Data Definitions for COVID-19 Vaccinations in the United States

Updated Oct. 13, 2023

COVID-19 Data Tracker

CDC reports COVID-19 vaccination data online on COVID Data Tracker and in vaccination datasets. Sharing timely and accurate information with the public is one of CDC's core activities. Timely and accurate reporting from jurisdictions provides the reliable data that can be reported by CDC. All reported numbers may change over time as updated data are continuously reported to CDC.

- Vaccinations in the United States
- Vaccinations by County
- Vaccination Trends
- Maps of Vaccinations by Age and Sex over Time
- Trends in Vaccination by Demographics
- Vaccination Equity

How CDC Estimates Vaccination Coverage

CDC estimates the number of people receiving at least one dose, the number of people who are fully vaccinated, and the number of people with booster doses. CDC estimates are based on data that include a dose number (first, second, or booster). To protect the privacy of vaccine recipients, CDC receives data without any personally identifiable information (deidentified data). Each jurisdiction or provider uses a unique person identifier to link records within their own systems. However, CDC cannot use the unique person identifier to identify individual people by name.

There are challenges in linking records when someone receives vaccine doses in different jurisdictions or from different providers. That person could receive different unique person identifiers for different doses. CDC may not be able to link multiple unique person identifiers for different jurisdictions or providers to a single person, and subsequent doses may appear to be a first dose when reported. Thus, CDC's data may over-estimate first doses and under-estimate subsequent doses.

Another issue that poses challenges to estimating doses administered is that different jurisdictions and providers use different reporting practices. As people receiving doses are attributed to the jurisdiction in which they reside, the reporting method might change between doses if they move to a different jurisdiction. Also, CDC may lack information about a person's residence. These issues can cause CDC's dose number estimates to differ from those reported by jurisdictions and federal entities.

CDC has capped estimates of vaccination coverage shown on COVID Data Tracker at 95%. This cap helps address potential over-estimates of vaccination coverage due to first, second, and booster doses that were not linked. Other reasons for overestimates include census denominator data not including part-time residents or potential data reporting errors. Previously, CDC had capped estimates of vaccination coverage at 99.9%. CDC changed the cap to 95% on December 9, 2021, to account for differences in the accuracy of vaccination coverage estimates between different jurisdictions.

CDC encourages people to bring their CDC COVID-19 Vaccination record card with them to their appointment for another COVID-19 vaccine dose because having the card will help ensure the doses are linked.

How CDC Attributes Doses

CDC determines the **number of people receiving at least one dose**, **the number of people who are fully vaccinated, and the number of people with an updated (bivalent) booster dose** based on information reported to CDC on dose number, dose manufacturer, administration date, recipient ID, and date of submission. Because the method used to determine dose numbers needs to be applied across multiple jurisdictions with different reporting practices, **CDC's dose number estimates might differ from those reported by jurisdictions and federal entities**. People receiving doses are attributed to the jurisdiction in which they reside. This includes doses administered by Federal Emergency Management Agency (FEMA) partner sites, Health Resources and Services Administration (HRSA) partner sites, and federal entity facilities. In some limited circumstances, people might receive vaccinations outside the jurisdiction (state, territory, tribe, or local entity) where they live. When the vaccine manufacturer is not reported, the recipient is considered fully vaccinated with two doses.

COVID-19 Vaccinations Data Definitions

Total doses distributed

The total number of vaccine doses that have been distributed to vaccine provider locations.

For states, Washington DC, the U.S. Virgin Islands, and Puerto Rico, total counts of COVID-19 vaccine doses include doses distributed since December 14, 2020.

For the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas Islands, total counts of COVID-19 vaccine doses include doses marked as shipped since December 13, 2020.

Total doses administered

The total number of vaccine doses that have been given to people in the United States since December 14, 2020. This is the date when the first dose was administered to a person in the United States under the Emergency Use Authorization not within a clinical trial.

People receiving at least one dose

Represents the total number of people who received at least one dose of COVID-19 vaccine approved or authorized for use in the United States. This metric includes everyone who has received only one dose and those who received more than one dose.

People with a completed primary series

Represents the total number of people who have received the second dose in a two-dose COVID-19 vaccine primary series or one dose of a single-dose COVID-19 vaccine primary series approved or authorized for use in the United States.

- The number of people fully vaccinated with Johnson & Johnson's Janssen (J&J/Janssen) vaccine does not equal the total number of J&J/Janssen vaccine doses administered because some people were reported to have received one or more mRNA vaccines (i.e., Pfizer-BioNTech, Moderna) prior to receiving the single-dose J&J/ Janssen vaccine.
- For reporting on CDC COVID Data Tracker, CDC counts people as having completed a primary series if they received one dose of a single-dose vaccine or two doses on different days (regardless of time interval) of either an mRNA or a protein-based series.

People receiving an updated (bivalent) booster dose

Represents the number of people who received an updated (bivalent) booster dose. For population-based percentage metrics, CDC uses US Census estimates for the total populations within each specified demographic group regardless of prior vaccination status as denominators.

Rates per 100,000

Represent the rate of total doses distributed, the rate of total doses administered, the rate of people receiving at least one dose, the rate of people who are fully vaccinated, and the rate of people receiving a booster dose per 100,000. The rate per 100,000 people is calculated for the total population and select demographic groups (such as people ages 65 years or older) using population data. This allows comparison between areas with different population sizes.

Percent of the population

Represents the percent of people receiving at least one dose, the percent of people who are fully vaccinated, and the percent of fully vaccinated people who have received a first booster dose. The percent of people who have received at least one dose and the percent of people who are fully vaccinated are calculated for the total population and select demographic groups (such as people ages 65 years or older) using population data.

7-day moving average

This metric is calculated by summing a vaccination metric (such as people receiving dose one) for the most recent 7 days and dividing by 7.

County of residence

CDC determines county of residence by matching the county Federal Information Processing Standard State (FIPS) code to the state as submitted in the raw data provided to CDC.

COVID-19 Vaccination Data Systems and Data Sources

CDC uses multiple information technology systems to rapidly collect reliable data about how many doses of COVID-19 vaccines have been distributed and how many people have been vaccinated with those doses (administration). CDC — together with other federal agencies, vaccine providers, jurisdictions, state/local public health departments, and tribal health facilities across the United States — uses these data systems to inform decision-making regarding COVID-19 vaccination. The COVID-19 Vaccination IT Overview provides an overarching view of the vaccine IT data systems and how they integrate to track COVID-19 vaccine distribution and administration.

Vaccine distribution data systems

System
Vaccine Tracking System (VTrckS)

Description
CDC's vaccine order management system where jurisdictions (states, territories, tribes, and local entities), federal agencies, and pharmacy partners order vaccines from the federal government.

System
VTrckS Provider Order Portal (VPOP)

Description
CDC's platform where federal entity providers report their on-hand COVID-19 vaccine inventory each day.

System
Immunization Data Lake (IZDL)

Description
A cloud-hosted data repository to receive, store, manage, and analyze deidentified COVID-19 vaccination data.

Vaccine administration data systems

System
Immunization Information Systems (IISs)

Description
Most IISs create a centralized data repository for storing vaccination information specific to that jurisdiction.

System
Vaccine Administration Management System (VAMS)

Description
A web-based application available to support planning and execution for temporary, mobile, or satellite COVID-19 vaccination clinics. VAMS connects with IISs and sends data to IISs through the COVID-19 Data Clearing House.

System

COVID-19 Data Clearing House

Description

A cloud-hosted data repository that receives, deduplicates, and deidentifies COVID-19 vaccination data, which are then used to populate the Immunization (IZ) Data Lake.

System

Immunization Data Lake (IZ Data Lake)

Description

A cloud-hosted data repository to receive, store, manage, and analyze deidentified COVID-19 vaccination data.

Learn More: COVID-19 Vaccine Data Systems

COVID-19 vaccination data sources

Federal agency data

On CDC COVID Data Tracker (CDT), data are individually displayed at the national level and included as part of national totals for each metric for the following agencies (except Department of State, DoS):

- Bureau of Prisons (BoP)
- Department of Defense (DoD)
- Indian Health Services (IHS)
- Veterans Health Administration (VHA)

Federal agency data are **also included as part of jurisdiction, state, or territory aggregate metrics**. To avoid duplicate counts, the agency data **should not be combined** with other data.

