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# **Nebraska Statewide Infectious Disease Updates**

**July 23, 2024**



# Nebraska Updates

## TUESDAY 7/23/2024



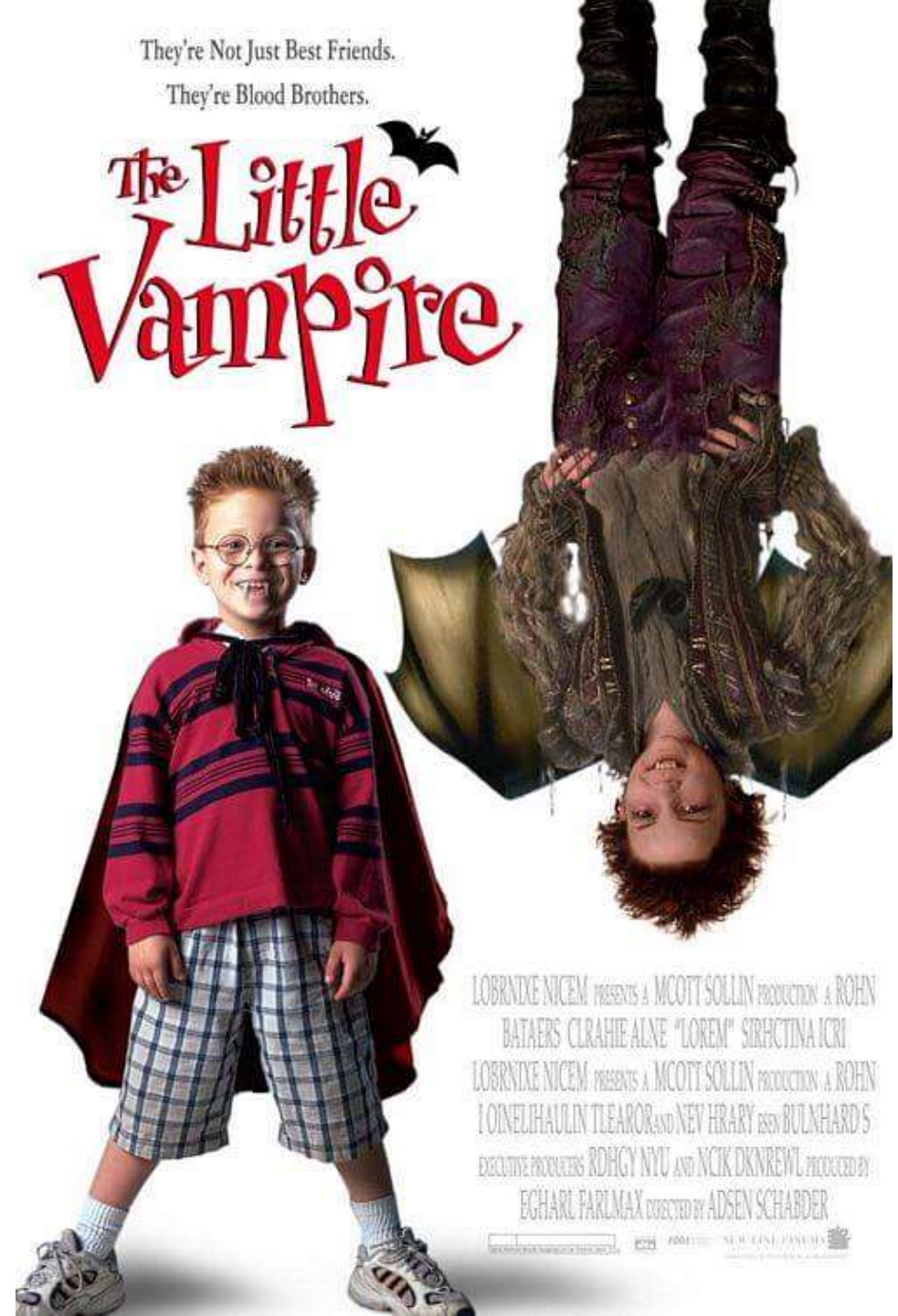
- 
- **International and National Updates – James Lawler**
  - **Public Health and Coalition Leader Updates**
  - **ICAP LTC & ALF Updates - Juan Teran**
  - **Other Updates - All**

# **INTERNATIONAL & NATIONAL UPDATES**

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# COVID-19 and H5N1 Update

July 23, 2024



HEALTH

# Bird flu that infected 6 Colorado poultry workers is closely related to the virus in COWS

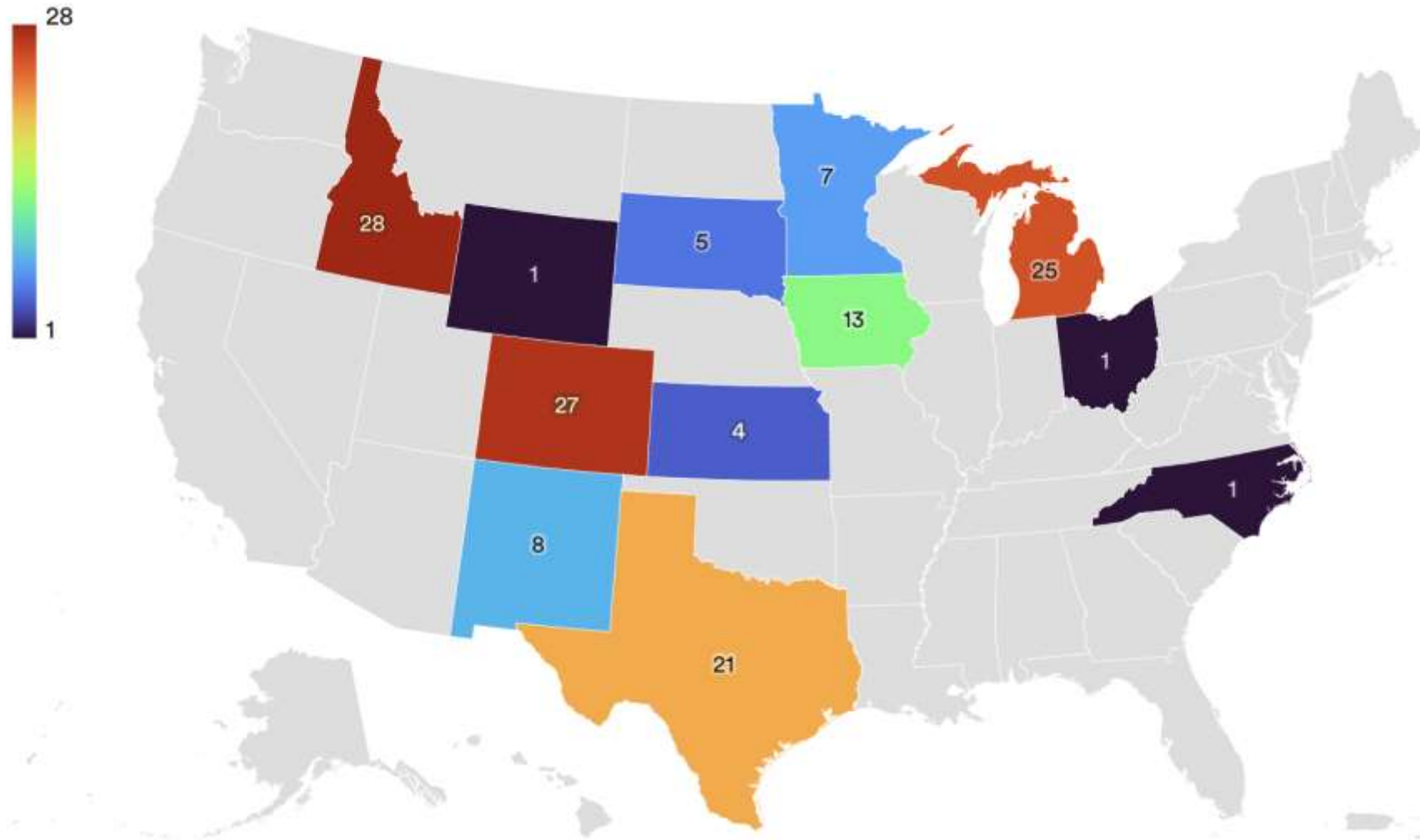


By [Megan Molteni](#)  July 22, 2024

[Reprints](#)

