New Mexico COVID-19 Vaccinated and Unvaccinated Case Data Report

Unless stated otherwise, all data reported here exclude cases who are from out-of-state.

COVID-19 Case Data by Vaccination Status
September 18, 2023

Vaccination is the most powerful tool available today for preventing infection and severe illness and death due to COVID-19. In this report, we display case data by vaccination status to show the impact of vaccination status on the occurrence and severity of COVID-19 cases affecting New Mexico residents.

Recent trends in reported case rates by vaccination status have become difficult to interpret due to differences in the vaccination categories (unvaccinated, vaccinated without updated booster, vaccinated with updated booster) by a number of factors that affect the risk of having a positive result reported to NMDOH, including behaviors that increase exposure to the virus, testing practices, prior infection, time since last vaccine dose. Surveillance data are unable to control for all of these factors, making them inaccurate for interpreting vaccine effectiveness. For controlled study data on COVID-19 vaccine effectiveness, see https://www.cdc.gov/mmwr/covid19_vaccine_safety.html and https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/vaccine-induced-immunity.html

We are monitoring case counts and rates (the number of cases per standard population size) by the following categories:

- **Unvaccinated:** this category includes cases, hospitalizations, and deaths in persons who did not receive any FDA-authorized COVID-19 vaccine doses before they tested positive for SARS-CoV-2.
- **Vaccinated Without Updated Booster**: this category includes cases, hospitalizations, and deaths in persons who completed a primary vaccination series 14 or more days prior to testing positive for SARS-CoV-2 (2 doses of the Pfizer or Moderna vaccine or a single dose of the Johnson & Johnson vaccine) but did not receive an updated bivalent vaccine dose 14 or more days prior to testing positive for SARS-CoV-2.
- **Vaccinated With Updated Booster**: this category includes cases, hospitalizations, and deaths in persons who received an updated bivalent vaccine 14 or more days prior to testing positive for SARS-CoV-2.

Persons who have had only a single vaccination with a monovalent mRNA vaccine (Pfizer or Moderna), persons who completed the primary series less than 14 days before they tested positive for SARS-CoV-2, and persons who received the updated bivalent vaccine as their only dose less than 14 days before they tested positive for SARS-CoV-2 have been excluded from the tables and graphs contained in this document. These persons are considered partially vaccinated.

As of July 26, 2022 additional data cleaning guidelines have been implemented to remove duplicated doses, per CDC guidance. Primary series doses that have been recorded as being administered less than 11 days after a Johnson & Johnson vaccination, 17 days after a Pfizer/BioNTech vaccination, or 24 days after a Moderna vaccination are considered to be duplicated doses.

We are monitoring the risk of infection based on the case, hospitalization, and death rate relative to the NM population in each of the categories Unvaccinated, Vaccinated Without Updated Booster, and Vaccinated With Updated Booster according to the follow formula:

$$\boldsymbol{sum}\left(\frac{\boldsymbol{Number\ with\ COVID-19\ in\ the\ category\ each\ day}}{\boldsymbol{Number\ of\ NM\ residents\ in\ the\ category\ each\ day}} \times \mathbf{100,000}\right)$$

Age-adjusted rates: When the outcome in an analysis, such as case or hospitalization status, is associated with age as well as the intervention of interest, such as vaccination status, the relationship of the intervention to the outcome will be biased by the difference in age make-up of the intervention groups. In order to adjust the analysis for this bias, the rates can be proportionately weighted within the intervention group to a standard population, such as the New Mexico resident population. The age-adjusted rates in this report took the rates in the following age groups (5-11, 12-15, 16-17, 18-24, 25-39, 40-49, 50-64, 65-74, and 75+) for the categories of vaccination status (i.e., unvaccinated, vaccinated without updated booster, vaccinated with updated booster) and weighted them to their proportion in the general population of New Mexico. Age-adjusted rates are included only in Figures labeled "Age-adjusted".

Rate ratios are the comparisons between two rates. For example, if the rate for unvaccinated persons is 20 cases (per 100 unvaccinated New Mexicans) and the rate for those who are vaccinated with updated booster is 4 cases (per 100 New Mexicans who are vaccinated with updated booster), then the rate ratio would be 5. We would conclude that unvaccinated persons are at 5-times the risk of becoming a case of COVID-19 compared to persons who are vaccinated with an updated booster.

Hospitalizations include all inpatient admissions of a New Mexico resident to an acute care hospital for >24 hours, with a positive laboratory test for SARS-CoV-2 within 14 days of admission or during admission.

Deaths are certified to have COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death. Intentional and unintentional injuries are excluded. Death reporting might be delayed up to 6 weeks. Beginning January 1, 2022, deaths due to natural causes matched to a SARS-CoV-2 positive test result within 30 days of the date of death are included as COVID-19 related deaths even when COVID is not listed on the death certificate. Previously, deaths that were attributed to COVID-19 but lacked laboratory confirmation were excluded. As of August 15, 2022, deaths related to COVID-19 but lacking a laboratory test confirmation are now included in tables and graphics describing COVID-19 deaths.

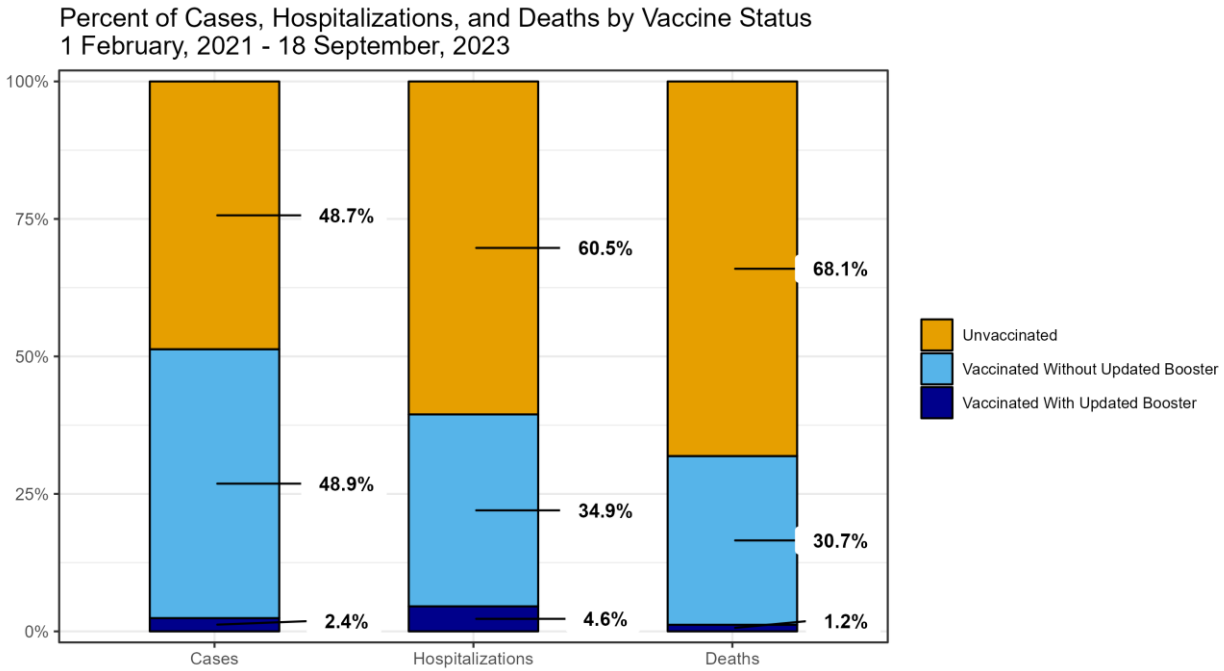
Case data by vaccination status are restricted to February 1, 2021 and onward to ensure the stability of cases counts and rates following the time of vaccine introduction. Updated Bivalent Booster doses are valid if the dose was administered on or after September 1, 2022.