When denominator data are available for a federal agency, metrics such as rate per 100,000 and percent of the population are calculated. When the denominator data are not available for federal entities, these metrics are displayed as “N/A” or entered as “0.”

Jurisdictions and other reporting partners

National and jurisdictional metrics reported on CDT include vaccination data distribution to and administered in the following locations:

- Jurisdiction (state, territory, tribe, or local entity) partner clinics
- Retail pharmacies
- Federal partners and programs such as
  - Federal Pharmacy Partnership for Long-term Care (LTC) Program
  - Dialysis centers participating in the Federal Dialysis Center Program
  - Federal Emergency Management Agency (FEMA)
  - Health Resources and Services Administration (HRSA)

Population data sources

Census

CDC calculates rate and percentage measures for vaccination among the entire population and among select demographic groups (such as people ages 65 years or older).

- The data used for these calculations are from the Census Bureau Annual Estimates of the Resident Population for the United States (50 states and Washington D.C.) and Puerto Rico, 2019 .
- CDC uses 2020 U.S. Census International Data Base estimates for American Samoa, Federated States of Micronesia, Guam, Republic of the Marshall Islands, Republic of Palau, Republic of the Marshall Islands, and U.S. Virgin Islands.

CDC/ATSDR Social Vulnerability Index (SVI)

Social Vulnerability Index (SVI) scores, which range from 0 to 1, are from CDC/ATSDR's Geospatial Research, Analysis, and Service Program. COVID-19 Community Vulnerability Index (CCVI) scores, which also range from 0 to 1, are from Surgo Ventures. Visit COVID Data Tracker's Vaccination Equity page for map views of vaccination coverage by SVI.

National Immunization Survey Adult COVID Module

Race/ethnicity is not available for some of the records that are directly reported to CDC. Thus, data reported to CDC underestimate the race/ethnicity percentages and are not generalizable to the entire population of individuals with COVID-19 vaccination. CDC is providing information on self-reported COVID-19 vaccination status by race/ethnicity from the National Immunization Survey (NIS) Adult COVID Module to supplement vaccine administration data reported directly to CDC by jurisdictions and federal entities on COVID Data Tracker's Trends in Vaccination Demographics page.

Reporting conditions

Jurisdictions currently collect demographic data and report it to CDC. Not all states and territories report to CDC demographic data on vaccine recipients; the laws in each state or territory dictate whether the state can collect or report demographic data.

Jurisdictional reporting conditions

Aggregate Data Reporters:

- **Texas** reports vaccination data to CDC in aggregate form for all its residents.
- **Idaho** reports vaccination data to CDC in aggregate form only for its residents under the age of 18 years.

New Hampshire lifted its national COVID-19 emergency response declaration in May 2021, which allows vaccine recipients to opt out of having their COVID-19 vaccinations included in the state's IIS. As such, data submitted by New Hampshire since May 2021 may not be representative of all COVID-19 vaccinations occurring in the state.

County-level reporting

- **California** does not report the county of residence for persons receiving a COVID-19 vaccine when the resident's county has a population of fewer than 20,000 people.

- **Hawaii** does not provide county-of-residence information when reporting COVID-19 vaccination data to CDC.
- **Massachusetts** does not provide COVID-19 vaccination data for Barnstable, Dukes, and Nantucket counties because of their small populations.

For Healthcare and Public Health

COVIDVaxView: Data about Vaccination Uptake and Confidence

COVID-19 Information for Health Departments

Frequently Asked Questions about COVID-19 Vaccination Data

CDC reports COVID-19 vaccination data online on COVID Data Tracker and in vaccination datasets. Sharing timely and accurate information with the public is one of CDC's core activities. Timely and accurate reporting from jurisdictions provides the reliable data that can be reported by CDC. All reported numbers may change over time as updated data are continuously reported to CDC.

COVID-19 Vaccine Distribution and Tracking

How are COVID-19 vaccines distributed?

Distribution is the process of shipping vaccines to provider locations, as directed by jurisdictions, federal agencies, and pharmacy partners who are enrolled in the CDC COVID-19 Vaccination Provider Program. Vaccine delivery to provider locations is the last part of the distribution process.

Vaccine Data Reporting

How are vaccine distribution data reported to CDC?

Jurisdictions (states, territories, tribes, and local entities), federal agencies, and pharmacy partners use the Vaccine Tracking System (VTrckS) to order vaccines from the federal government. VTrckS records information such as vaccine manufacturer, provider data, orders, shipments, and inventory. With one exception, distribution and delivery of COVID-19 vaccines and other routine vaccines are accomplished through a federal delivery system. Pfizer-BioNTech distributes and delivers doses of its COVID-19 vaccine through its own delivery system.

How are vaccine administration data reported to CDC?

Data on COVID-19 vaccine doses administered in the United States and territories are recorded by vaccination providers and reported to CDC through multiple sources, including:

- State, local, and territorial Immunization Information Systems (IISs)
- Vaccine Administration Management System (VAMS), which supports vaccination clinics in jurisdictions, federal agencies, and multi-state healthcare organizations
- Direct data submissions to the **COVID-19 Data Clearing House**
- The COVID-19 Vaccination IT Overview provides an overarching view of the vaccine IT data systems and how they integrate to track COVID-19 vaccine distribution and administration

How does CDC report vaccine distribution and administration data?

CDC uses the Immunization (IZ) Data Lake to receive, store, manage, and analyze COVID-19 vaccine distribution and administration data from all sources. Data in the IZ Data Lake are deidentified, meaning they do not identify specific people who have been vaccinated. CDC data scientists make every effort to ensure the data in the IZ Data Lake are correct (validated) and that the system does not double-count doses or vaccination records (deduplication). CDC reports COVID-19 vaccination data online on COVID Data Tracker and in vaccination datasets.

Does CDC report COVID-19 vaccine wastage?

CDC is tracking the number of manufactured vaccine doses that are not administered (wastage). A small amount of vaccine will go unused in any vaccination program. This information is not currently available on the COVID Data Tracker.

Data Variations

How does CDC manage data from multiple sources?

Data on COVID-19 vaccine doses administered in the United States are collected by the following vaccination providers: public health jurisdictions, federal entities, healthcare providers, long-term care facilities, employers, retail pharmacies, and other businesses. These providers report COVID-19 vaccination data to CDC through multiple sources using various reporting methods. Because CDC removes duplicate records, data presented on the COVID Data Tracker might differ from data listed in jurisdictional Immunization Information Systems (IIS) and dashboards. CDC makes every effort to reconcile doses administered that are reported through more than one system.

What are the reporting limitations and variations in COVID-19 vaccine data?

- Each state or territorial health department is responsible for establishing internal operations and schedules for reporting data. As a result, there are differences among states in the frequency of reporting.
- Data on doses of vaccine delivered and administered include data received by CDC as of 6:00 am ET on Wednesday, the day of weekly reporting. Vaccination data in CDC's COVID Data Tracker are updated weekly on Thursday between 1:30 pm and 8:00 pm ET. On federal holidays, updates will occur the following day.
- Data can be updated on different schedules and reflect data "as of" different dates or times of day. There can be a delay between the time a vaccination record appears in a jurisdictional or federal system and when it is received by CDC. **COVID Data Tracker's vaccination data typically have a lag time from vaccination data shown on a state's website. The amount of lag time varies for each state.** This can be due to the factors described above, or because a jurisdiction uploads data after the 6:00 am ET Wednesday reporting cutoff.
- Healthcare providers are expected to report doses administered to federal, state, territorial, tribal, and local agencies within 72 hours of administration. There are often significant differences between the number of doses distributed and the number of people who are vaccinated. This is due to several factors, including the time it takes for doses delivered to be administered, the time it takes for administered doses to be reported to CDC, and how jurisdictions and federal pharmacy partners manage available vaccine stock to meet local demands.

Why do data vary between the CDC COVID Data Tracker and state health department websites?