## States with confirmed cases of H5N1 in livestock

Number of confirmed cases of avian influenza in livestock (mainly dairy cattle)



Most recent case July 02, 2024

Map: J. Emory Parker/STAT • Source: USDA, state agencies



## H5 Bird Flu: Current Situation

### Humans

Total Reported Human Cases in the United States: **11** (since 2022)

**4** following exposure to dairy cows (reported between 4/1/2024 and 7/3/2024 | [Full Report](#))

**7** following exposure to poultry (reported between 4/28/2022 and 7/14/2024) | [Full Report](#)

States with Reported Case(s): **3**

*\*5 of the 11 H5 human cases reported in the US have been confirmed as H5N1.*

[Learn More](#)





## CDC A(H5N1) Bird Flu Response Update, July 19, 2024

- Reporting the preliminary results of the Michigan-led seroprevalence investigation. CDC analyzed sera (blood) collected from people who were exposed to dairy cattle infected with highly pathogenic avian influenza (HPAI) A(H5N1) clade 2.3.4.4b viruses causing outbreaks among animals in the United States. These blood samples were collected as part of a type of study called a [seroprevalence study](#). Seroprevalence studies test people's blood for antibodies (an immune response) specific to a pathogen of interest, in this case HPAI A(H5N1). These studies can tell us whether someone has been previously infected.
- - Blood samples were collected in June 2024 from 35 people who work on dairies in Michigan with herds that were confirmed positive for HPAI A(H5N1) virus.
  - Study participants were from multiple counties and had different roles on affected farms, but most worked with sick cows directly and fewer than half reported using masks or goggles.
  - These samples were tested for antibodies against an avian influenza A(H5N1) clade 2.3.4.4b virus and a seasonal influenza virus (control virus) to measure antibodies.
  - Specimens were tested by two methods: [microneutralization and hemagglutination inhibition](#) (HI) assays.
  - None of these 35 people showed neutralizing antibodies (a sign of prior infection) specific to avian influenza A(H5N1) virus.
  - Many of the people had neutralizing antibodies to seasonal flu.



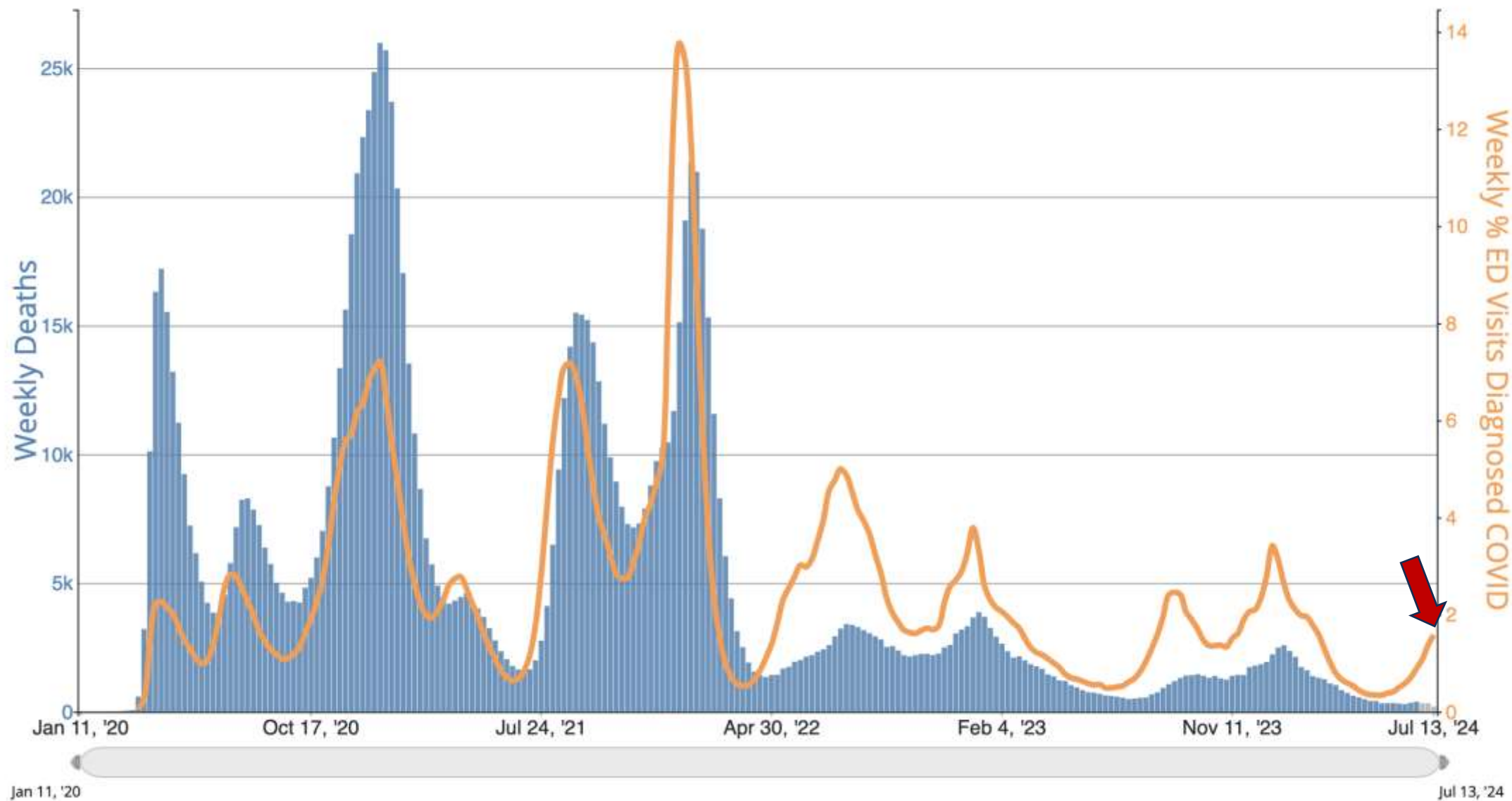
# Michigan Dairy Facts

Michigan's dairy industry provides nutritious foods produced and processed locally while making a significant economic impact on communities across the state.

## **Here are some fun facts about one of our state's largest agricultural industries:**

- 97% of Michigan dairy farms are family owned, many of them by multiple generations of the same family.
- Michigan has nearly 900 dairy farm families who care for about 440,000 cows.
- The average dairy herd in Michigan has just over 500 cows. Just like businesses grow to support families, herd sizes increase to allow the next generation to continue farming.

