/7/2020	**18**	53,801	93	3,552	11	555	327,167,434
3/14/2020	**45**	51,305	90	3,474	22	533	327,167,434
3/21/2020	**423**	49,390	87	3,762	197	446	327,167,434
3/28/2020	**1,891**	46,581	83	4,363	871	314	327,167,434
4/4/2020	**2,602**	32,563	58	3,582	1,237	194	327,167,434

NOTE: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period.

*Data during this period are incomplete because of the lag in time between when the death occurred and when the death certificate is completed, submitted to NCHS and processed for reporting purposes. This delay can range from 1 week to 8 weeks or more, depending on the jurisdiction, age, and cause of death.

[1] Deaths with confirmed or presumed COVID-19, coded to ICD–10 code U07.1

[2] Percent of expected deaths is the number of deaths for all causes for this week in 2020 compared to the average number across the same week in 2017–2019. Previous analyses of 2015–2016 provisional data completeness have found that completeness is lower in the first few weeks following the date of death (8).

[3] Pneumonia death counts exclude pneumonia deaths involving influenza.

[4] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.

[5] Population is based on 2018 postcensal estimates from the U.S. Census Bureau (9)

Table 2. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by age group, United States. Week ending 2/1/2020 to 4/4/2020.*

Data as of April 10, 2020

Age group	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Percent of Expected Deaths[2]	Pneumonia Deaths (J12.0–J18.9)[3]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[3]	Influenza Deaths (J09–J11)[4]	Population[5]
All ages	**4,984**	511,424	89	36,423	2,341	4,541	327,167,434
Under 1 year	**0**	2,727	65	19	0	9	3,848,208
1–4 years	**1**	552	76	27	1	26	15,962,067
5–14 years	**1**	809	73	26	0	34	41,075,169
15–24 years	**6**	4,638	81	87	2	35	42,970,800
25–34 years	**46**	9,624	86	257	21	106	45,697,774
35–44 years	**129**	13,847	89	538	44	160	41,277,888
45–54 years	**291**	26,652	80	1,416	119	375	41,631,699
55–64 years	**624**	64,579	86	4,247	269	816	42,272,636
65–74 years	**1,085**	100,368	91	7,397	456	976	30,492,316
75–84 years	**1,372**	126,612	92	10,139	691	1,025	15,394,374
85 years and over	**1,429**	161,016	88	12,270	738	979	6,544,503

NOTE: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period.

*Data during this period are incomplete because of the lag in time between when the death occurred and when the death certificate is completed, submitted to NCHS and processed for reporting purposes. This delay can range from 1 week to 8 weeks or more, depending on the jurisdiction, age, and cause of death.

[1] Deaths with confirmed or presumed COVID-19, coded to ICD–10 code U07.1.

[2] Percent of expected deaths is the number of deaths for all causes for this week in 2020 compared to the average number across the same week in 2017–2019.

[3] Pneumonia death counts exclude pneumonia deaths involving influenza.

[4] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.

[5] Population is based on 2018 postcensal estimates from the U.S. Census Bureau (9)

Table 3. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by sex, United States. Week ending 2/1/2020 to 4/4/2020.*

Data as of April 10, 2020

Sex	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Percent of Expected Deaths[2]	Pneumonia Deaths (J12.0–J18.9)[3]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[3]	Influenza Deaths (J09–J11)[4]
Total deaths	**4,984**	511,424	89	36,423	2,341	4,541
Male	**2,993**	262,727	90	19,129	1,374	2,262
Female	**1,991**	248,679	89	17,294	967	2,279
Unknown	**0**	18	82	0	0	0

NOTE: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period.

*Data during this period are incomplete because of the lag in time between when the death occurred and when the death certificate is completed, submitted to NCHS and processed for reporting purposes. This delay can range from 1 week to 8 weeks or more, depending on the jurisdiction, age, and cause of death.

[1] Deaths with confirmed or presumed COVID-19, coded to ICD–10 code U07.1.