For the most complete and up-to-date data for any particular county or state, visit the relevant health department website. Vaccination data reported on the CDC COVID Data Tracker might differ from data reported by jurisdictions for a number of reasons. For example:

- **Data quality**: CDC receives administration data across multiple jurisdictions with different reporting practices. To reduce potential duplication across systems, CDC reconciles these data prior to reporting.
- **Data completeness**: Jurisdictions may have more complete and updated data for certain data elements (e.g., county of residence, race/ethnicity) that allow them to characterize their population more fully than the CDC. Thus, vaccination coverage reported on the CDC COVID Data Tracker may appear artificially low due to systematic missing data reported to CDC.
- **Data availability**: Data on the CDC COVID Data Tracker represent all vaccine partners including jurisdictional partner clinics, retail pharmacies, long-term care facilities, dialysis centers, Federal Emergency Management Agency and Health Resources and Services Administration partner sites, and federal entity facilities. These additional data streams may not be available to jurisdictions and therefore may not be included in totals presented on jurisdictional dashboards.
- **Data definition**: CDC's COVID Data Tracker attributes dose administrations to the jurisdiction (state, territory, tribe, or local entity) administering those doses and attributes people receiving COVID-19 vaccine to the jurisdiction where the vaccine recipient resides. Additionally, CDC estimates the number of people receiving at least one dose, the number of people who are fully vaccinated, and the number of people with an updated (bivalent) booster dose. CDC estimates are based on data reported by jurisdictions that includes a dose number (first, second, booster dose). This may differ from how jurisdictions attribute their doses.
- **Population definition**: CDC includes all age groups in the *Total Population* calculations to provide a better measure of community immunity. Jurisdictions may use more targeted population counts for the denominators in their rate calculations (for example, people over age 18), which would result in values different than those reported on the CDC COVID Data Tracker.

CDC Publicly Available Data

How often are COVID-19 vaccination data updated?

Beginning June 13, 2022, instead of daily, jurisdictions and other partners report vaccine administration and delivery data to CDC weekly on Wednesdays by 6:00 AM ET. As a result, instead of daily, the following COVID Data Tracker pages are refreshed weekly on Thursday by 8:00 PM ET after review and verification: Vaccinations in the United States, Vaccinations by County, Vaccination Trends, Maps of Vaccinations by Age and Sex over Time, Vaccination Demographic Trends, and Vaccination Equity.

- Weekly updates might be delayed due to delays in reporting or verification.
- Data on doses of vaccine distributed and administered include data received by CDC as of 6:00 am ET on Wednesday, the day of weekly reporting.

There will be no updates on federal holidays. Data will be updated the following day.

Where can I download COVID-19 data?

Users can download daily cumulative data from CDC's COVID Data Tracker vaccination pages manually or programmatically. Users can also download historical COVID-19 vaccination data manually or programmatically.

Vaccination information

Who is eligible for a COVID-19 vaccine?

COVID-19 vaccination is recommended for children of certain ages and all adults, including those who are pregnant. Learn more about staying up to date with COVID-19 vaccination.

Where can I find more information about COVID-19 vaccines?

You can find more information about COVID-19 vaccination on CDC's Overview of COVID-19 Vaccines page.

Historical Updates

CDC communicates events that affect vaccine data through footnotes on COVID Data Tracker (CDT). This section serves as an archive of footnotes for historical COVID-19 vaccine data updates. Reported changes to COVID-19 vaccine data can occur for the following reasons:

- Updates to COVID-19 vaccine policy and guidance/recommendations
- Data changes outside scheduled Record Management events
- Changes in reporting methods
- Adjustments made due to errors (such as syncing errors)

Vaccination data updates

- **October 13, 2023**: A federal retail pharmacy partner added data not previously submitted to CDC that resulted in an increase of **288,000** records.
- On **September 14**, an error was corrected in the count of individuals 'Up to Date' with COVID-19 vaccines. Previous 'Up to Date' metrics released counted some individuals more than once if they had more than one reported Pfizer or Moderna updated vaccines, or Novavax vaccine administration. This correction resulted in a net decrease of 2.2 million persons 'Up to Date' with COVID-19 vaccines.
- **August 10, 2023:** Beginning with the August 9, 2023 data submission to CDC, metrics for Texas reflect an updated reporting method. Following the expiration of the COVID-19 Public Health Emergency on May 11, 2023, Texas reviewed and updated their vaccination data to include only vaccine recipients who consented to sharing their information in accordance with their state policy. This adjustment in reporting was applied retroactively and resulted in a substantial decrease in previously reported vaccinations.
- On **April 11**, an incorrect increase in numbers of bivalent boosters was reported as a result of an error that counted some individuals more than once, if they had more than one reported bivalent booster administration. This issue has been corrected as of April 20.
- Ages 6 months to 5 years who received updated (bivalent) Moderna booster dose since **December 09, 2022**:
  - Recommended for children ages 6 months–4 years who completed the Moderna COVID-19 vaccine primary series
  - Children ages 5 years who complete a Moderna primary series may receive either the previously authorized bivalent Pfizer-BioNTech booster dose or the newly authorized bivalent Moderna booster dose at least 2 months after completion of the Moderna primary series.
  - Stay Up to Date with COVID-19 Vaccines Including Boosters
- Ages 6 months to 4 years who received updated (bivalent) Pfizer-BioNTech booster dose since **March 17, 2023**:
  - Recommended for children aged 6 months–4 years who completed their 3-dose primary series with the original Pfizer-BioNTech COVID-19 vaccine
  - As of April 06, 2023, Pfizer-BioNTech bivalent doses have been included in data for children <5 years of age
- **March 15, 2023**: Counts of administered doses include primary series vaccinations but do not include updated (bivalent) boosters.
  - This alert is no longer relevant and was removed as of **March 16, 2023**.
- On **December 9, 2022**, the population of children <5 years was added to the denominator for calculating vaccination coverage with the updated (bivalent) booster, resulting in a drop in total population vaccination coverage with the updated (bivalent) booster on that date.
- **January 20, 2023**: People ages 6 months and older with an updated (bivalent) booster dose: For surveillance purposes, the count of people with an updated booster dose includes people:

    - ages 6 months to 5 years who received updated (bivalent) Moderna booster dose since December 09, 2022
        - Currently, there is no recommendation for a bivalent booster for children 5 years who have completed a three-dose primary series of the monovalent Pfizer-BioNTech vaccine.
        - New recommendation is for children ages 6 months–4 years who complete a Moderna primary series to receive a bivalent Moderna booster dose at least 2 months after completion of the primary series.
        - Children ages 5 years who complete a Moderna primary series may receive either the previously authorized bivalent Pfizer-BioNTech booster dose or the newly authorized bivalent Moderna booster dose at least 2 months after completion of the Moderna primary series.
        - Stay Up to Date with COVID-19 Vaccines Including Boosters
    - ages 5 to 11 years who received the updated (bivalent) Pfizer-BioNTech booster dose since October 12, 2022
        - CDC can count updated Pfizer-BioNTech administrations in this population beginning October 12, 2022, because this formulation is reported to CDC using a different COVID-19 vaccine code than the updated Pfizer-BioNTech formulation authorized for the population aged 12 years and older.
    - ages 12 years and older who received the updated (bivalent) Pfizer-BioNTech booster dose since September 1, 2022
    - ages 6 to 17 years who received the updated (bivalent) Moderna booster dose since September 1, 2022
        - Even though this age group was recommended to receive the updated Moderna booster dose beginning October 12, 2022, pediatric doses of this formulation are reported to CDC using the same COVID-19 vaccine code as doses administered to the adult population. Approximately 900 children ages 6 to 17 years received the updated Moderna booster dose between September 1, and October 12, 2022.
    - ages 18 years and older who received any updated (bivalent) booster dose since September 1, 2022

For percentage-based metrics, CDC uses US Census estimates for the total populations within each specified age group regardless of prior vaccination status as denominators.