In the following graphs and charts, you will see data that demonstrate the percentage and rate of cases, hospitalizations and deaths by vaccination status so that their absolute (counts and percent) and relative (rates) occurrence can be compared by vaccination status. We present these data across the entire pandemic and within the previous 4 weeks so that recent changes, if any, can be recognized. Additionally, we show the rate differences for Vaccinated (with or without Updated Booster) cases by age group, race/ethnicity, sex, and manufacturer to demonstrate the difference in risk experienced by New Mexicans with different demographic characteristics and vaccination history.

Beginning on page 7, the designation of Vaccinated includes cases in persons who have either completed a primary vaccination series or received an updated bivalent booster dose 14 or more days before they tested positive for SARS-CoV-2.

Percentages and Age-Adjusted Rates of Cases, Hospitalizations, and Deaths by Vaccination Status

Cumulative

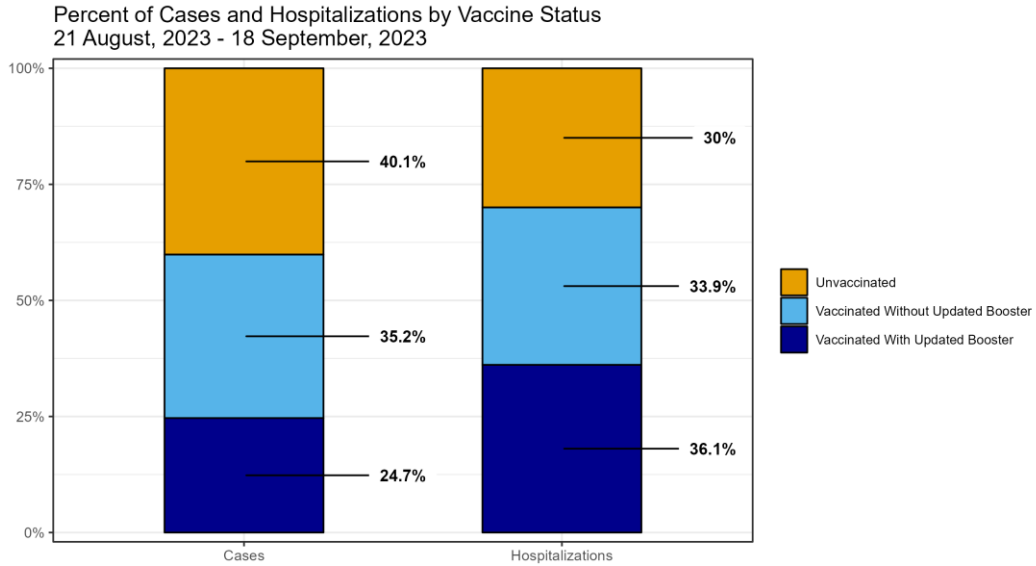


Rate Ratios		
Comparing Unvaccinated to Vaccinated **Without** Updated Booster		
2x Risk of Testing Positive	**6x** Risk of Being Hospitalized	**9x** Risk of Dying
Comparing Unvaccinated to Vaccinated **With** Updated Booster		
13x Risk of Testing Positive	**22x** Risk of Being Hospitalized	**125x** Risk of Dying

Totals/Rates	Vaccinated **With** Updated Booster Totals	Vaccinated **Without** Updated Booster Totals	Unvaccinated Totals	Vaccinated **With** Updated Booster Rates	Vaccinated **Without** Updated Booster Rates	Unvaccinated Rates
Cases	11847	240073	239065	3071.8	19296.3	38662.6
Hospitalizations	1087	8328	14448	158.4	614.4	3534.2
Deaths	61	1564	3472	7.5	104.2	932.8

Percentages and Age-Adjusted Rates of Cases, Hospitalizations, and Deaths by Vaccination Status During the Past Four Weeks*

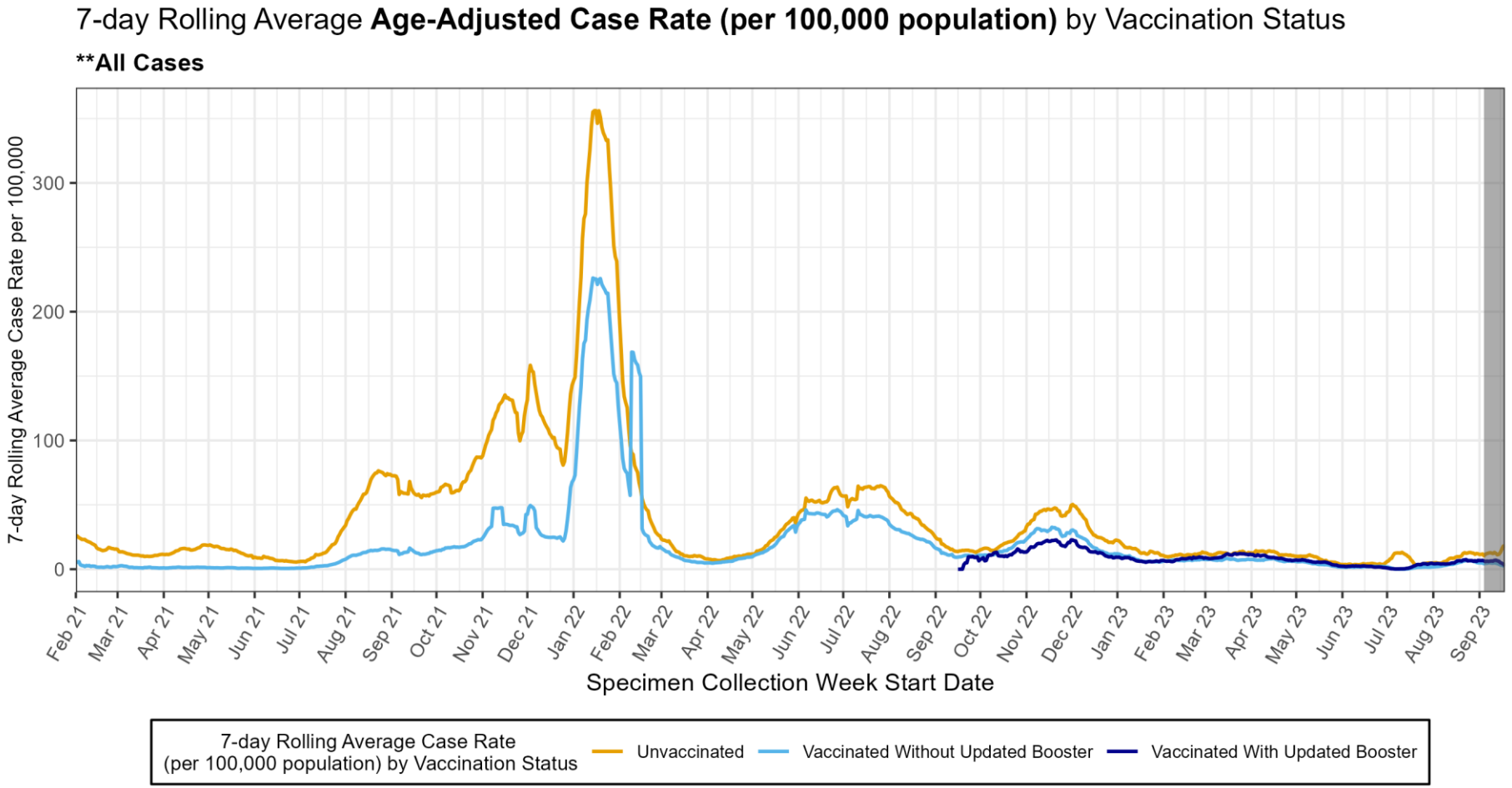
*In our efforts to provide the most current data, changes in the values will occur due to the lag time in specimen collection and vaccine breakthrough case ascertainment as well as ongoing quality assurance activities.