Provisional COVID-19 Deaths and Percentage of Emergency Department (ED) Visits Diagnosed as COVID-19, by Week, in The United States, Reported to CDC

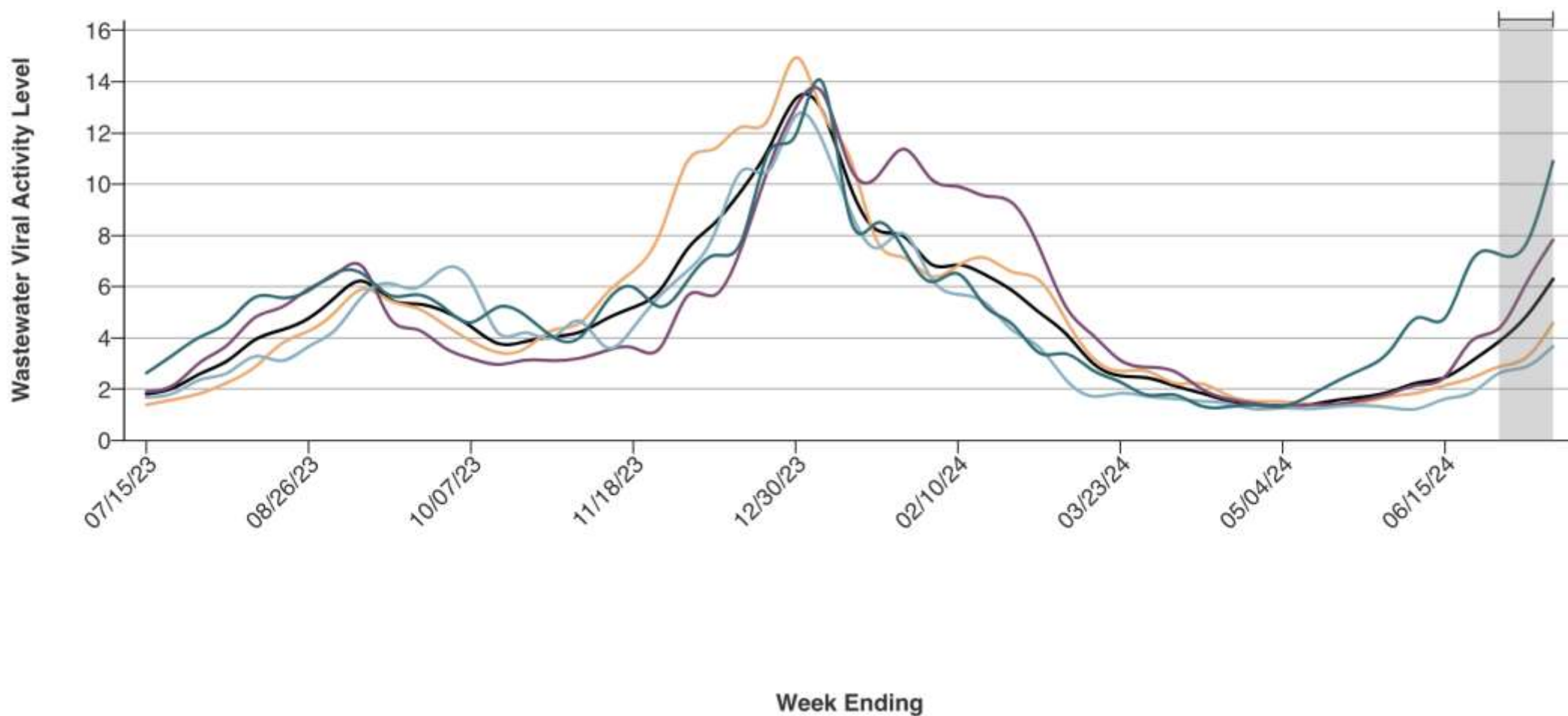




This chart shows national and regional trends of SARS-COV-2 viral activity levels in wastewater.

Make a selection from the filters to change the visualization information.

1 Year ▾



**Figure 3A. Cumulative Percentage of Adults 18 Years and Older Vaccinated with the Updated 2023-24 COVID-19 Vaccine<sup>\*,†,‡,±</sup>**  
 Data Source: National Immunization Survey–Adult COVID Module