- On **December 16, 2022**, HHS granted an exception to the COVID-19 provider agreement reporting requirements for certain organizations supporting COVID-19 vaccination efforts in long-term care facilities (LTCF). Unless otherwise required under state law, these organizations are not required to report COVID-19 vaccine administration data to the jurisdiction Immunization Information System from December 16, 2022 to March 16, 2023 under the new agreement. As a result, vaccine administration data reported here may not be complete for these groups. For updated information on COVID-19 vaccination status of LTCF residents and staff, see CDC COVID Data Tracker: Vaccinations in Nursing Homes.
- On **December 14, 2022**, the daily number of vaccine doses administered for Delaware was 96,912 doses. This total includes recent dose administrations and historic dose administrations from the month prior that had not been reported to CDC by Delaware.
- On **December 1, 2022**, the daily number of vaccine doses administered for New Hampshire was 132,994 doses. This total includes recent dose administrations and historic dose administrations from the 6 weeks prior that had not been reported to CDC by New Hampshire.
- On **September 1, 2022**, CDC recommended updated COVID-19 boosters from Pfizer-BioNTech for people ages 12 years and older and from Moderna for people ages 18 years and older. The **first booster dose** and **second booster dose** metrics currently on COVID-19 Data Tracker **include administrations of both the previously recommended and updated booster doses**.
    - CDC is working to update visualizations and metrics to reflect the new recommendations across COVID-19 Data Tracker webpages
- On **Nov 17th, 2022** the weekly number of vaccine doses administered for Indiana was 149,455 doses. This total includes recent dose administrations and historic dose administrations that had not been reported to CDC.
- **November 10, 2022:** Updated (bivalent) booster dose data submitted by California for females by age group and for males by age group are currently under review by CDC and are not reflected on COVID-19 Data Tracker. The data will be updated when available.
- On **November 3, 2022**, the total number of doses distributed posted to COVID Data Tracker inadvertently included duplicate doses. The issue has since been resolved, and the total posted to COVID Data Tracker on November 10, 2022 accurately reflects the total doses distributed (net decrease of 23,416,850 doses).
- **November 2, 2022:** Vaccination data submitted by Texas are currently under review by CDC and state officials due to the use of a new reporting process and are not reflected on COVID-19 Data Tracker. The data will be updated when available.
- **November 2, 2022:** Vaccination data submitted by Texas are currently under review by CDC and state officials due to the use of a new reporting process and are not reflected on COVID-19 Data Tracker. The data will be updated when available.

  - Data submitted by Texas as of November 9, 2022 have been reviewed and were made available on COVID Data Tracker on November 10, 2022.
- On **October 20, 2022**, the daily number of vaccine doses administered for Indiana was 69,965 doses. This total includes recent dose administrations and historic dose administrations from August 1 to September 30, 2022 that had not been reported to CDC by Indiana.
- **September 29, 2022**, New Hampshire reviewed data and made adjustments to reporting, resulting in a decrease of 175,025 for the number of vaccine doses administered since December 14, 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- Vaccination data submitted by Texas on **August 31, 2022** are currently under review by CDC and are not reflected on COVID-19 Data Tracker. The data will be updated when available.
- On **July 28, 2022**, CDC corrected an error in the Census denominator used to calculate percentage-based metrics for the U.S. population aged 18 years and older. No other population groups were affected.
  - The census count for the total U.S. population aged 18 years and older decreased from 258,259,833 to 258,215,633 people (-44,200).
- Beginning **July 28, 2022**, HHS regional booster dose data are no longer available in the "Booster Vaccination Trends by Age, Sex, and Race/Ethnicity" dashboard on COVID Data Tracker's Vaccination Demographic Trends site. CDC is working to re-include regional options following preparation of necessary data.
  - Jurisdictional (i.e., state and territory) data continue to be available.
- On **July 21, 2022**, the weekly number of vaccine doses administered for Indiana was 40,998 doses. This total includes recent dose administrations and historic dose administrations from May 1 to June 30, 2022, that had not been reported to CDC by Indiana.
- Effective **July 14, 2022**, New Hampshire will only report year of birth instead of full birthdate for vaccine recipients to CDC. This will result in numbers and rates for some age groups being under- or over-estimated.
- On **June 15, 2022**, the daily number of vaccine doses administered for Indiana was 238,242 doses. This total includes recent and historic dose administrations from September 2021— April 2022 that had not previously been reported to CDC by Indiana.
- On **May 26, 2022**, the daily number of vaccine doses administered for Indiana was 70,721 doses. This total includes recent dose administrations and historic dose administrations from August 1 to August 31, 2021 that had not been reported to CDC by Indiana.
- Due to a data processing issue on **May 9, 2022**, vaccination data were not updated for two dashboards on Vaccination Demographic Trends – "Booster Vaccination Trends by Age, Sex, and Race/Ethnicity among Fully Vaccinated People Ages 12 Years and Older" and "Vaccination Trends by Age and Sex" – which reflect data as of May 8, 2022. CDC is actively working to address this issue and the data will be updated when available.
- On **May 3, 2022**, the daily number of vaccine doses administered for South Carolina was 152,237 doses. This number includes 152,195 recent and historic doses covering the time period from April 2, 2022 to May 2, 2022.
- On **April 27, 2022**, the daily number of vaccine doses administered for Pennsylvania was 254,383 doses. This number includes 235,854 recent and historic second booster doses that were newly reported.
- On **April 21, 2022**, the District of Columbia [DC] upgraded its data collection and reporting system. The system upgrade may have resulted in a higher reported count for the total number of people who were fully vaccinated in the district on May 2, 2022. CDC and DC are actively working to validate this increase, and if needed, data corrections will occur in a timely manner.
- Vaccination data submitted by Texas on **April 20, 2022** are currently under review by CDC and state officials due to the use of a new reporting process and are not reflected on COVID-19 Data Tracker. The data will be updated when available.
- **April 15, 2022**: New Hampshire reviewed data and made adjustments to the vaccination records they have reported to CDC, resulting in a decrease of 62,163 vaccine doses administered since December 14, 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- **March 22, 2022:** New Hampshire reviewed data and made adjustments to reporting, resulting in a decrease of 246,029 for the number of vaccine doses administered since December 14, 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- **March 11, 2022:** New Hampshire reviewed data and made adjustments to their reporting, resulting in a decrease of 91,294 for the number of vaccine doses administered since December 14, 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- **March 10, 2022:** CDC has removed count-based options from the map views on Vaccinations in the US. This information is still available for download and continues to appear on the map when hovering over a specific jurisdiction when the

relevant rate or percentage-based metric is selected.

- Beginning **March 9, 2022**, CDC attributes vaccine recipients to their jurisdiction of residence for the "People Receiving Dose 1" metric on Vaccination Trends. Previously, this metric attributed recipients to the jurisdiction where vaccine was administered.
- Due to a data processing issue on **February 27, 2022**, vaccination data were not updated on CDC COVID Data Tracker and reflect data as of **February 26, 2022**. CDC is actively working to address this issue and the data will be updated when available.
- **February 25, 2022**: New Hampshire reviewed data and made adjustments to reporting, resulting in a decrease of 209,146 for the number of vaccine doses administered since December 14, 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- On **January 25, 2022**, Idaho began providing vaccine data for recipients younger than 18 years of age to CDC. This resulted in an increase of 177,996 doses administered.
- On **January 20, 2022**, data review and reporting adjustments resulted in a decrease of 12,298 vaccine doses administered in Hawaii since December 14, 2020.
- On **January 19, 2022**, CDC changed the address algorithm for the Bureau of Prisons (BOP) and Department of Defense (DOD) to better align vaccine administration counts with the residential county of the recipient instead of the county where vaccine was administered. The change produced no net change for vaccination records at the national level and minimal impact at the jurisdiction level. The greatest impact was at the county level.
  - Residential counties located near DOD facilities will see increases in vaccine administration counts, and counties where DOD facilities are located will see decreases in vaccine administration counts.
- **Beginning January 19, 2022:**CDC is not displaying county-level data for residents of **Barnstable, Dukes,** and **Nantucket counties in Massachusetts** because of the small populations in these counties. This includes residents who received vaccines in other states or counties.
  - Massachusetts does not provide data directly to CDC. From January 27, 2021 to January 18, 2022, vaccination data was provided from other entities on residents of the affected counties who were vaccinated in other state/counties. This data was displayed on the CDC COVID Data Tracker, but without complete reporting, it creates artificially low numbers for these counties which is why this data will no longer be displayed.
- Due to a data processing issue on **January 7, 2022**, vaccination delivery data were not updated on CDC COVID Data Tracker and reflect data as of January 6, 2022. CDC is actively working to address this issue and the data will be updated when available.
- **December 30, 2021:** CDC updated 349 incorrect census county-level population denominators. This update does not impact the overall number of people who have received at least one dose of a COVID-19 vaccine or the overall number of people who are fully vaccinated. The update does impact the percentage of populations within 189 counties who have received at least one dose or who are fully vaccinated.
- **December 10, 2021: North Carolina** identified an issue on December 10, 2021 at the federal level with linking data across different vaccine sites (i.e., retail pharmacy, local health department, doctor's office).
  - This resulted in an undercount of "fully vaccinated people with a booster dose" in North Carolina. This issue is being evaluated for resolution.
- On **November 18, 2021**, CDC updated the demographic data to use the date of vaccine administration instead of the date when the vaccination was reported to CDC.
- Beginning **November 18, 2021,**vaccination demographic data now include Texas.
- **November 2021: West Virginia** recently conducted an internal review of COVID-19 vaccine administrative data and determined that there was a lag in some of their data uploads to CDC Data Clearing House (DCH).
  - Beginning November 15, 2021 and continuing through December 9, West Virginia submitted multiple files to DCH containing administration records from July through November of this year, which resulted in an increase of 1.47 million administration records for the state.
- On **November 14, 2021,** a temporary network outage at CDC occurring Friday, November 12, 2021 resulted in vaccine administration files from 13 partner entities not being properly processed and resulted in 281,912 records being omitted. The omitted 281,912 records are included in the data for Sunday, November 14, 2021.
- On **November 5, 2021,** population estimates for all territories and protectorates (excluding Puerto Rico) have been updated using the 2020 US Census International Data Base.
- On **November 2, 2021,** CDC recommended use of the ***Pfizer-BioNTech Vaccine for children ages 5 through 11*** for the pediatric population ages 5 to 11. The ***Pfizer-BioNTech COVID-19 Vaccine*** recommended for adults and adolescents has not been recommended for use among children ages 5 through 11.