Rate Ratios	
Comparing Unvaccinated to Vaccinated **Without** Updated Booster	
3x Risk of Testing Positive	**3x** Risk of Being Hospitalized
Comparing Unvaccinated to Vaccinated **With** Updated Booster	
2x Risk of Testing Positive	**3x** Risk of Being Hospitalized

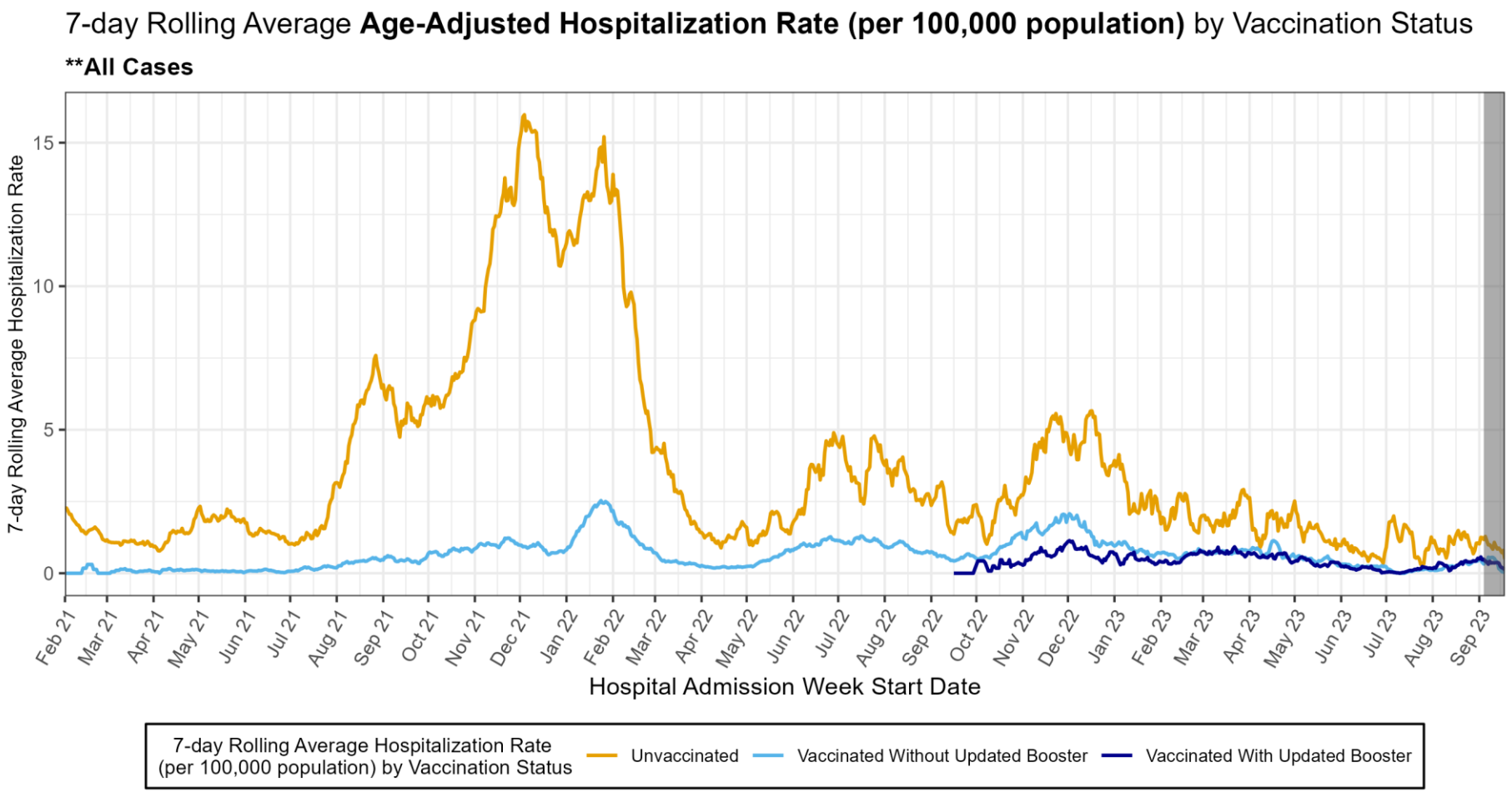
Totals/Rates	Vaccinated **With** Updated Booster Totals	Vaccinated **Without** Updated Booster Totals	Unvaccinated Totals	Vaccinated **With** Updated Booster Rates	Vaccinated **Without** Updated Booster Rates	Unvaccinated Rates
Cases	884	1263	1438	166.7	130.4	386.5
Hospitalizations	82	77	68	9.9	9.3	26.2
Deaths	0	0	0	0	0	0

7-day rolling average case rate by vaccination status



*The dark grey shaded region represents the lag period between specimen collection and vaccine breakthrough case ascertainment where reporting of cases may be incomplete.

