National Vital Statistics System

Coronavirus Disease (COVID-19) Death Data and Reporting Guidance

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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 14, 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 involving COVID-19, and influenza deaths; (a) by week ending date, (b) by age at death, (c) by sex, (d) by place of death, and (e) 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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- CSV Format
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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 4/11/2020.*

Data as of April 14, 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	**8,259**	541,934	86	39,961	3,716	4,820	327,167,434
2/1/2020	**0**	56,474	95	3,630	0	453	327,167,434
2/8/2020	**0**	56,854	95	3,614	0	486	327,167,434
2/15/2020	**0**	55,490	94	3,605	0	495	327,167,434
2/22/2020	**0**	55,077	95	3,450	0	508	327,167,434
2/29/2020	**5**	54,679	95	3,487	3	578	327,167,434
3/7/2020	**19**	54,059	93	3,585	11	559	327,167,434
3/14/2020	**44**	51,816	91	3,521	22	541	327,167,434
3/21/2020	**442**	50,665	89	3,874	203	456	327,167,434
3/28/2020	**2,117**	50,128	90	4,759	966	336	327,167,434
4/4/2020	**3,819**	42,032	75	4,828	1,791	296	327,167,434
4/11/2020	**1,813**	14,660	27	1,608	720	112	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 4/11/2020.*

Data as of April 14, 2020

Age group	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Pneumonia Deaths (J12.0–J18.9)[2]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[2]	Influenza Deaths (J09–J11)[3]	Population[4]
All ages	**8,259**	541,934	39,961	3,716	4,820	327,167,434
Under 1 year	**0**	2,878	23	0	10	3,848,208
1–4 years	**1**	574	28	1	26	15,962,067
5–14 years	**1**	842	26	0	34	41,075,169
15–24 years	**7**	4,852	93	2	35	42,970,800
25–34 years	**74**	10,183	279	27	113	45,697,774
35–44 years	**188**	14,618	599	60	171	41,277,888
45–54 years	**475**	28,221	1,551	185	405	41,631,699
55–64 years	**1,086**	68,356	4,710	461	876	42,272,636
65–74 years	**1,821**	106,462	8,157	749	1,051	30,492,316
75–84 years	**2,248**	134,217	11,095	1,062	1,083	15,394,374
85 years and over	**2,358**	170,731	13,400	1,169	1,016	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] Pneumonia death counts exclude pneumonia deaths involving influenza.
[3] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.
[4] 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 4/11/2020.*

Data as of April 14, 2020

Sex	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Pneumonia Deaths (J12.0–J18.9)[2]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[2]	Influenza Deaths (J09–J11)[3]
Total deaths	**8,259**	541,934	39,961	3,716	4,820
Male	**4,918**	278,621	21,051	2,170	2,434
Female	**3,341**	263,295	18,910	1,546	2,386
Unknown	**0**	18	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] Pneumonia death counts exclude pneumonia deaths involving influenza.
[3] 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 place of death, United States. Week ending 2/1/2020 to 4/11/2020.*

Data as of April 14, 2020

Place of death	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Pneumonia Deaths (J12.0–J18.9)[2]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[2]	Influenza Deaths (J09–J11)[3]
Total	**8,259**	541,934	39,961	3,716	4,820
Healthcare setting, inpatient	**6,120**	153,817	26,973	3,040	3,279
Healthcare setting, outpatient or emergency room	**517**	32,468	1,478	183	160
Healthcare setting, dead on arrival	**13**	1,440	32	4	10
Decedent's home	**632**	174,898	3,288	72	657
Hospice facility	**86**	41,291	2,354	48	265
Nursing home/long term care facility	**830**	103,617	5,131	346	388
Other	**61**	34,320	696	23	61
Place of death unknown	**0**	83	9	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] Pneumonia death counts exclude pneumonia deaths involving influenza.
[3] Influenza death counts include deaths with pneumonia or COVID-19 also listed as a cause of death.