[2] Percent of expected deaths is the number of deaths for all causes for this week in 2020 compared to the average number across the same week in 2017–2019.

[3] Pneumonia death counts exclude pneumonia deaths involving influenza.

[4] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.

Table 4. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by jurisdiction of occurrence, United States. Week ending 2/1/2020 to 4/4/2020.*

Data as of April 10, 2020

Jurisdiction of Occurrence	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Percent of Expected Deaths[2]	Pneumonia Deaths (J12.0–J18.9)[3]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[3]	Influenza Deaths (J09–J11)[4]
United States[5]	**4,984**	511,424	89	36,423	2,341	4,541
Alabama	**14**	9,220	87	539	4	75
Alaska	**1**	627	75	31	1	3
Arizona	**26**	11,862	97	748	13	95
Arkansas	**3**	5,938	92	372	2	62
California	**175**	52,505	94	4,170	96	511
Colorado	**62**	7,787	98	493	33	77
Connecticut	**0**	0	0	0	0	0
Delaware	**1**	1,333	71	65	1	9
District of Columbia	**4**	1,074	88	91	4	5
Florida	**145**	41,586	97	2,722	83	249
Georgia	**58**	14,437	85	802	34	83
Hawaii	**0**	2,163	92	149	0	16
Idaho	**11**	2,757	96	146	4	24
Illinois	**75**	21,128	98	1,541	46	150
Indiana	**41**	12,420	92	934	18	110
Iowa	**7**	5,672	92	406	2	75
Kansas	**9**	4,903	90	324	3	78

Kentucky	**6**	7,401	76	629	3	72
Louisiana	**105**	7,555	82	375	43	55
Maine	**8**	2,947	100	250	5	29
Maryland	**45**	9,842	97	725	22	89
Massachusetts	**139**	11,921	97	1,029	74	134
Michigan	**251**	18,895	96	1,292	115	191
Minnesota	**17**	8,614	97	591	6	108
Mississippi	**25**	5,998	94	497	11	50
Missouri	**16**	11,319	86	674	7	153
Montana	**3**	1,911	91	116	1	30
Nebraska	**3**	2,982	86	231	2	24
Nevada	**23**	4,896	94	349	19	34
New Hampshire	**11**	2,457	98	162	6	29
New Jersey	**527**	15,644	103	1,244	271	92
New Mexico	**0**	3,168	85	212	0	21
New York[6]	**713**	20,911	103	2,179	420	166
New York City	**1,956**	14,535	133	1,947	761	204
North Carolina	**0**	4,951	26	299	0	42
North Dakota	**1**	1,256	89	108	0	15
Ohio	**4**	19,679	78	992	2	182
Oklahoma	**15**	6,646	81	572	4	74
Oregon	**20**	6,314	86	330	13	49
Pennsylvania	**131**	19,980	72	1,222	65	164
Rhode Island	**1**	1,702	80	81	1	21
South Carolina	**20**	9,711	97	548	7	85
South Dakota	**2**	1,426	86	107	0	18
Tennessee	**16**	13,985	94	1,019	7	112
Texas	**15**	35,928	88	2,481	3	277
Utah	**4**	3,675	98	217	1	36
Vermont	**1**	1,097	94	63	1	14
Virginia	**34**	13,282	96	633	12	86
Washington	**218**	11,140	95	862	110	92
West Virginia	**0**	2,916	63	204	0	33
Wisconsin	**22**	10,478	98	589	5	131
Wyoming	**0**	850	94	61	0	7
Puerto Rico	**14**	3,407	59	471	12	24

NOTE: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period.

*Data during this period are incomplete because of the lag in time between when the death occurred and when the death certificate is completed, submitted to NCHS and processed for reporting purposes. This delay can range from 1 week to 8 weeks or more, depending on the jurisdiction, age, and cause of death.

[1] Deaths with confirmed or presumed COVID-19, coded to ICD–10 code U07.1.