7-day rolling average hospitalization by vaccination status



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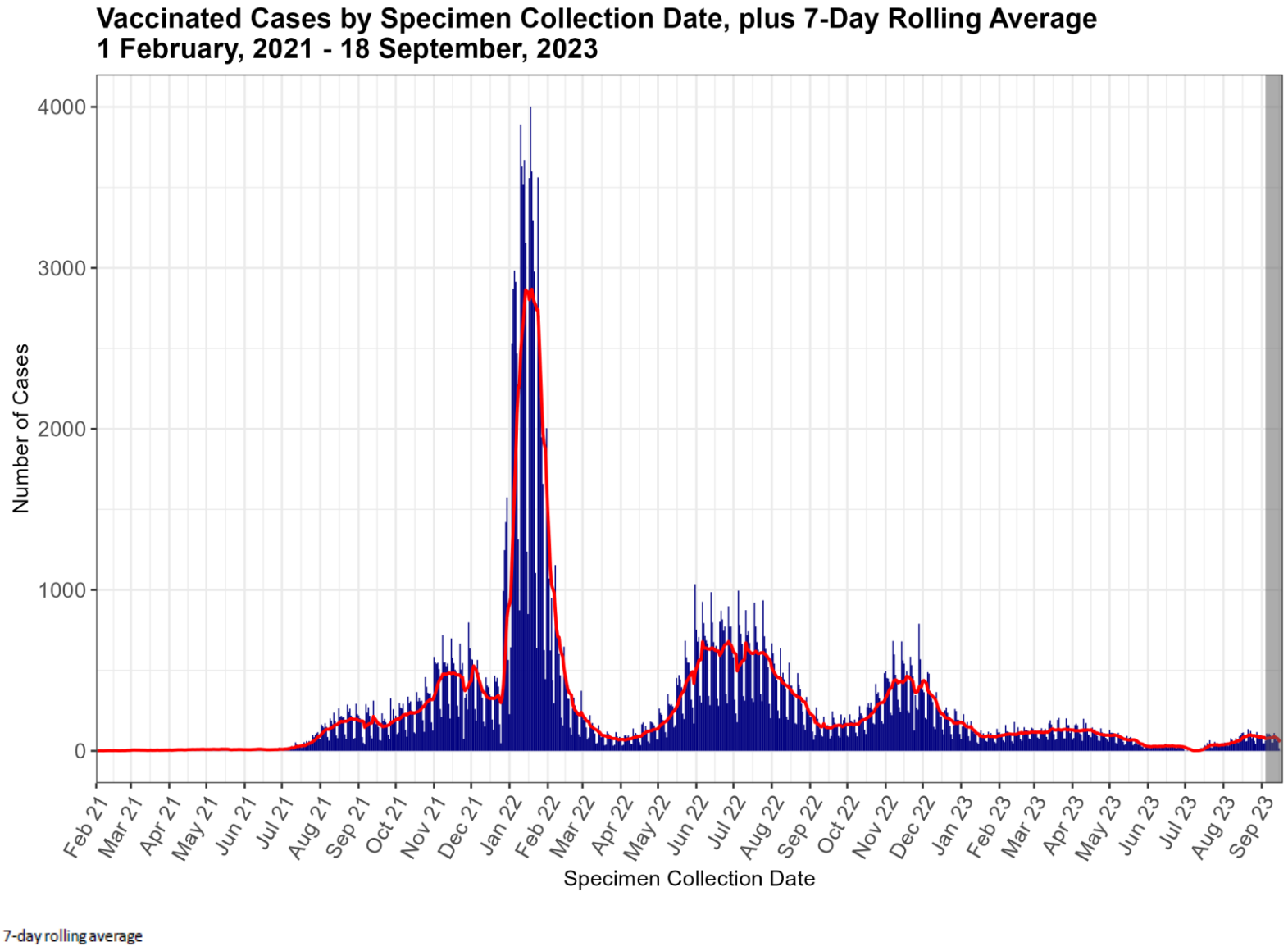
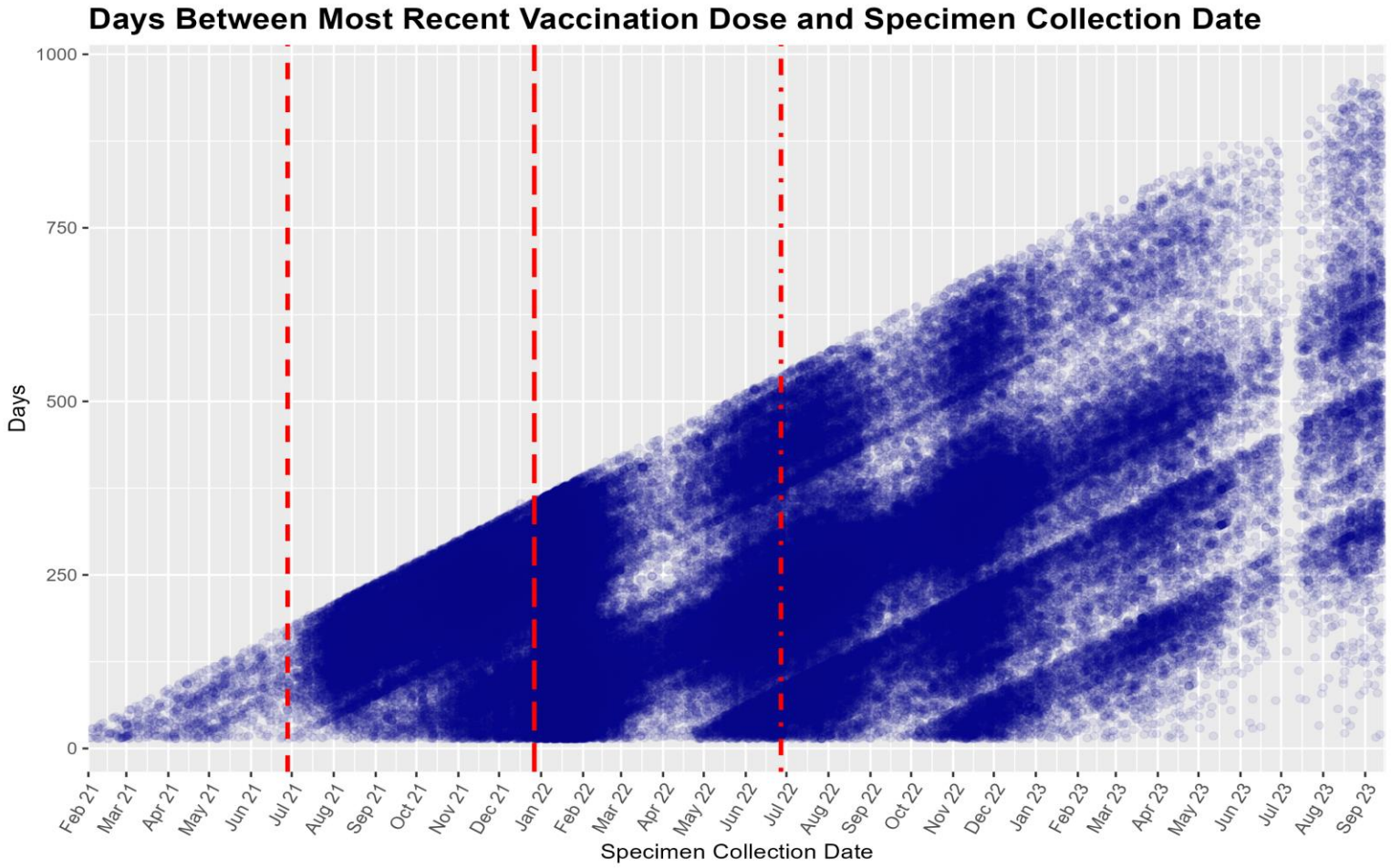
Vaccinated Cases by Specimen Collection Date



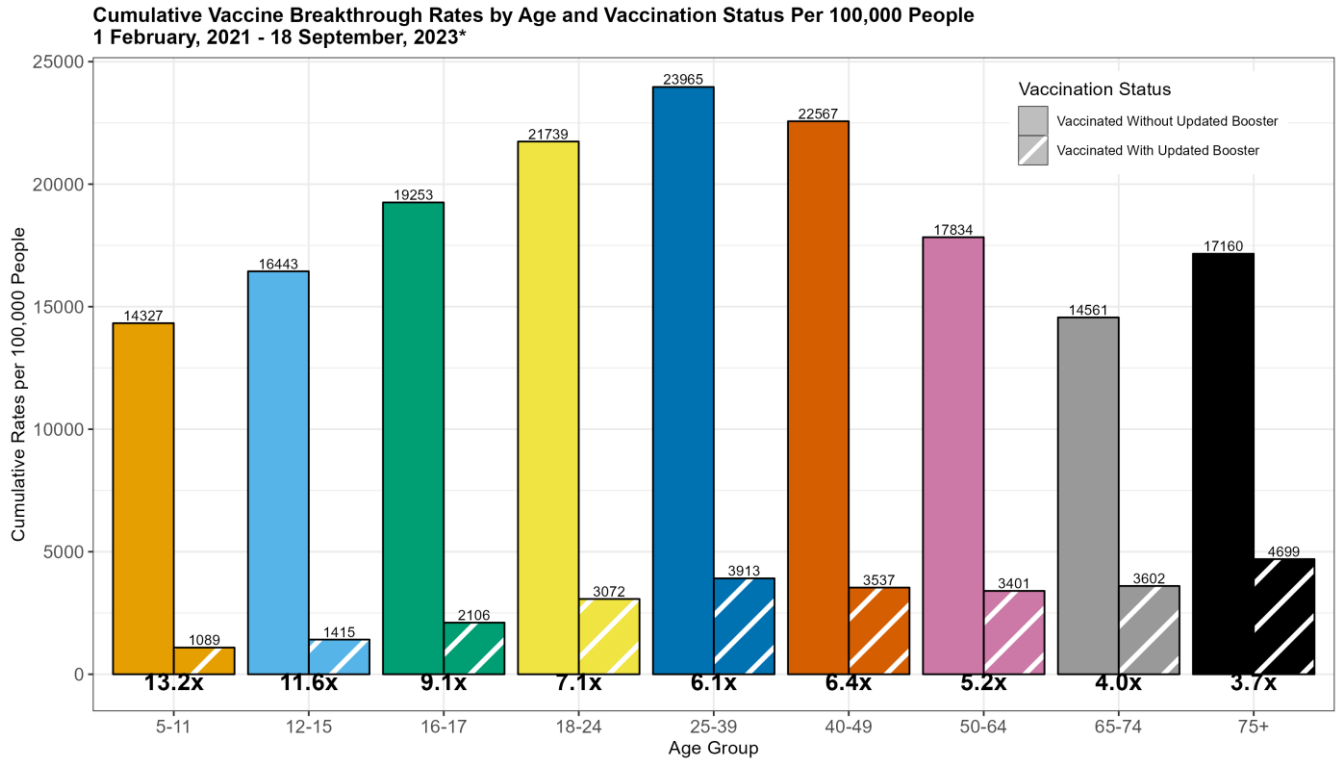
Days Between Most Recent Dose and Specimen Collection