Table 5. 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 4/11/2020.*

Data as of April 14, 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]	**8,259**	541,934	86	39,961	3,716	4,820
Alabama	**18**	9,573	82	562	7	76
Alaska	**1**	686	74	33	1	3
Arizona	**51**	12,208	91	796	28	95
Arkansas	**10**	6,330	89	412	2	64
California	**264**	55,170	91	4,420	147	519
Colorado	**115**	8,270	95	564	66	80
Connecticut	**0**	0	0	0	0	0
Delaware	**2**	1,476	72	72	2	9
District of Columbia	**7**	1,122	84	97	7	5
Florida	**223**	43,630	93	2,919	136	254
Georgia	**96**	15,022	81	853	54	84
Hawaii	**2**	2,361	92	161	0	16
Idaho	**16**	2,929	93	159	5	24
Illinois	**77**	21,441	91	1,560	47	152
Indiana	**47**	12,818	87	978	21	111
Iowa	**18**	6,043	90	433	3	76
Kansas	**11**	5,272	88	350	4	81
Kentucky	**6**	8,117	76	692	3	76
Louisiana	**168**	8,018	80	430	71	56
Maine	**11**	3,103	95	269	6	29
Maryland	**93**	10,504	94	802	49	92
Massachusetts	**194**	12,659	94	1,106	93	137
Michigan	**312**	19,690	91	1,380	144	192
Minnesota	**18**	8,994	92	615	7	109
Mississippi	**35**	6,319	91	527	18	51
Missouri	**30**	11,974	83	718	13	158
Montana	**3**	1,911	83	116	1	30
Nebraska	**3**	3,260	86	249	2	25
Nevada	**37**	5,131	90	373	27	34
New Hampshire	**23**	2,640	97	174	9	29
New Jersey	**593**	16,044	96	1,305	303	93
New Mexico	**3**	3,327	81	225	2	23
New York[6]	**1,264**	22,928	103	2,639	715	169
New York City	**3,670**	18,243	152	2,744	1,356	370
North Carolina	**0**	5,405	25	340	0	53
North Dakota	**3**	1,350	87	113	0	17
Ohio	**12**	20,761	75	1,073	6	194
Oklahoma	**26**	6,768	76	587	8	80
Oregon	**22**	6,565	81	345	13	50
Pennsylvania	**220**	21,573	70	1,348	98	170
Rhode Island	**2**	1,768	76	87	1	21
South Carolina	**38**	10,291	95	593	14	87
South Dakota	**4**	1,452	80	111	1	18
Tennessee	**28**	14,756	90	1,070	13	114
Texas	**80**	38,874	87	2,751	31	287
Utah	**10**	3,891	94	233	4	36

Vermont	**17**	1,230	96	78	6	14
Virginia	**51**	13,696	90	680	19	88
Washington	**278**	11,521	90	916	142	93
West Virginia	**0**	2,916	58	204	0	33
Wisconsin	**47**	11,010	94	632	11	136
Wyoming	**0**	894	91	67	0	7
Puerto Rico	**18**	3,775	60	527	13	26

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.

Place of Death

Place of death noted on the death certificate is determined by where the death was pronounced and on the physical location where the of the death occurred (10). Healthcare setting includes hospitals, clinics, medical facilities, or other licensed institutions providing diagnostic and therapeutic services by medical staff. Decedent's home includes independent living units such as private homes, apartments, bungalows, and cottages. Hospice facility refers to a licensed institution providing hospice care (e.g., palliative and supportive care for the dying), but not to hospice care that might be provided in other settings, such as a patient's home. Nursing home/long-term care facility refers to a facility that is not a hospital but provides patient care beyond custodial care, such as a nursing home, skilled nursing facility, a long-term care facility, convalescent care facility, intermediate care facility, or residential care facility. Other includes such locations as a licensed ambulatory/surgical center, birthing center, physician's office, prison ward, public building, worksite, outdoor area, orphanage, or facilities offering housing and custodial care but not patient care (e.g., board and care home, group home, custodial care facility, foster home).

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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