[2] Percent of expected deaths is the number of deaths for all causes for this week in 2020 compared to the average number across the same week in 2017–2019.

[3] Pneumonia death counts exclude pneumonia deaths involving influenza.

[4] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.

[5] United States death count includes the 50 states, plus the District of Columbia and New York City.

[6] Excludes New York City.

Technical Notes

Comparing data in this report to other sources

Provisional death counts in this report will not match counts in other sources, such as media reports or numbers from county health departments. Death data, once received and processed by National Center for Health Statistics (NCHS), are tabulated by the state or jurisdiction in which the death occurred. Death counts are not tabulated by the decedent's state of residence. COVID-19 deaths may also be classified or defined differently in various reporting and surveillance systems. Death counts in this report include laboratory confirmed COVID-19 deaths and clinically confirmed COVID-19 deaths. This includes deaths where COVID-19 is listed as a “presumed” or “probable” cause. Some local and state health departments only report laboratory-confirmed COVID deaths. This may partly account for differences between NCHS reported death counts and death counts reported in other sources. Provisional counts reported here track approximately 1–2 weeks behind other published data sources on the number of COVID-19 deaths in the U.S. (1,2,3).

Nature and sources of data

Provisional death counts are based on death records received and processed by NCHS as of a specified cutoff date. National provisional counts include deaths occurring within the 50 states and the District of Columbia. NCHS receives the death records from state vital registration offices through the Vital Statistics Cooperative Program. Provisional data are based on available records that meet certain data quality criteria at the time of analysis and may not include all deaths that occurred during a given time period especially for more recent periods. Estimates of completeness are provided. Therefore, they should not be considered comparable with final data and are subject to change.

Cause-of-death classification and definition of deaths

Mortality statistics are compiled in accordance with World Health Organization (WHO) regulations specifying that WHO member nations classify and code causes of death with the current revision of the International Statistical Classification of Diseases and Related Health Problems (ICD). ICD provides the basic guidance used in virtually all countries to code and classify causes of death. It provides not only disease, injury, and poisoning categories but also the rules used to select the single underlying cause of death for tabulation from the several diagnoses that may be reported on a single death certificate, as well as definitions, tabulation lists, the format of the death certificate, and regulations on use of the classification. Causes of death for data presented in this report were coded according to ICD guidelines described in annual issues of Part 2a of the NCHS Instruction Manual (4).

Coronavirus disease deaths are identified using the ICD–10 code U07.1. Deaths are coded to U07.1 when coronavirus disease 2019 or COVID-19 are reported as a cause that contributed to death on the death certificate. These can include laboratory confirmed cases, as well as cases without laboratory confirmation. If the certifier suspects COVID-19 or determines it was likely (e.g., the circumstances were compelling within a reasonable degree of certainty), they can report COVID-19 as “probable” or “presumed” on the death certificate (5, 6).

Pneumonia deaths are identified using underlying cause-of-death codes from the 10th Revision of ICD (ICD–10): J12–J18, excluding deaths that involve influenza (J09–J11). Influenza deaths are identified from the ICD–10 codes J09–J11, and include deaths with pneumonia or COVID-19 listed as a contributing cause of death.

Estimated completeness of data

Provisional data are incomplete, and the level of completeness varies by jurisdiction, week, decedent’s age, and cause of death. Until data for a calendar year are finalized, typically in December of the following year, completeness of provisional data cannot be determined. However, completeness can be estimated in a variety of ways. Surveillance systems that rely on weekly monitoring of provisional mortality data, such as CDC’s FluView Interactive mortality surveillance (7), estimate completeness by comparing the count of deaths in a given week of the current year to the average count of deaths in that same week of the previous 3 years. These estimates can be generated for specific causes of death, jurisdictions, and age groups, and updated on a weekly or daily basis. For the purposes of COVID-19 surveillance, completeness is approximated by comparing the provisional number of deaths received to the number of expected deaths based on prior years data. Percent of expected deaths provided in this data release are based on the total count of deaths in the most recent weeks of the current year, compared with an average across the same weeks of the three previous years (i.e., 2017–2019). These estimates of completeness are calculated by week, jurisdiction of occurrence, and age group.