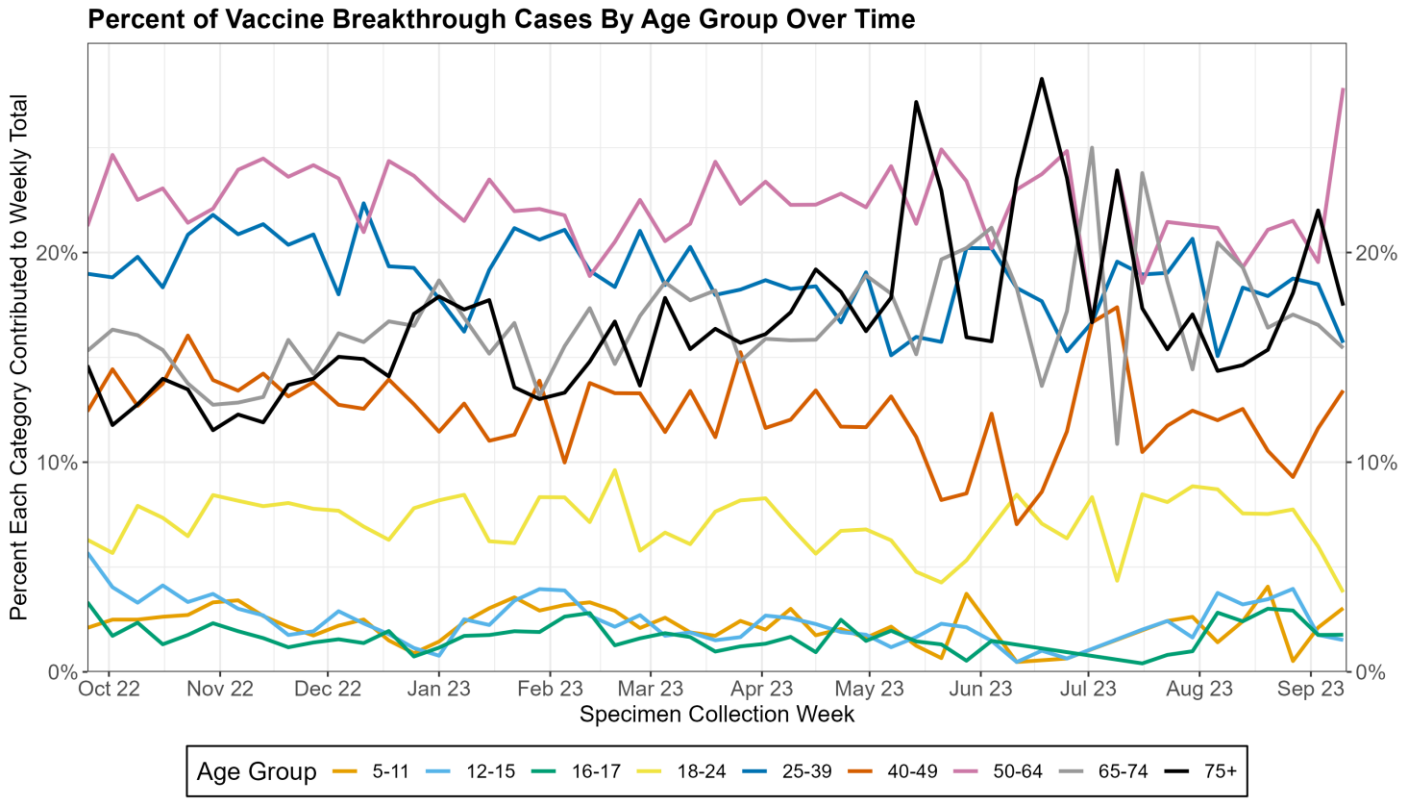
Median: 211 days

- - -	Delta variant becomes predominant
———	Omicron (BA.1) variant becomes predominant
- · - · -	Omicron (BA.5) variant becomes predominant