- **November 1, 2021:** Hawaii does not provide CDC with county-of-residence information. As such, CDC is suppressing county-level data for Hawaii residents, including those who received vaccines in other states or territories.
  - From October 22 to October 31, 2021, vaccination data on residents of Hawaii receiving vaccines in other states were displayed on COVID Data Tracker.
- On **October 29, 2021,** data review and reporting adjustments for Kentucky resulted in a decrease of 411,224 doses administered. The adjustments are the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- On **October 26, 2021,** CDC corrected an error in the census denominators used to calculate percentage-based metrics for the population ≥ 65 years of age in Puerto Rico. No other population groups were affected.
  - The census counts for the population aged 65 years and older in Puerto Rico increased from 542,928 to 679,656 people.
  - The census counts for the population aged 65 years and older in the US increased from 54,696,581 to 54,833,309 people.
  - CDC will update its historical data on data.cdc.gov to reflect these corrections.
- On **October 24, 2021**, CDC identified and corrected a processing error for percent of fully vaccinated people in 50+ years of age with a booster dose. This error resulted in a higher percentage of people reported with a booster dose in the age group of 50+ for October 22 and 23, 2021.
- **On October 22, 2021:** County-level graphics include Texas vaccination data. Texas and CDC collaborated to update how Texas submits aggregate vaccination data to enhance the information provided on CDC COVID Data Tracker.
- **On September 29, 2021:** CDC identified and corrected a processing error after reporting adjustments were made for Texas. This error resulted in a higher count for the total number of people who were fully vaccinated in the state.
- On **September 28, 2021**, reporting adjustments for Texas resulted in a decrease of 91,119 doses.
- On **September 23, 2021**, data review and reporting adjustments resulted in a decrease in the number of vaccine doses administered for Washington State of 473,191 doses. The adjustments are the results of updates to how pharmacies report data to CDC and/or the jurisdictions.
- Due to a short network outage at CDC on **August 14, 2021**, some of the vaccine administration files were not ingested on August 15, 2021. Counts from these files are not reflected in the 6am counts for August 15, 2021 but will be in August 16, 2021 counts. This affected 11 entities for a grand total of 66,326 vaccine administrations.
- The Federal Pharmacy Partnership for Long-Term Care (LTC) Program was a partnership between CDC and CVS, Walgreens, and Managed Health Care Associates, Inc. The program offered on-site COVID-19 vaccination services for residents of nursing homes and assisted living facilities. The federal Pharmacy Partnership for LTC Program was in effect after vaccines became available to April 23, 2021, and related COVID-19 Data Tracker pages were removed on **October 7, 2021**. Historical data, previously available for download, that reflects the Pharmacy Partnership for LTC Program have been archived and are available on cdc.gov. All vaccine doses administered to residents and staff of nursing homes and assisted living facilities continue to be represented in their appropriate jurisdiction totals.
- On **August 31, 2021**, CDC updated its algorithm for assigning a race/ethnicity category for vaccine recipients to align with U.S. Census Bureau race/ethnicity classifications. As a result, approximately 4.5 million vaccine recipients where a valid race was reported in conjunction with “other” race who were previously categorized as “Non-Hispanic Multiracial” are now categorized into a single race/ethnicity group.
- Beginning **August 9, 2021**, submitting entities will have the ability to update or delete previously submitted records using new functionality available in CDC’s Data Clearinghouse. Use of this new functionality may result in fluctuations across metrics on the CDC COVID Data Tracker as historical data are updated or deleted. The functionality will also allow for more accurate reporting and improved data quality.
- On **July 1, 2021**, data review and reporting adjustments resulted in a larger-than-usual increase in the number of vaccine doses administered for Arizona and Puerto Rico of 258,590 and 465,704 doses respectively. The adjustment is the result of CDC and the jurisdictions actively working to correct data transmission errors.
- On **June 30, 2021**, data review and reporting adjustments resulted in an increase in the number of vaccine doses administered for North Carolina of 621,198 doses since December 2020. The adjustment is the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- On **June 25, 2021**, data review and reporting adjustments resulted in a decrease in the number of vaccine doses administered for New Jersey of 331,640 doses and a smaller-than-usual increase for New Hampshire of 6,449 doses. The adjustments are the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- Demographic Trends of People Receiving COVID-19 Vaccinations in the United States previously showed “date administered” erroneously. This has been replaced with “date reported to CDC” as of **June 24, 2021**.

- **On June 14, 2021:** During a system upgrade, CDC identified vaccine administration records from files that were previously received but not fully processed. Completion of processing on **June 14, 2021** has resulted in a net increase of 339,047 vaccine administration counts. By jurisdiction, the net increases are: CT (+39), DC (+4,528), FL (+132,008), GU (+1,607), ID (+8,081), IHS (+42), IL (+62,731), IN (+37,621), LA (+19,321), MA (+2,594), MH (+285), MN (+118), MO (+36,582), MT (+37), NY (+1,571), OK (+15,370), TN (+32,588), VA (+305), VI (+94), WI (+2,645), WV (+1,489). Vaccine administration counts for the following jurisdictions will decrease: NJ (-20,609).
- **On June 14, 2021**, CDC corrected an error in the Census denominators used to calculate percentage-based metrics for the U.S. population ages 12 years and older, 18 years and older, and 65 years and older. No other population groups were affected.
  - The census counts for the population ages 12 years and older increased from 280,216,744 to 283,545,812 people (+3,329,068).
  - The census counts for the population ages 18 years and older increased from 258,130,580 to 258,259,833 people (+129,253).
  - The census counts for the population ages 65 years and older decreased from 54,696,898 to 54,696,581 people (-317).
- On **June 10, 2021**, a data synchronization error resulted in a number of records missing the 6 AM ET cutoff for inclusion the same day on CDT. Records were instead being included on CDT the following day. The issue has been resolved and data are correctly synchronized as of June 17, 2021.
- On **June 6, 2021**, the total number of administered doses for New Mexico was incorrectly reported as 1,903,485 due to a data processing error, which has been amended. The correct total for NM on June 6, 2021, was 2,175,419 administered doses.
- **May 2021: New Hampshire** lifted its national COVID-19 emergency response declaration in May 2021, which allows vaccine recipients to opt out of having their COVID-19 vaccinations included in the state's Immunization Information System registry. As such, data submitted by New Hampshire since May 2021 may not be representative of all COVID-19 vaccination occurring in the state.
- On **May 27, 2021**, the total doses administered data posted to COVID Data Tracker for Vermont showed a decrease in doses administered. This is an accurate reflection of the data and is the result of ongoing efforts to improve the data quality of records reported from Vermont.
- On **May 27, 2021**, the New Hampshire 'at least one dose' values posted to Tracker appeared lower than that reported the day prior (May 26, 2021). This correction is accurate and is due to New Hampshire and CDC collaboratively correcting data transmission errors.
- On **May 25, 2021**, the 7,836,063 administered doses reported for Long-Term Care Facilities (LTCF), were fewer by 4,105 records compared to the 7,840,168 reported on May 24, 2021. This was due to an error in data processing that has now been corrected. The data for May 26, 2021 accurately reflect total LTCF doses.
- On **May 16, 2021**, the total number of administered doses for the US and New Hampshire were incorrectly reported. This was due to an error in data processing. The data for May 16, 2021 have been updated and now correctly report the total administered doses of 272,925,411 for the US, and 1,211,530 for New Hampshire.
- On **May 13, 2021**, the number of persons aged <18 years, who had received at least 1 dose of vaccine was incorrectly reported as 3,687,617 on the Vaccinations Demographics page. This was due to inclusion of those ages 18 years in the <18 years group. This error has been corrected. The correct number for May 13, 2021 is 2,340,538.
- On **May 13, 2021**, CDC updated its methodology for calculating age-based metrics for Texas. Effective May 13, 2021, to calculate age-based metrics, CDC assumes: Residents of Texas who receive a vaccination in a different state or territory are not attributed to Texas in their population-based metrics but are still included in national-level metrics. All people receiving vaccinations in Texas are considered Texas residents of Texas. The percentage of total doses that were administered to people in each age group (ages 12 years and older, ages 18 years and older, and ages 65 years and older) is the same as both the percentage of people who received at least one dose and the percentage of fully vaccinated people within each age group. CDC estimates the "at least one dose" metric for these populations of Texas by first obtaining the percentage of the three population groups who have received 'at least one dose' from Texas. CDC then multiplies this percentage by the count for the total population receiving at least one dose in Texas. CDC repeats the same calculations to estimate the "fully vaccinated" metrics for the three population groups. These values will also be included in the topline national totals for 12+, 18+, and 65+.
- On **May 7, 2021**, the COVID-19 Vaccine Tracker was updated to reflect the revised Moderna emergency use authorization (EUA) to account for the new 14 dose vial as authorized by the Food and Drug Administration (FDA) . Moderna deliveries to a jurisdiction on or after May 7, 2021, will reflect this combination of fourteen dose and ten dose vials;