It is important to note that the true levels of completeness are unknown, and the estimates provided here are only a proxy. In cases where mortality rates are increasing rapidly, particularly when excess deaths due to a novel cause are occurring, values for completeness for recent weeks may exceed 100% even when NCHS has yet to receive all available data. Conversely, if the number of deaths was elevated in prior years due to a severe flu season, for example, estimated completeness in the most recent weeks may be lower than the true value. To avoid relying too heavily on comparisons to a single week of a single prior year, estimates of completeness included in this release are based on the average counts in a given week across 3 prior years (e.g., the 12th week of 2017, 2018, and 2019).

Percent of expected deaths provided in this release are shown to provide context for interpreting provisional counts of COVID-19 deaths and deaths due to related causes. Where estimated values are high (e.g., greater than 100%), this suggests that mortality is higher in 2020 relative to the same weeks of prior years. Where estimated values of completeness are low, this could indicate that data are incomplete due to delayed reporting, or that mortality is lower in 2020 compared with prior years, or some combination of these factors.

Delays in reporting

Provisional counts of deaths are underestimated relative to final counts. This is due to the many steps involved in reporting death certificate data. When a death occurs, a certifier (e.g. physician, medical examiner or coroner) will complete the death certificate with the underlying cause of death and any contributing causes of death. In some cases, laboratory tests or autopsy results may be required to determine the cause of death. Completed death certificate are sent to the state vital records office and then to NCHS for cause of death coding. At NCHS, about 80% of deaths are automatically processed and coded within seconds, but 20% of deaths need to manually coded, or coded by a person. Deaths involving certain conditions such as influenza and pneumonia are more likely to require manual coding than other causes of death. Furthermore, all deaths with COVID-19 are manually coded. Death certificates are typically manually coded within 7 days of receipt, although the coding delay can grow if there is a large increase in the number of deaths. As a result, underestimation of the number of deaths may be greater for certain causes of death than others.

Previous analyses of provisional data completeness from 2015 suggested that mortality data is approximately 27% complete within 2 weeks, 54% complete within 4 weeks, and at least 75% complete within 8 weeks of when the death occurred (8). Pneumonia deaths are 26% complete within 2 weeks, 52% complete within 4 weeks, and 72% complete within 8 weeks (unpublished). Data timeliness has improved in recent years, and current timeliness is likely higher than published rates.

Comparing deaths from different states

Death counts should not be compared across states. Data timeliness varies by state. Some states report deaths on a daily basis, while other states report deaths weekly or monthly. Furthermore, health departments and state vital record offices may be affected by COVID-19 related response activities, which could further delay death certificate reporting. Currently, 63% of U.S. deaths are reported within 10 days of the date of death, but there is variation within states. Twenty states report over 75% of deaths within the first 10 days, while three states report fewer than 1% of deaths within 10 days.

Why are pneumonia and influenza deaths included in this report?

Pneumonia and influenza deaths are included to provide context for understanding the completeness of COVID-19 mortality data and related trends. Deaths due to COVID-19 may be misclassified as pneumonia or influenza deaths in the absence of positive test results, and pneumonia or influenza may appear on death certificates as a comorbid condition. Additionally, COVID-19 symptoms can be similar to influenza-like illness, thus deaths may be misclassified as influenza. Thus, increases in pneumonia and influenza deaths may be an indicator of excess COVID-19-related mortality. Additionally, estimates of completeness for pneumonia and influenza deaths may provide context for understanding the lag in reporting for COVID-19 deaths, as it is anticipated that these causes would have similar delays in reporting, processing, and coding.

Source

NCHS, National Vital Statistics System. Estimates are based on provisional data.

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