Vaccinated Cases by Age

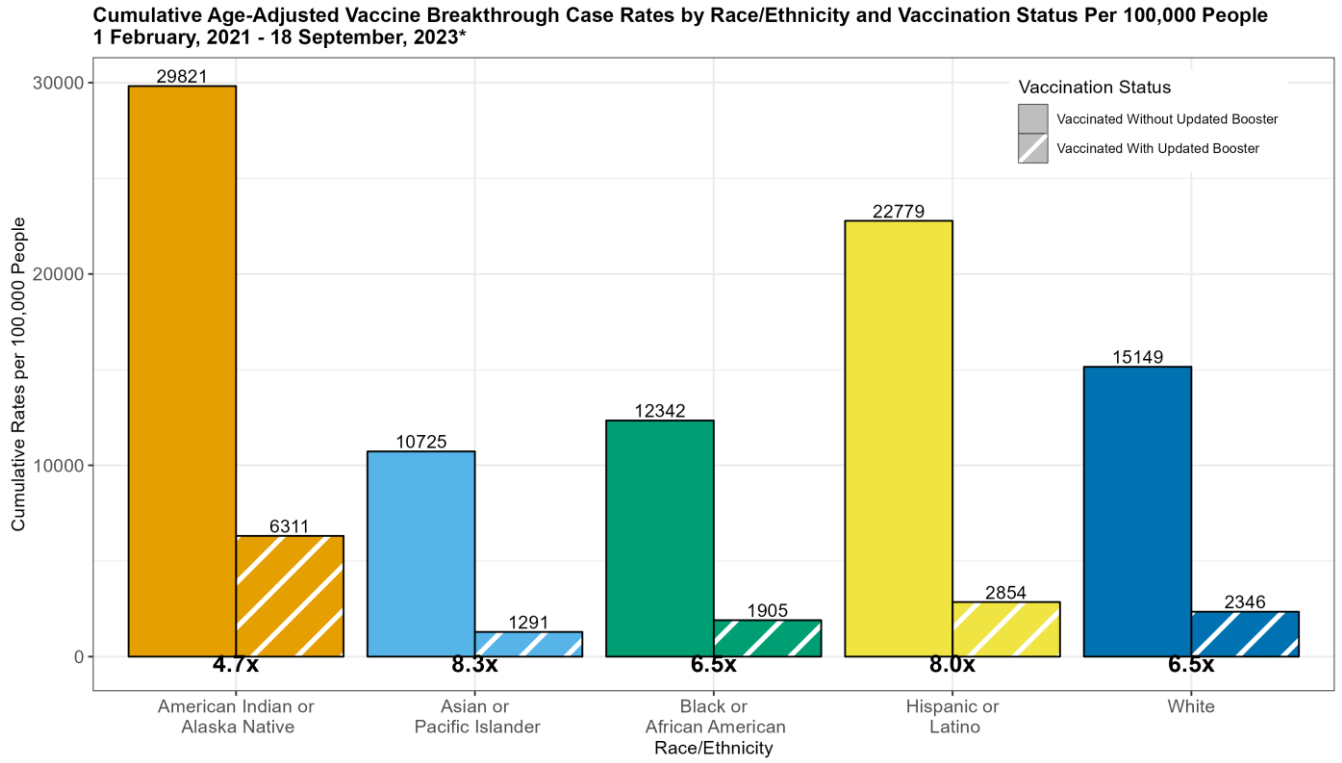


*The numbers under the bars are the rate ratios, which represent the increased risk of testing positive for those are vaccinated without an updated booster relative to those who have received the updated bivalent booster.

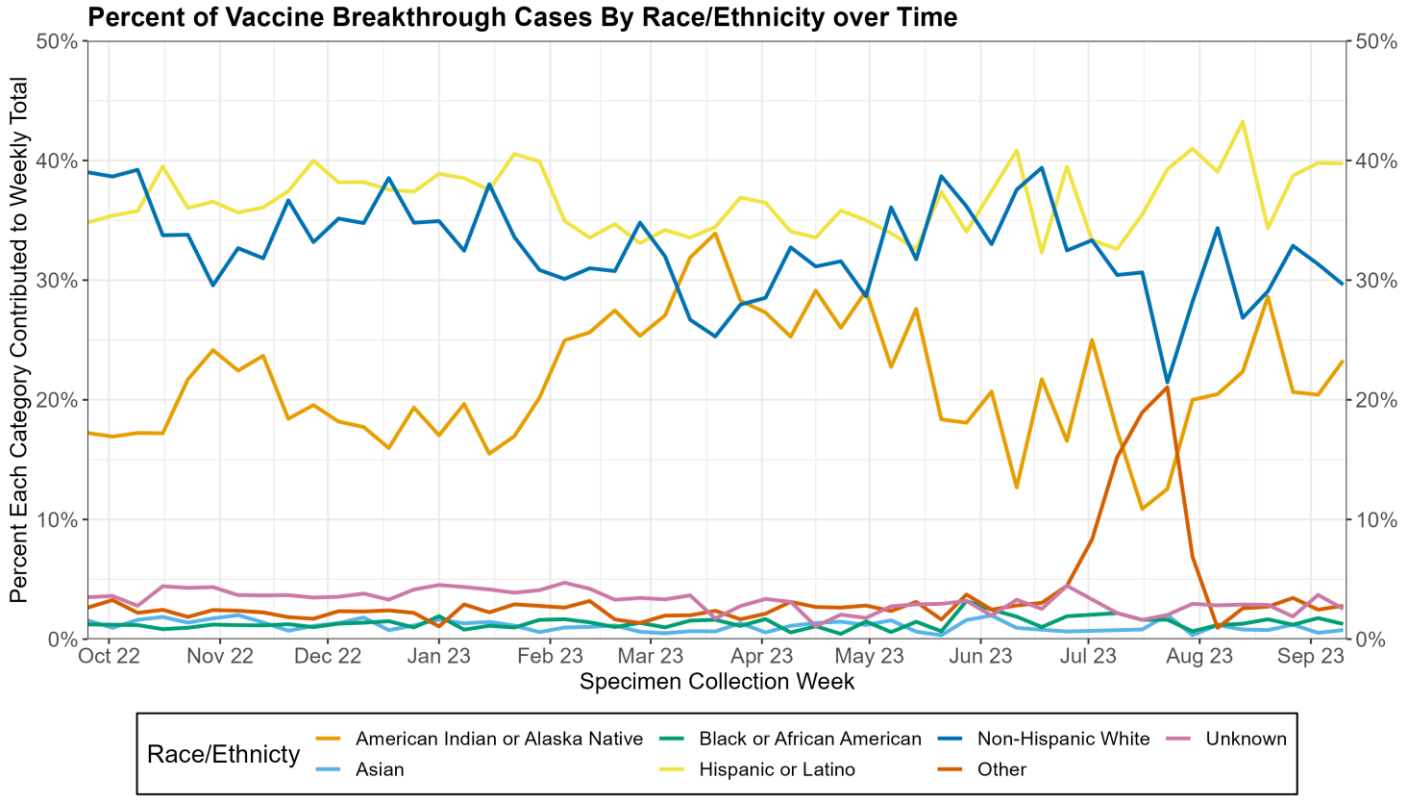


* $sum\left(\frac{Number\ with\ COVID-19\ among\ those\ who\ are\ vaccinated\ each\ day}{Number\ of\ NM\ residents\ who\ are\ vaccinated\ each\ day} \times 100,000\right)$

Vaccinated Cases by Race and Ethnicity

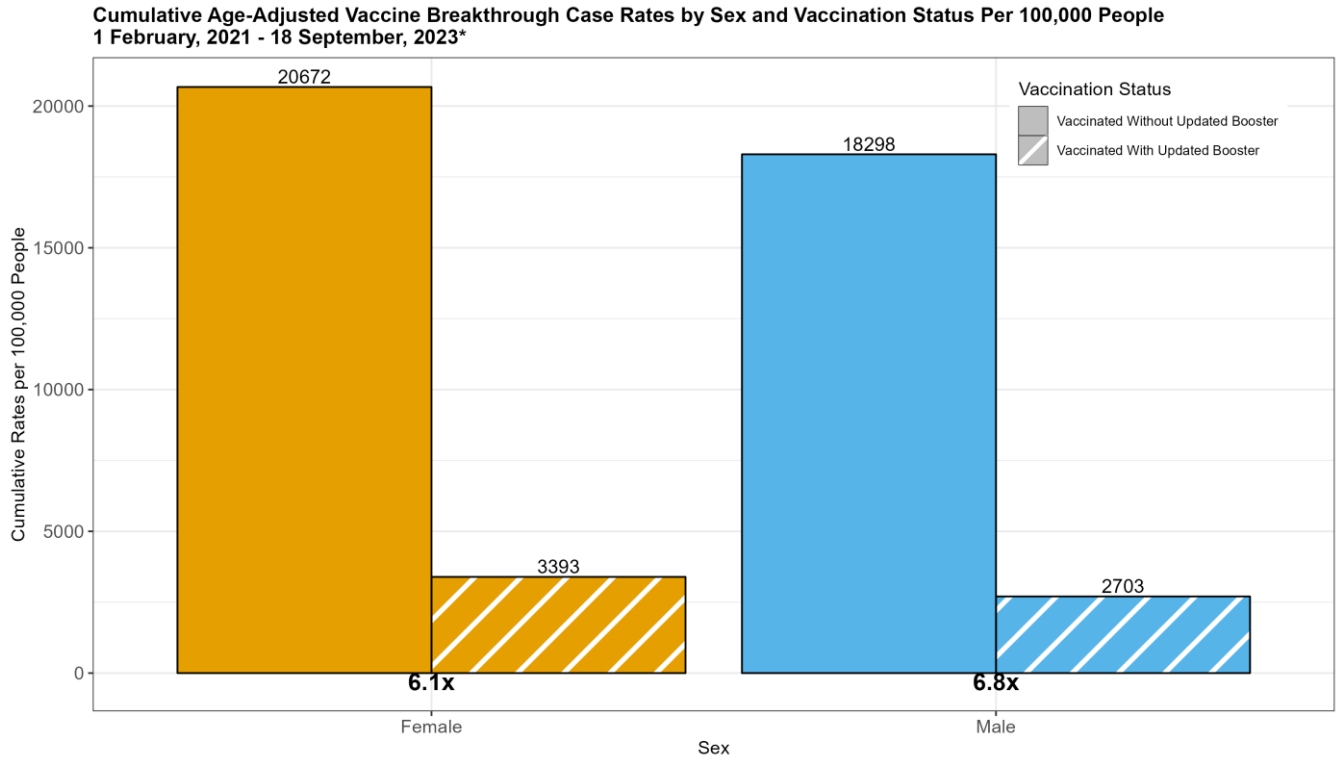


*The numbers under the bars are the rate ratios, which represent the increased risk of testing positive for those who vaccinated without an updated booster relative to those who have received the updated bivalent booster.