historical data will not be updated. The change to the Moderna dosage increases the number of doses delivered relative to the number of doses administered.

- On **May 7, 2021**, the New Hampshire "total doses administered" value posted to Tracker was lower than that reported on the two prior days (May 5 and 6, 2021). This downward correction is accurate and is due to New Hampshire and CDC collaboratively correcting data transmission errors. Updates will be provided as available.
- On **May 6, 2021**, 2,406,932 new doses administered were initially reported on the Vaccination Trends Daily Count metric in error. The site has since been updated, and the Daily Count metrics now accurately reflect the total doses administered for May 6, 2021.
- On **May 6, 2021**, the total doses administered data posted to Tracker for New Hampshire was the same as those reported the day before (May 5, 2021). New Hampshire and CDC are actively working to reconcile counts at this time. Updates will be provided as available.
- On **April 19, 2021**, the population metrics for 65+ Texas residents dropped from the metrics reported on April 18, 2021. This was due to a schedule delay in updating the calculation used to infer the 65+ population metrics. The issue was resolved on April 19, 2021 and metrics accurately reflect the total doses administered. This did not affect any other states, but did affect the total US estimates for 65+.
- On **April 13, 2021**, the total doses administered data posted to Tracker inadvertently included 221,081 duplicate doses affecting Vermont (6,605), Georgia (102,711), Illinois (64,886), West Virginia (60), and Maine (46,819). The issue has since been resolved and totals for April 14, 2021 accurately reflect the total doses administered.
- On **April 6, 2021**, improvements in reporting vaccine recipient race/ethnicity data to CDC resulted in an increase in the number of people for whom race/ethnicity data are available. These improvements will continue to allow for better race/ethnicity data reporting.
- Due to a data synchronization error between **April 3 and 5, 2021**, the daily count of doses reporting "Unknown Age" in the COVID-19 Case Surveillance Public Use Data incorrectly appeared higher than expected. The issue was resolved on April 6, 2021, and the count of doses reporting "Unknown Age" now accurately reflects the totals reported to CDC.
- On **April 2, 2021**, New York State showed a higher than usual increase in doses administered. This is an accurate reflection of the data and is the result of a delay in records reported from New York.
- Since **March 29, 2021**, the total number of doses delivered, and total number of doses administered by dialysis centers participating in the Federal Dialysis Center Program are reflected in national totals and in jurisdictional totals.
- Due to a delay in data syncing on **March 13, 2021**, 4,575,496 new doses administered were initially reported, which included records that were reported after 6:00 AM ET (the regular cutoff time for daily reporting). The site has since been updated to reflect the totals reported as of March 13 at 6:00 AM ET. Totals for **March 14, 2021**reflect the number of doses reported through the regular daily reporting period.
- Dose counts for the state of Connecticut were updated **March 13, 2021**to correct for data transmission errors that began on February 20, 2021. Since that date, first doses have been slightly overcounted and second doses have been slightly undercounted.
- As of **March 12, 2021**, to calculate national population estimates, CDC uses, as a denominator, a combination of:
  - The 2019 National Census Population Estimates from the US Census Bureau Annual Estimates of the Resident Population for the United States (including the District of Columbia [DC]) and Puerto Rico and the 2018 CIA World Factbook population estimates for US territories and freely associated states (American Samoa, the Federated States of Micronesia, Guam, the Commonwealth of Northern Mariana Islands, Republic of Palau, the Republic of the Marshall Islands, and US Virgin Islands).
  - The algorithm used to calculate the age of persons who have received vaccine has been updated to address variability in how jurisdictions report age-related information (e.g., report date of birth, year of birth, age).
- On **March 5, 2021** , doses were removed from the delivered doses totals for Maryland (98,475 doses), Pennsylvania (239,900 doses), and Virginia (91,950 doses) because it was determined that the doses, while delivered to federal facilities in those states, were not intended for vaccinating persons living in the region.
- On **February 28, 2021**, CDC released an official recommendation to use the J&J/Janssen COVID-19 vaccine for people ages 18 and older. Shipments to jurisdictions began on March 2, 2021.
- On **February 23, 2021**, the total numbers of national doses delivered show larger-than-typical daily increases. This is an accurate reflection of the data and is the result of recent weather events causing a backlog of vaccine delivery to many parts of the United States.
- On **February 19, 2021**, and **February 20, 2021**, the total numbers of national aggregate doses delivered were incorrect. That's because deliveries to federal entities were inadvertently counted twice; the totals should have been 74,108,895 and 74,979,165, respectively.

- On **February 15, 2021**, the COVID-19 Vaccine Tracker was updated to reflect the revised Pfizer-BioNTech emergency use authorization (EUA) to allow the use of a sixth dose, if present in a vial, as authorized by the Food and Drug Administration (FDA) . Pfizer-BioNTech deliveries to a jurisdiction on or after February 15, 2021, will reflect this increase to six doses per vial compared to five doses; historical data will not be updated. The change to the Pfizer-BioNTech dosage increases the number of doses delivered relative to the number of doses administered.
- **February 15, 2021: The total doses administered can be greater than the total doses distributed.** This is because vials of the Pfizer-BioNTech COVID-19 vaccine officially contain at least five doses but can contain an additional sixth dose. Use of this sixth dose, if present, is authorized by FDA. Before **February 15, 2021**, the sixth dose was not reflected in the doses delivered totals; however, if administered, doses were reflected in the doses administered totals.
- From **December 21, 2020** through **January 13, 2021**, Virginia transferred 17,550 doses and Maryland transferred 16,000 doses to the District of Columbia (DC) for administration to persons from the region who were vaccinated in DC. This approved transfer of inventory is reflected in the totals presented on the CDC COVID Data Tracker to accurately reflect the inventory made available to each jurisdiction. Because of how and when (i.e., early in the vaccination program) these transfers occurred, they may not be reflected in totals presented within other inventory management systems (e.g., the Vaccine Tracking System [VTrckS]).
- **December 14, 2020:** Doses reported as administered before the beginning of the national vaccination program on 12/14/2020 are not included in the figures but are included in the cumulative count of total doses administered in the CDC COVID Tracker.