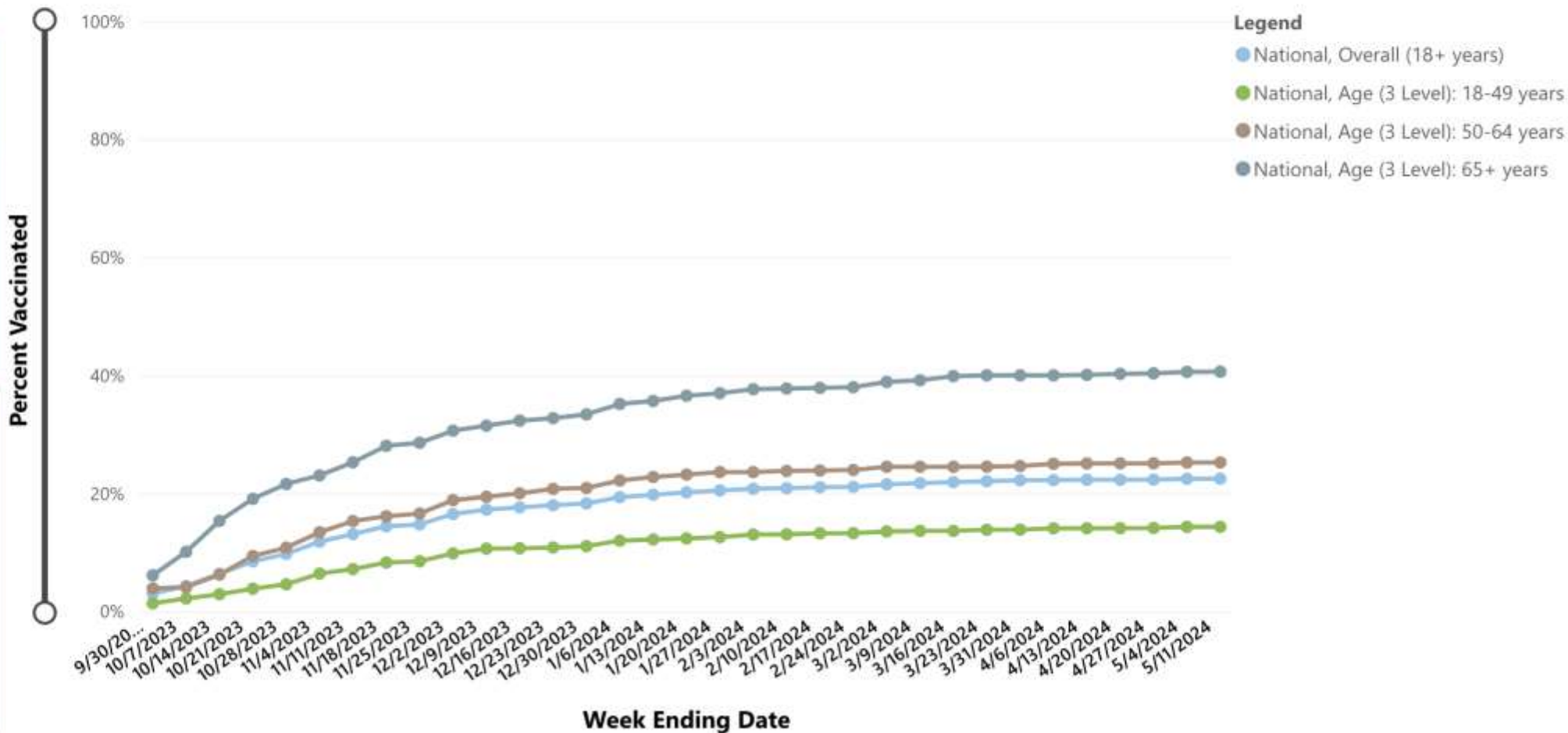
**Jurisdiction**

- Select all
- National
- Region
- State
- Substate

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**Demographics**

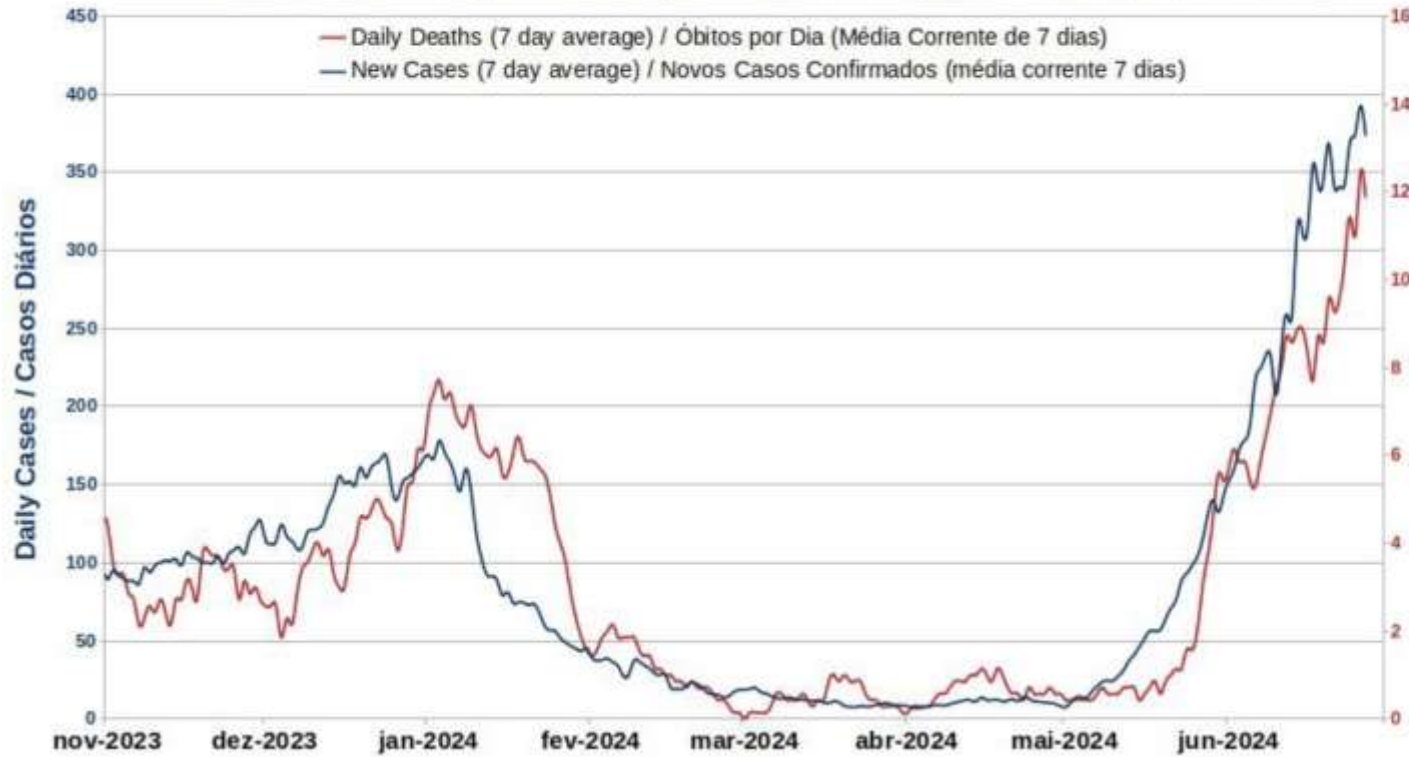
- Select all
- Overall
- Age (1 Level)
- Age (3 Level)
- Age (6 Level)
- Disability Status
- Gender Identity
- Health Insurance
- Health Insurance Among 18-6...
- Poverty Status
- Race/Ethnicity
- Sex
- Sexual Orientation
- Urbanicity





### COVID-19 Cases and Deaths in Portugal / Casos e Óbitos COVID-19 em Portugal

Data source/Origem dos dados: <https://covid19.min-saude.pt/numero-de-novos-casos-e-obitos-por-dia> Graph by/Feito por: @RPLerias Pedro Lérias



**Antonio Caramia**  
@Antonio\_Caramia



**Il numero di casi e decessi Covid in Portogallo 🇵🇹 di questa ondata estiva sono impressionanti!**

**➡ Più del DOPPIO rispetto a questo inverno !!**

**➡ 80 morti alla settimana su una popolazione di ~10 milioni di abitanti (come se in Italia 🇮🇹 ne avessimo ~480 !!).**

[#CovidIsNotOver](#)

[Translate post](#)

**Ralf Wittenbrinl** @RWittenbrin · Jul 18

Weiterhin sehr hohe COVID-19 Sterblichkeit in Portugal

„In Portugal sterben täglich durchschnittlich 12 Menschen an Covid-...  
[Show more](#)

1:14 AM · Jul 19, 2024 · **41.9K** Views

11 79 142 24

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ORIGINAL ARTICLE



# Postacute Sequelae of SARS-CoV-2 Infection in the Pre-Delta, Delta, and Omicron Eras

**Authors:** Yan Xie, Ph.D.

, Taeyoung Choi, M.S., and Ziyad Al-Aly, M.D.

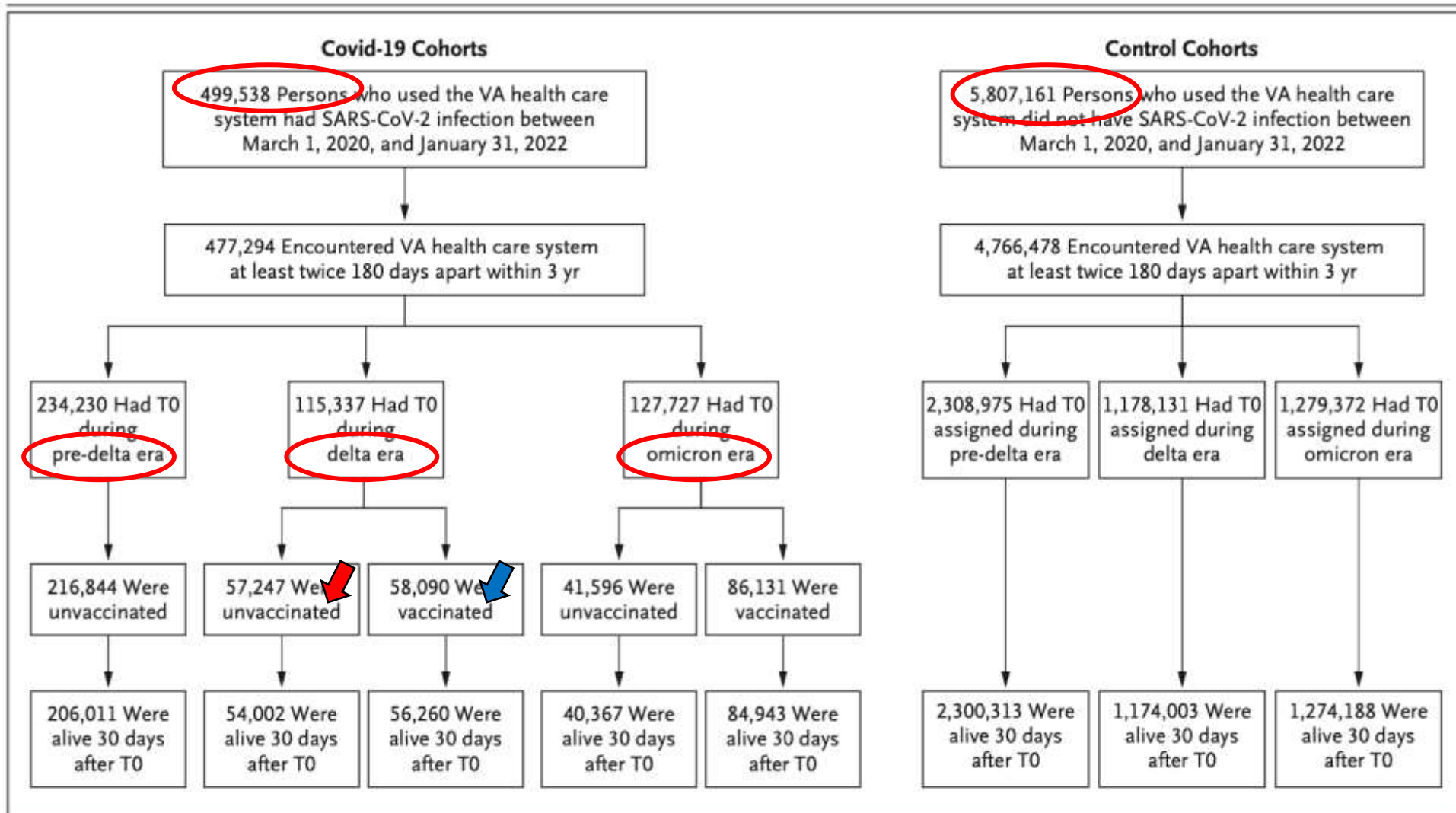
[Author Info &](#)