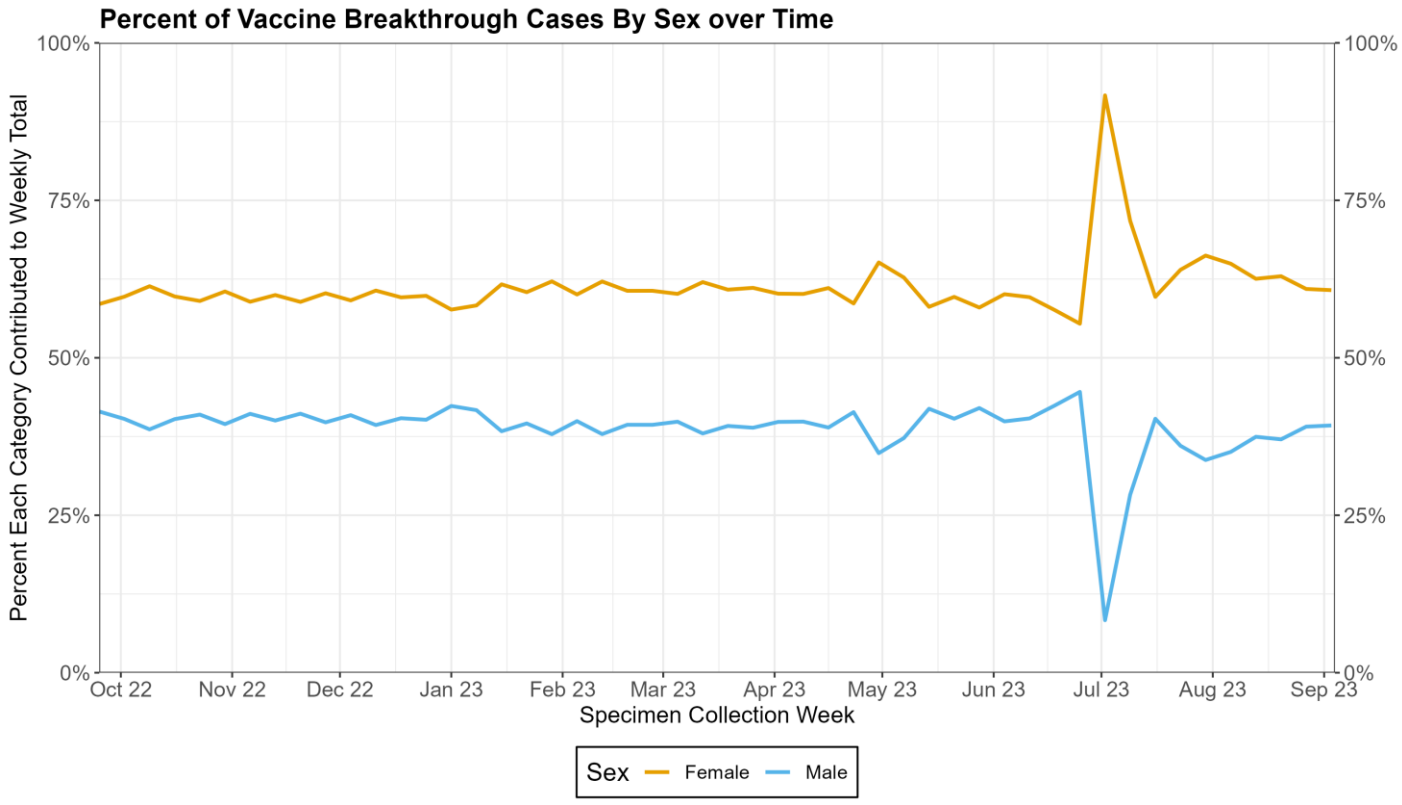


* $sum\left(\frac{Number\ with\ COVID-19\ among\ those\ who\ are\ vaccinated\ each\ day}{Number\ of\ NM\ residents\ who\ are\ vaccinated\ each\ day} \times 100{,}000\right)$