Record Management

Jurisdictions continuously receive new and updated vaccination information from partners that may require updating and/or deleting older records to maintain current data accuracy. Occasionally, an organization will delete a record with data fields that cannot be updated and upload a replacement record with the correct information. As part of ongoing efforts to improve data quality and maintain accurate COVID-19 vaccination information, CDC has been working with states to remove duplicate or incorrect vaccination records and to add replacement records. These collaborative updates help to ensure CDC is publicly providing the best, most up-to-date data. This option became available for select entities on July 14, 2021 and was expanded to all entities starting August 9, 2021. Historical update and delete events for reporting entities and their impacts on vaccine data are reported below.

Scheduled vaccination data updates

- **October 13, 2023**: A federal retail pharmacy partner added data not previously submitted to CDC that resulted in an increase of **288,000** records.
- **September 14, 2023:** A federal retail pharmacy partner added data not previously submitted to CDC that resulted in an increase of 514,969 records.
- **August 10, 2023:** A federal retail pharmacy partner added data not previously submitted to CDC that resulted in an increase of 169,944 records.
- **August 10, 2023:** A federal retail pharmacy partner added data not previously submitted to CDC that resulted in an increase of 645,110 records.
- **May 4, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 5,685 administered doses.
- **April 27, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 11,071 administered doses.
- On **April 20, 2023**, data review and reporting adjustments for North Carolina resulted in a decrease of approximately 97,000 administrations. Additionally, there was a decrease of 269,000 first dose administrations and 32,000 second dose administrations and an increase of 203,000 in combined third, fourth, and fifth doses. The adjustments are the result of updates to how pharmacies report data to CDC and/or the jurisdictions.
- **April 20, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 12,496 administered doses.
- **April 20, 2023:** CDC is aware of problems with the totals and manufacturer-specific counts of vaccine administrations as of March 2023 and is working on correcting these issues.

- **April 20, 2023:** CDC is aware of problems with the counts of bivalent vaccine administrations as of March 2023 and has corrected these issues.
- **April 13, 2023:** California made updates to data previously submitted to CDC that resulted in a net decrease of **5,998** administered doses.
- **April 13, 2023:** New Jersey made updates to data previously submitted to CDC that resulted in a net decrease of **9,581** administered doses.
- **April 13, 2023**: Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 26,747 administered doses.
- **April 6, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 22,219 administered doses.
- **March 30, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 13,099 administered doses.
- **March 23, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 25,825 administered doses.
- **March 16, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 43,764 administered doses.
- **March 9, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 40,846 administered doses.
- **March 9, 2023:** New Jersey made updates to data previously submitted to CDC that resulted in a net decrease of 5,443 administered doses.
- **March 1, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 43,562 administered doses.
- **February 23, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 35,815 administered doses.
- **February 16, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 46,934 administered doses.
- **February 9, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 25,719 administered doses.
- **February 9, 2023:** New Jersey made updates to data previously submitted to CDC that resulted in a net decrease of 2,214 administered doses.
- **February 2, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 11,428 administered doses.
- **January 26, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 36,469 administered doses.
- **January 19, 2023:** California made updates to data previously submitted to CDC that resulted in a net decrease of 19,462 administered doses.
- **January 19, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 16,175 administered doses.
- **January 12, 2023:** New Jersey made updates to data previously submitted to CDC that resulted in a net decrease of 1,951 administered doses.
- **January 12, 2023:** Puerto Rico made updates to data previously submitted to CDC that resulted in a net decrease of 207,790 administered doses.
- **January 2, 2023:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 19,849 administered doses.
- **December 29, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 29,789 administered doses.
- **December 22, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 22,497 administered doses.
- **December 15, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 7,508 administered doses.
- **December 15, 2022:** Nevada made updates to data previously submitted to CDC that resulted in a net decrease of 1,429 administered doses.

- **December 8, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 64,337 administered doses.
- **December 8, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net decrease of 4,183 administered doses.
- **December 1, 2022:** California made updates to data previously submitted to CDC that resulted in a net decrease of 177,694 administered doses.
  - Additional data consolidation by California reclassified certain doses and may result in net decreases among other variables.
- **November 24, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 44,667 administered doses.
- **November 17, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 8,085 administered doses.
- **November 10, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 148,050 administered doses.
- **November 10, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net increase of 93,877 administered doses.
- **November 3, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 227,165 administered doses.
- **November 3, 2022:** Arizona made updates to data previously submitted to CDC that resulted in a net increase of 286,531 administered doses.
- **October 26, 2022**: Illinois made updates to data previously submitted to CDC that resulted in a net increase of 221,933 administered doses.
- **October 20, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 205,853 administered doses.
- **October 13, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 191,076 administered doses.
- **October 13, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net increase of 118,479 administered doses.
- **October 13, 2022:** California made updates to data previously submitted to CDC that resulted in a net increase of 3,409 administered doses.
- **October 6, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 212,852 administered doses.
- **September 29, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 234,224 administered doses.
- **August 31, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 38,447 administered doses.
- **August 25, 2022:** Illinois made update to data previously submitted to CDC that resulted in a new increase of 37,546 administered doses.
- **August 18, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 50,115 administered doses.
- **August 18, 2022:** Arkansas made updates to data previously submitted to CDC that resulted in a net increase of 11,332 administered doses.
- **August 11, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 82,375 administered doses.
- **August 11, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net increase of 37,096 administered doses.
- **August 11, 2022:** California made updates to data previously submitted to CDC that resulted in a net increase of 202,640 administered doses.
- **August 4, 2022:** Idaho made updates to data previously submitted to CDC that resulted in a net decrease of 42,051 administered doses. This contributed to a decrease in overall US figures.
- **August 4, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 77,754 administered doses.

- **August 4, 2022:** Texas made updates to data previously submitted to CDC that resulted in a net decrease of 1,125,795 administered doses. This contributed to a decrease in overall US figures.
- **August 4, 2022:** Wyoming made updates to data previously submitted to CDC that resulted in a net increase of 2,013 administered doses.
- **July 28, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 91,864 administered doses.
- **July 21, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 97,219 administered doses.
- **July 14, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 63,386 administered doses.
- **July 14, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net increase of 40,945 administered doses.
- **July 14, 2022:** California made updates to data previously submitted to CDC that resulted in a net increase of 240,980 administered doses.
- **July 7, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 64,066 administered doses.
- **June 30, 2022:** A federal entity made updates to data previously submitted to CDC that resulted in a net increase of 732,308 administered doses.
- **June 30, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 27,319 administered doses.
- **June 23, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net increase of 21,371 administered doses.
- **June 15, 2022:** Pennsylvania made updates to data previously submitted to CDC that resulted in a net increase of 14,201 administered doses.
- **June 15, 2022:** A federal entity made updates to data previously submitted to CDC that resulted in a net increase of 3,354 administered doses.
- **June 10, 2022:** Illinois made updates/deletes to data previously submitted to CDC that resulted in a net decrease of 15,884 administered doses.
- **June 9, 2022:** District of Columbia made updates/deletes to data previously submitted to CDC that resulted in a net decrease of 59,667 administered doses.
- **June 9, 2022:** Kansas made updates/deletes to data previously submitted to CDC that resulted in a net decrease of 70,444 administered doses.
- **June 8, 2022:** Ohio made updates/deletes to data previously submitted to CDC that resulted in a net decrease of 98,512 administered doses.
- **June 3, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a net decrease of 103,668 administered doses.
- **June 3, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in a net increase of 4,665 administered doses.
- **June 2, 2022:** California made updates to data previously submitted to CDC that resulted in a net increase of 37,678 administration records.
- **May 25, 2022:** North Dakota made updates to data previously submitted to CDC that resulted in a increase of 64 doses administered.
- **May 20, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 139,447 doses administered.
- **May 13, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 31,945 doses administered.
- **May 12, 2022:** California made updates to data previously submitted to CDC that resulted in an increase of 25,505 total doses administered, a net decrease of 646,951 people with at least one dose, and a net increase of 472,028 people with a first booster dose.
- **May 11, 2022:** Alaska made updates to data previously submitted to CDC that resulted in an increase of 3,118 doses administered.