[Affiliations](#)

Published July 17, 2024 | DOI: 10.1056/NEJMoa2403211

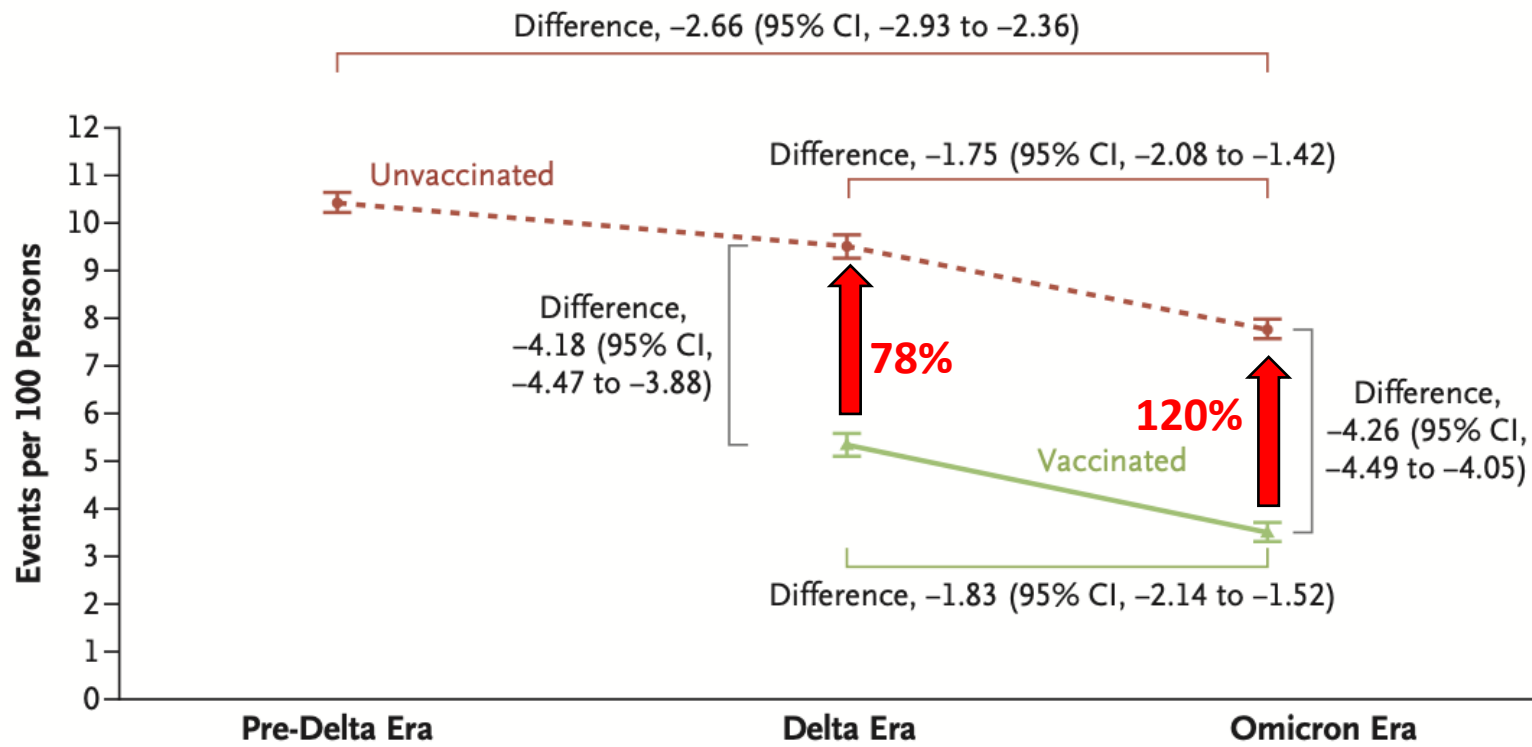






**Figure 1. Study Cohorts.**

T0 for persons in the coronavirus disease 2019 (Covid-19) cohorts was defined as the date of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. T0 for persons in the control cohorts was assigned according to the distribution of T0 in the Covid-19 cohorts. VA denotes Veterans Affairs.