Vaccinated Cases by Sex

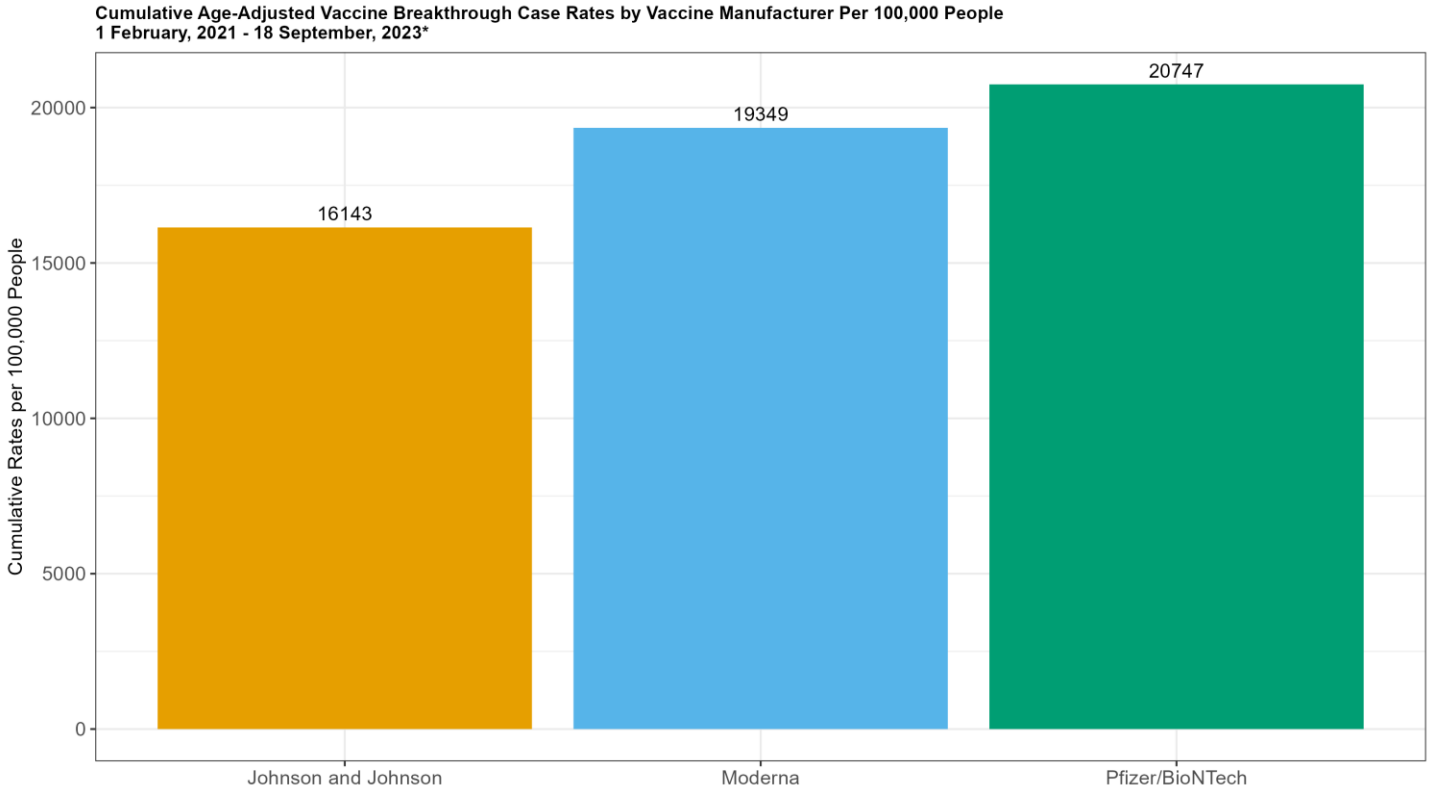


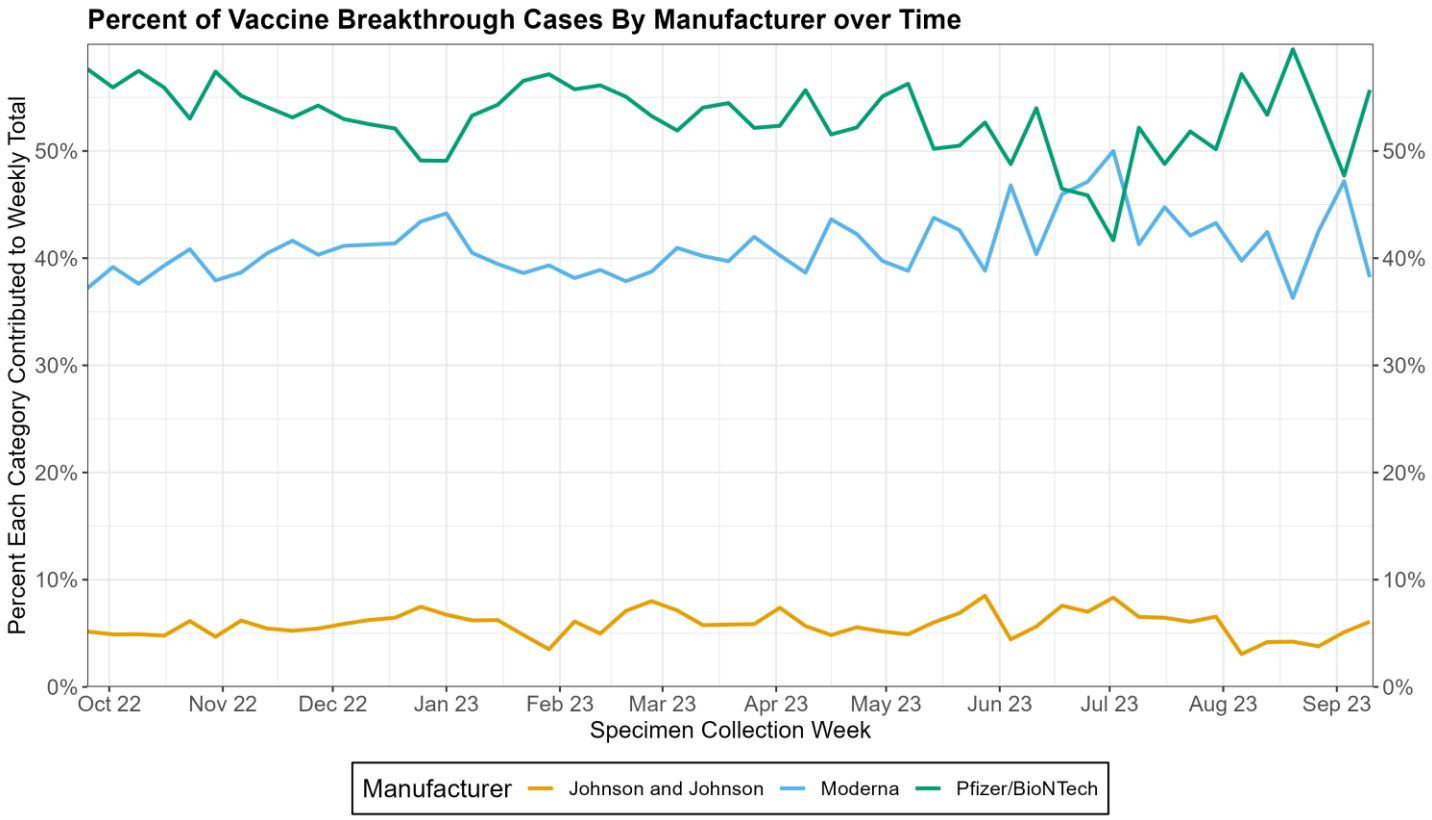
*The numbers under the bars are the rate ratios, which represent the increased risk of testing positive for those who are without an updated booster relative to those who have received the updated bivalent booster.



* $sum\left(\frac{Number\ with\ COVID-19\ among\ those\ who\ are\ vaccinated\ each\ day}{Number\ of\ NM\ residents\ who\ are\ vaccinated\ each\ day} \times 100,000\right)$

Vaccinated Cases by Vaccine Manufacturer





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Data Sources

- **COVID-19 data**
    - **New Mexico Electronic Disease Surveillance System (NM-EDSS)**, Infectious Disease Epidemiology Bureau, Epidemiology and Response Division, New Mexico Department of Health.
    - **Salesforce/MTX COVID-19 Case Investigation Platform.**
- **Vaccination Data**
    - **New Mexico State Immunization Information System (NMSIIS),** NMDOH Immunization Program, Public Health Division, New Mexico Department of Health
    - **Tiberius: HHS Protect-OWS,** US Health and Human Services, Department of Defense
- **Population Estimates:** University of New Mexico, Geospatial and Population Studies (GPS) Program.

Data Notes

- **The data reported in this weekly update may not match the daily numbers that are reported in the New Mexico Department of Health (NMDOH) press releases and/or the NMDOH COVID-19 data dashboard. This may be due to variation in the date and time of data extraction from NM-EDSS, corrections after quality assurance review, and differences in the exclusion criteria.**

- **New Mexico Electronic Disease Surveillance System (NM-EDSS).** Disease incidence data are derived from reports of notifiable infectious diseases. NMDOH relies on health care providers, laboratories, hospitals, clinics, institutions and individuals to report suspected and confirmed notifiable infectious diseases in accordance with New Mexico Administrative Code 7.4.3.13. Under-reporting can occur due to of lack of awareness about reporting requirements or lack of compliance with those requirements. Not all cases of infectious diseases can be detected for various reasons including lack of access to health care services, lack of laboratory testing or concerns about confidentiality. Specific and standardized national case definitions are used to classify disease reports by case status.

- **New Mexico Population Estimates.** All population estimates apply to July 1 of 2020. Estimates include decimal fractions. The sum of population subgroup estimates may not exactly equal the overall state population estimate due to rounding error. Population estimates for previous years are occasionally revised as new information becomes available. When publishing trend data, always be sure that your rates for earlier years match current rates on NM-IBIS that have been calculated with the most up-to-date population estimates.

- **Case rate per 100,000 population**. A basic measure of disease-specific case frequency is a rate, which takes into account the number of cases and the population size. It is helpful in making public health decisions for a given population, relative to another population regardless of size.