- **May 10, 2022:** Wyoming made updates to data previously submitted to CDC that resulted in a decrease of 12,716 doses administered.
- **May 6, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 25,958 doses administered.
- **May 6, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 9,143 doses administered.
- **April 29, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 7,617 doses administered.
- **April 22, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 4,711 doses administered.
- **April 22, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 13,434 doses administered.
- **April 15, 2022:** Maryland made updates to data previously submitted to CDC that resulted in a decrease of 50,176 doses administered.
- **April 15, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 18,471 doses administered.
- **April 8, 2022:** Maryland reported some records that were noted to be duplicates. CDC and Maryland are working to remove these duplicates in a timely manner.
- **April 8, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 11,575 doses administered.
- **April 8, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 12,153 doses administered.
- **April 6, 2022:** Puerto Rico made updates to data previously submitted to CDC that resulted in a decrease of 32,684 doses administered.
- **April 1, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 26,134 doses administered.
- **March 25, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 22,574 doses administered.
- **March 25, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 3,715 doses administered.
- **March 18, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 32,506 doses administered.
- **March 16, 2022:** Puerto Rico made updates to data previously submitted to CDC that resulted in an increase of 1,173 doses administered.
- **March 11, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 40,332 doses administered.
- **March 11, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 2,928 doses administered.
- **March 04, 2022:** Illinois made updates to data previously submitted to CDC that resulted a decrease of 18,988 doses administered.
- **March 03, 2022:** California made updates to data previously submitted to CDC that resulted in an increase of 16,930 doses administered.
- **March 01, 2022:** Michigan made updates to data previously submitted to CDC that resulted in a decrease of 13,028 doses administered.
- **February 18, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 20,754 doses administered.
- **February 18, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 12,473 doses administered.
- **February 17, 2022:** A federal entity made updates to data previously submitted to CDC that resulted in an increase of 4,251 doses administered.
- **February 11, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 58,355 doses administered.

- **February 11, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 14,616 doses administered
- **February 9, 2022:** Utah made updates to data previously submitted to CDC that resulted in an increase of 73,002 doses administered.
- **February 4, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 75,630 doses administered.
- **February 4, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 32,976 doses administered.
- **February 3, 2022:** Alaska made updates to data previously submitted to CDC that resulted in a decrease of 3,945 doses administered.
- **January 28, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 26,796 doses administered.
- **January 28, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 14,973 doses administered.
- **January 27, 2022:** California made updates to data previously submitted to CDC that resulted in a decrease of 1,593,072 doses administered for California and a decrease of 800,606 doses administered at the National level (national level decrease factors in new administrations reported by other jurisdictions).
- **January 21, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 29,394 doses administered.
- **January 21, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 34,238 doses administered.
- **January 20, 2022:** Georgia made updates to data previously submitted to CDC that resulted in an increase of 139 doses administered.
- **January 20, 2022:** Wyoming made updates to data previously submitted to CDC that resulted in an increase of 2,761 doses administered.
- **January 20, 2022:** Pennsylvania made updates to data previously submitted to CDC that resulted in an increase of 206,575 doses administered.
- **January 19, 2022:** Idaho added 20,015 records for persons aged 18 years not previously submitted to CDC.
- **January 14, 2022:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 4,868 doses administered.
- **January 13, 2022:** Colorado made updates to data previously submitted to CDC that resulted in an increase of 47,260 doses administered.
- **January 13, 2022:** North Carolina made updates to data previously submitted to CDC that resulted in an increase of 41,000 doses administered.
- **January 13, 2022:** Hawaii made updates to data previously submitted to CDC that resulted in an increase of 318,481 doses administered.
- **January 11, 2022:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 31,680 doses administered.
- **January 6, 2022:** California updated 22,696,262 records previously submitted to CDC. This did not result in a change to the number of doses administered.
- **December 30, 2021:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 58,731 doses administered.
- **December 29, 2021:** South Dakota made updates to data previously submitted to CDC that resulted in an increase of 3,074 doses administered.
- **December 28, 2021:** Updates were made to data previously submitted to CDC that resulted in a decrease of 9,436 doses administered.
- **December 23, 2021:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 4,916 doses administered.
- **December 23, 2021:** West Virginia made updates to data previously submitted to CDC that resulted in a decrease of 651,436 doses administered.
- **December 22, 2021:** New Jersey made updates to data previously submitted to CDC that resulted in an increase of 25,151 doses administered.

- **December 21, 2021:** Pennsylvania made updates to data previously submitted to CDC that resulted in a decrease of 101,475 doses administered.
- **December 17, 2021:** New Mexico updated 2,213 records, previously submitted to CDC. This did not result in change to number of doses administered.
- **December 16, 2021:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 22,422 doses administered.
- **December 9, 2021:** Illinois made updates to data previously submitted to CDC that resulted in an increase of 53,344 doses administered.
- **December 2, 2021:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 46,380 doses administered.
- **November 23, 2021:** Pennsylvania made updates to data previously submitted to CDC that resulted in a decrease of 1,151,719 doses administered.
- **November 18, 2021:** Illinois made updates to data previously submitted to CDC that resulted in a decrease of 214,250 doses administered.
- **November 10, 2021:** North Dakota made updates to data previously submitted to CDC that resulted in an increase of 3,433 doses administered.
- **November 9, 2021:** Ohio made updates to data previously submitted to CDC that resulted in a decrease of 99 doses administered.
- **November 4, 2021:** Minnesota made updates to data previously submitted to CDC that resulted in an increase of 136,589 doses administered.
- **November 3, 2021:** Maryland made updates to data previously submitted to CDC that resulted in a decrease of 5,975 doses administered.
- **November 3, 2021:** A federal dialysis partner made updates to 30,556 records previously submitted to CDC that resulted in no net change in number of doses administered.
- **October 29, 2021:** Illinois made updates to data previously submitted to CDC that resulted in an increase of 316,351 doses administered.
- **October 27, 2021:** North Dakota made updates to data previously submitted to CDC that resulted in a decrease of 8,591 doses administered.
- **October 26, 2021:** New Mexico made updates to data previously submitted to CDC that resulted in a decrease of 179,565 administered doses.
- **October 22, 2021:** A federal retail pharmacy partner made updates to data previously submitted to CDC that resulted in a decrease of 563 records.
- **October 21, 2021:** South Dakota made updates to data previously submitted to CDC that resulted in a decrease of 11,366 records.
- **October 20, 2021:** North Carolina made updates to 7,727,520 records previously submitted to CDC that resulted in no net change in number of records.
- **October 8, 2021:** Michigan made updates to 9,632,251 records previously submitted to CDC that resulted in no net change in number of doses administered.
- **October 5, 2021:** North Carolina made updates to data previously submitted to CDC that resulted in an increase of 16,009 doses administered.
- **September 29, 2021:** Florida made updates to 3,001,563 records previously submitted to CDC that resulted in no net change in number of doses administered.
- **September 25, 2021:** Iowa made updated to data previously submitted to CDC that resulted in an increase of 4,928 doses administered.
- **September 24, 2021:** Virginia made updates to 9,172,838 records previously submitted to CDC that resulted in no net change in number of doses administered.
- **September 22, 2021:** New Jersey made updates to data previously submitted to CDC that resulted in a decrease of 16,888 doses administered.
- **September 16, 2021:** Ohio made updates to data previously submitted to CDC that resulted in a decrease of 54,677 doses administered.
- **September 13, 2021:** Alabama made updates to data previously submitted to CDC that resulted in an increase of 1,329 doses administered.

- **August 27, 2021:** Virginia made updates to data previously submitted to CDC that resulted in a decrease of 4,952 doses administered.
- **August 25, 2021:** A federal entity made updates to data previously submitted to CDC that resulted in an increase of 3,818 doses administered.
- **August 17, 2021:** Rhode Island made updates to data previously submitted to CDC that resulted in an increase of 1,386 doses administered.
- **August 12, 2021:** Vermont made updates to data previously submitted to CDC that resulted in a decrease of 23,325 doses administered.
- **August 4, 2021:** Colorado made updates to data previously submitted to CDC that resulted in an increase of 11,379 doses administered.
- **July 23, 2021:** The number of doses administered by a national pharmacy provider decreased by 14,187 for the Federal Long-Term Care program.
- **July 20, 2021:** A federal entity made updates to data previously submitted to CDC that resulted in a decrease of 159,648 doses administered.
- **July 14, 2021:** Utah made updates to data previously submitted to CDC that resulted in an increase of 6,028 doses administered.

Last Updated Oct. 13, 2023