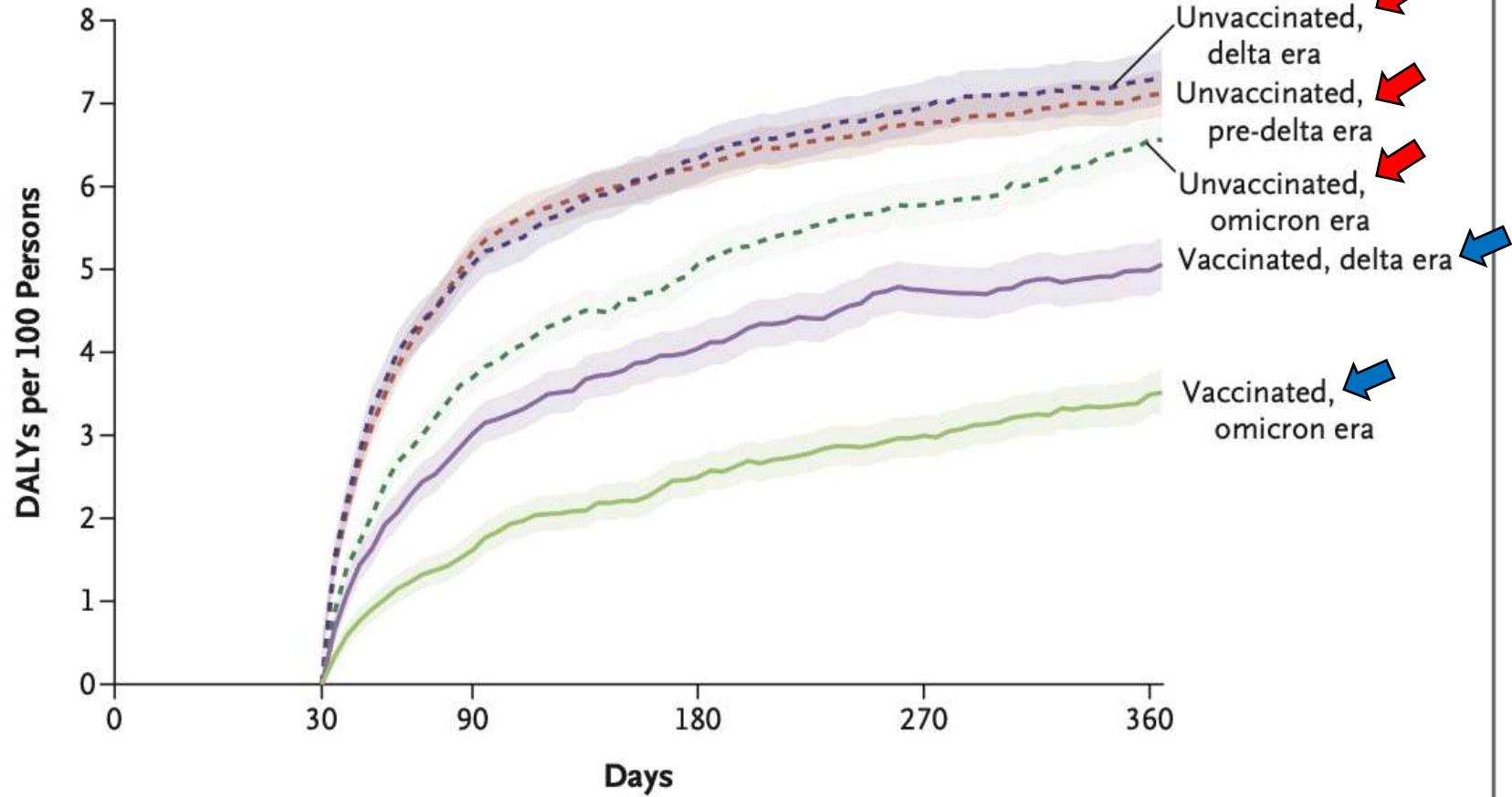
**Events per 100 Persons**

Unvaccinated	10.42 (95% CI, 10.22–10.64)	9.51 (95% CI, 9.26–9.75)	7.76 (95% CI, 7.57–7.98)
Vaccinated	-	5.34 (95% CI, 5.10–5.58)	3.50 (95% CI, 3.31–3.71)

**Figure 2. Cumulative Incidence of Postacute Sequelae of SARS-CoV-2 Infection (PASC) in the Pre-Delta, Delta, and Omicron Eras According to Vaccination Status.**

Shown is the cumulative incidence of PASC at 1 year after SARS-CoV-2 infection among unvaccinated persons during the pre-delta, delta, and omicron eras and among vaccinated persons during the delta and omicron eras. Also shown are selected comparisons (presented as differences on the absolute scale) within and between the cohorts. I bars indicate 95% confidence intervals.

### A Cumulative DALYs from 30 Days to 1 yr after Infection



No. at Risk		30	90	180	270	360
---	Unvaccinated, pre-delta era	206,011	162,104	123,095	98,591	81,481
---	Unvaccinated, delta era	54,002	43,714	35,445	29,737	25,515
- - -	Unvaccinated, omicron era	40,367	33,319	27,572	23,230	19,940
—	Vaccinated, delta era	56,260	44,388	34,139	27,145	22,187
—	Vaccinated, omicron era	84,943	68,624	54,602	44,416	36,765

ORIGINAL ARTICLE

 Open Access



## Differential decline of SARS-CoV-2-specific antibody levels, innate and adaptive immune cells, and shift of Th1/inflammatory to Th2 serum cytokine levels long after first COVID-19

Bernhard Kratzer, Pia Gattinger, Doris Trapin, Paul Ettel, Ulrike Körmöczi, Arno Rottal, Robert B. Stieger, Al Nasar Ahmed Sehgal, Melanie Feichter, Kristina Borochova, Inna Tulaeva, Katharina Grabmeier-Pfistershammer, Peter A. Tauber, Thomas Perkmann, Ingrid Fae, Sabine Wenda, Michael Kundi, Gottfried F. Fischer, Rudolf Valenta , Winfried F. Pickl  ... See fewer authors 

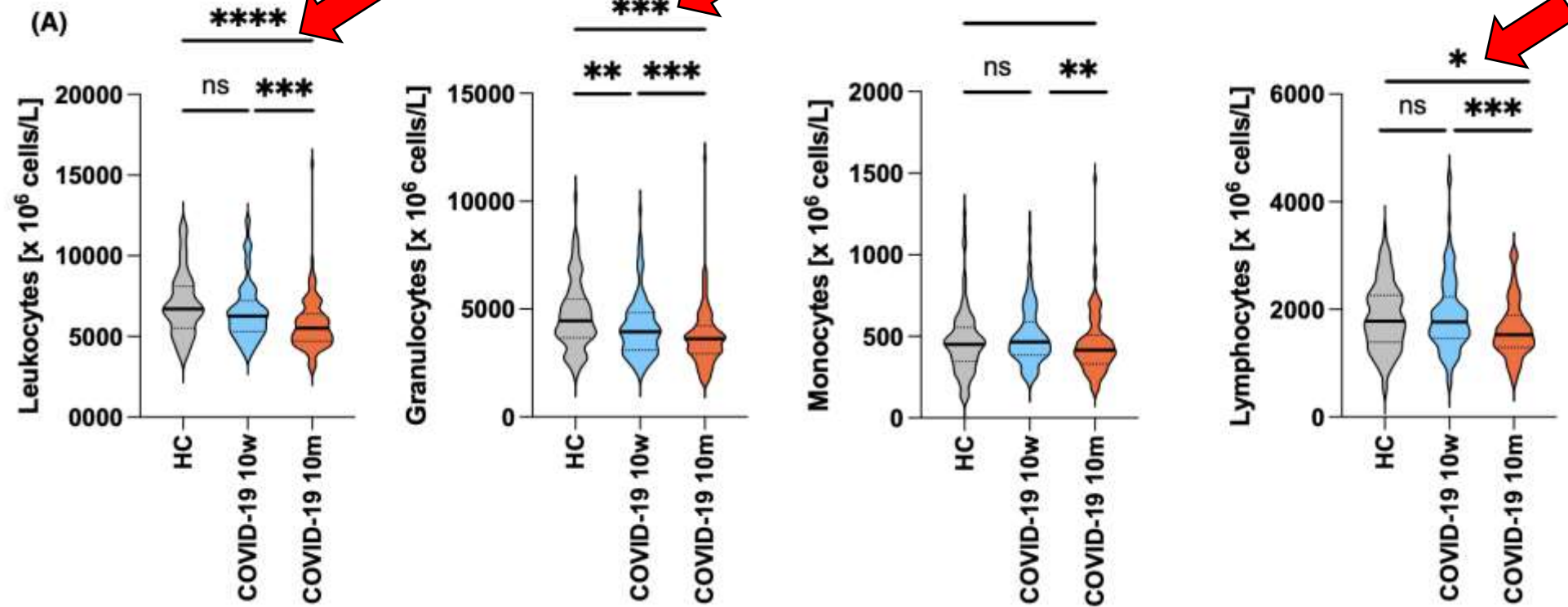
First published: 14 July 2024 | <https://doi.org/10.1111/all.16210>

The authors Bernhard Kratzer and Pia Gattinger equally contributed to the work.



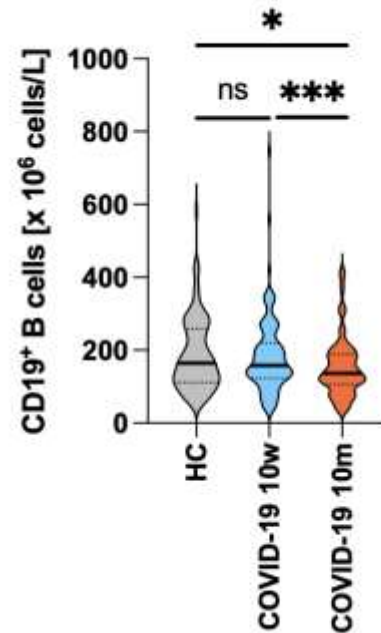
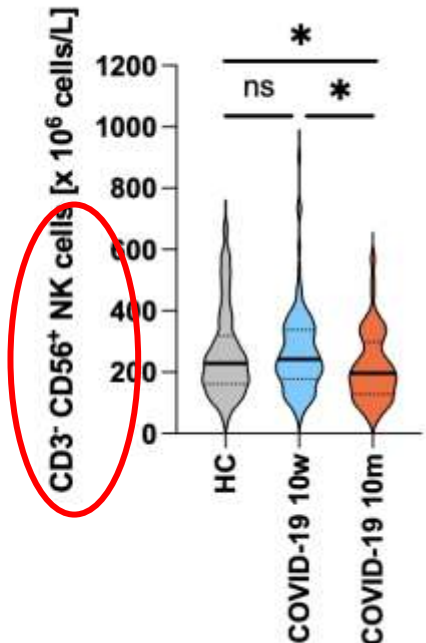
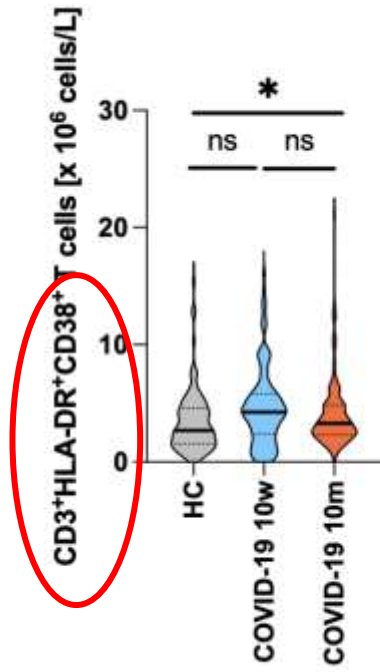
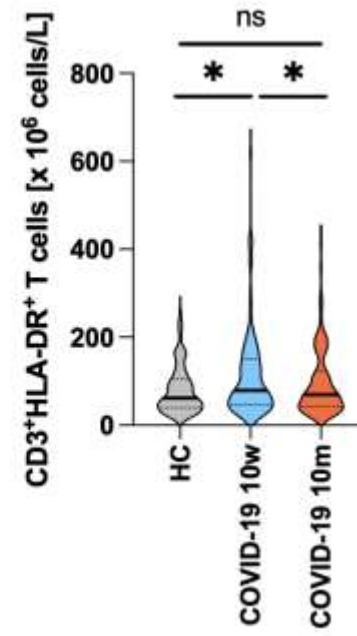
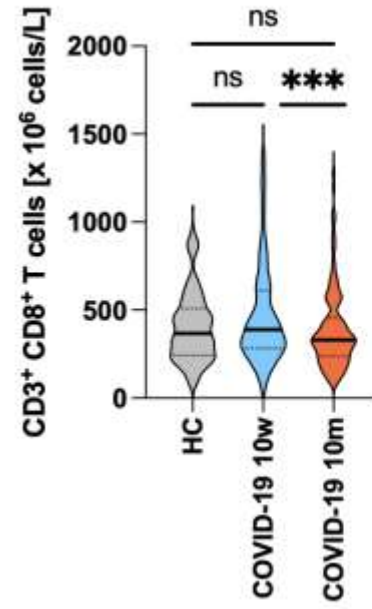
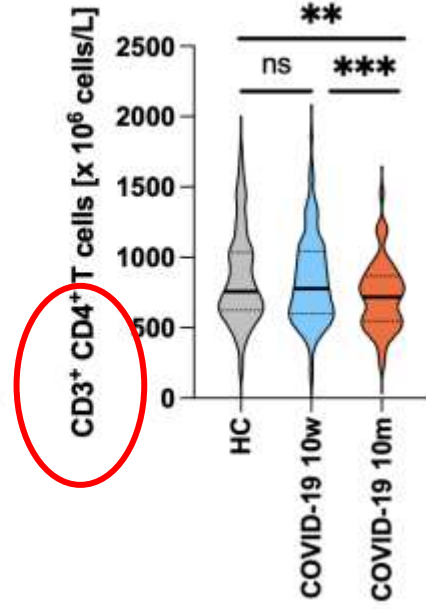
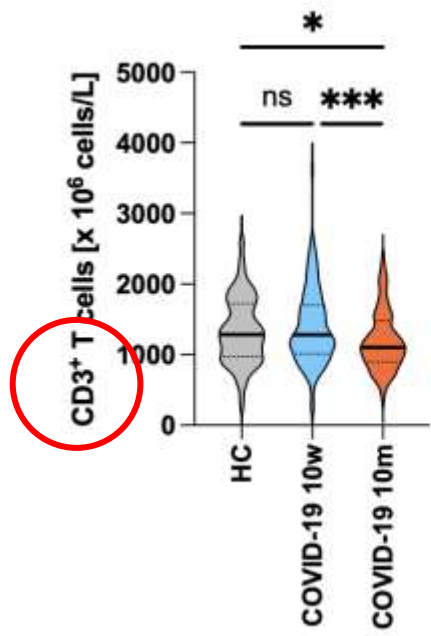


(A)



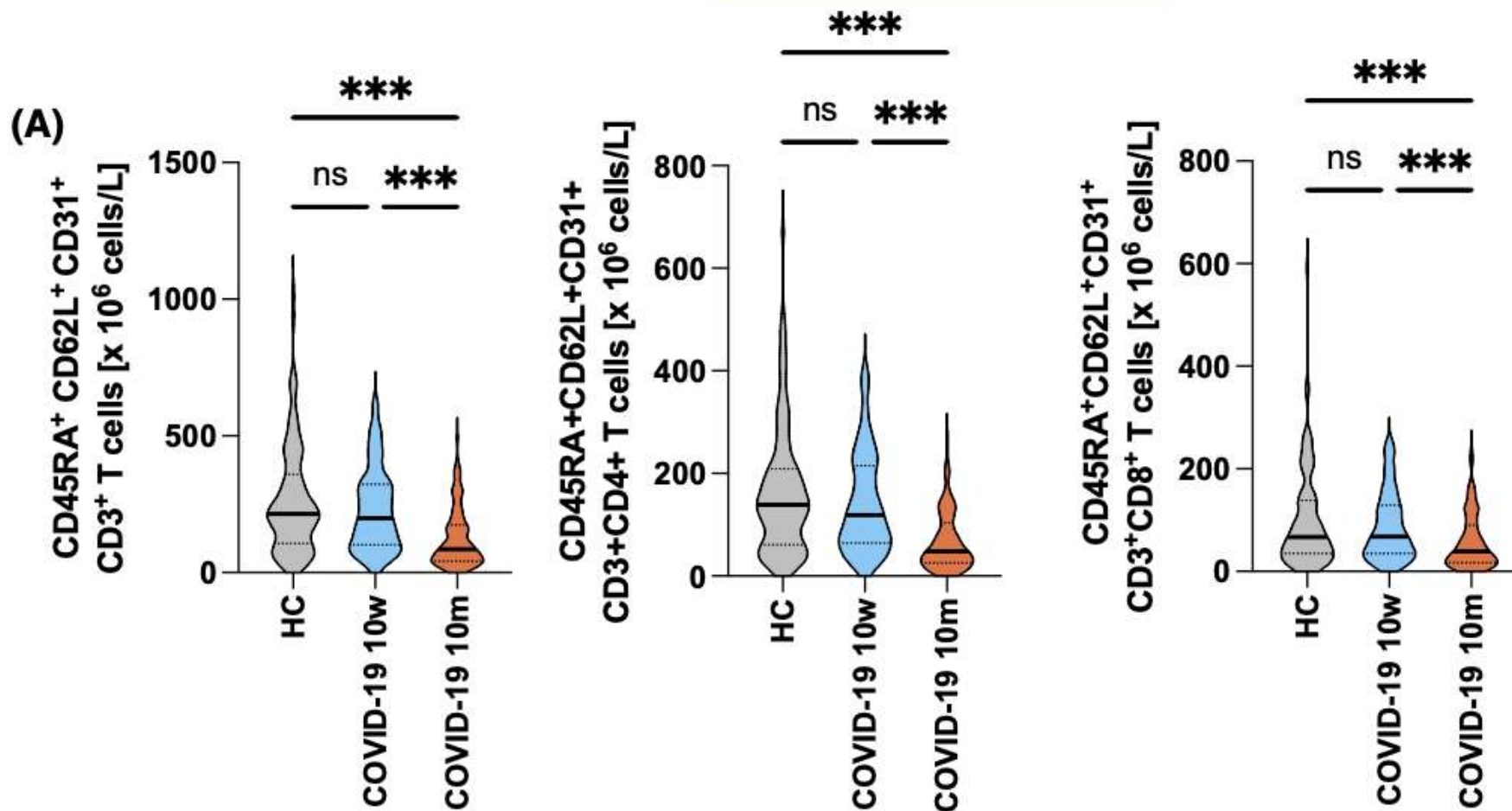
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .





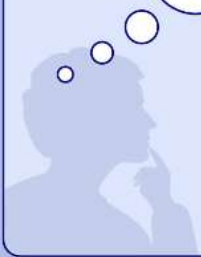
‘cytotoxic CD8<sup>+</sup> T cells were strongly activated, as reflected by high HLA- DR and CD38 expression levels compared to noninfected’

\*p < .05; \*\*p < .01; \*\*\*p < .001.

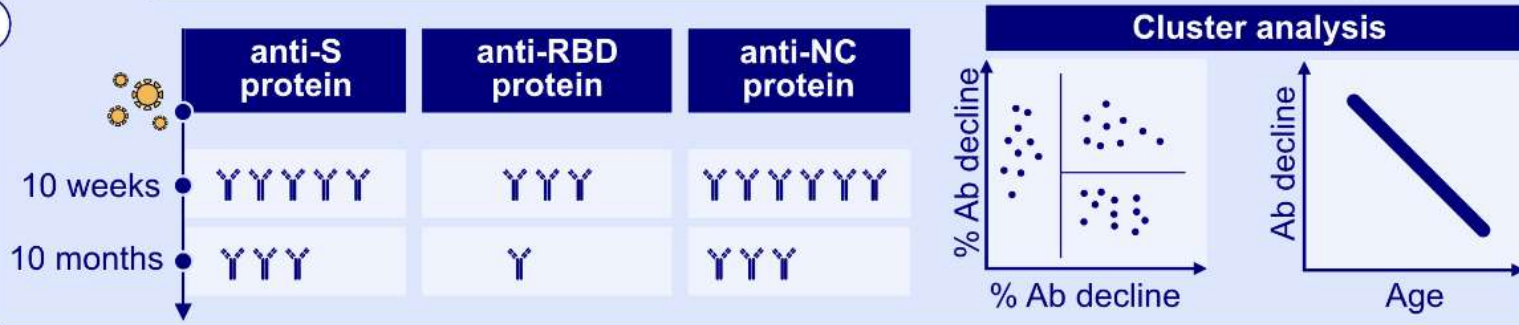


\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

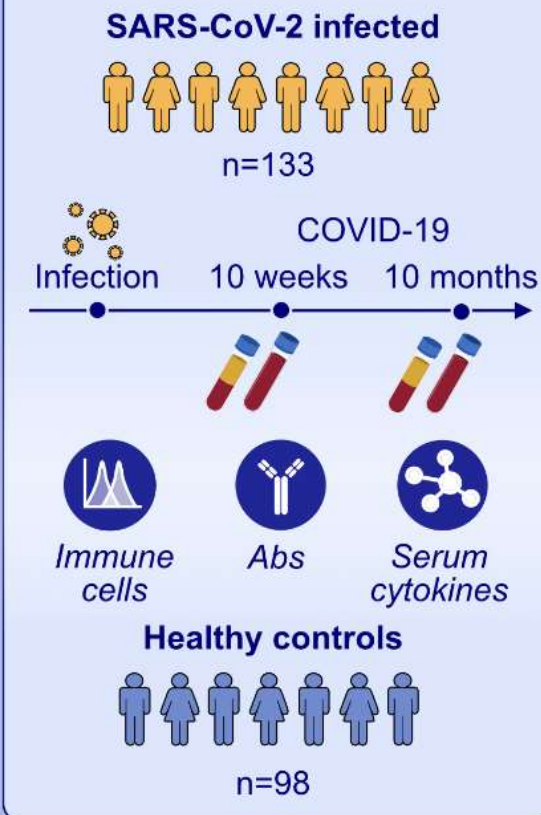
**Long-term effect of COVID-19**



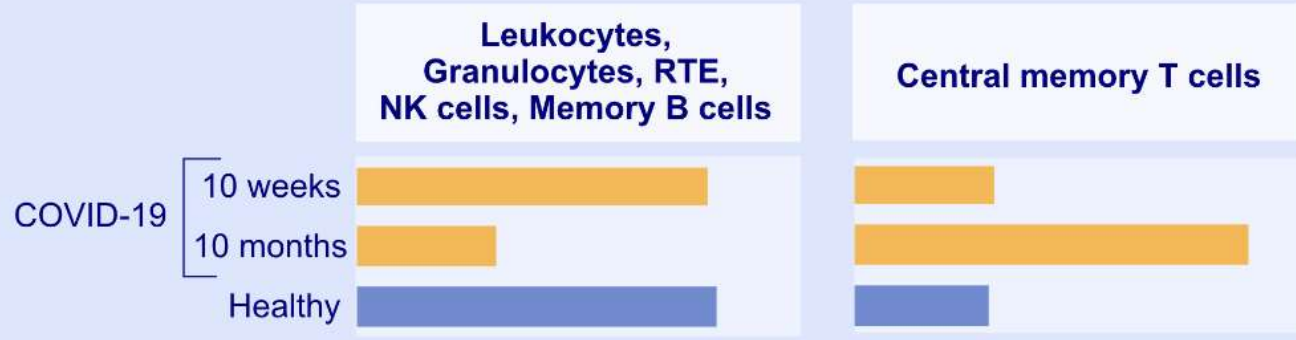
**Strong decline of virus-specific Abs few months after infection**



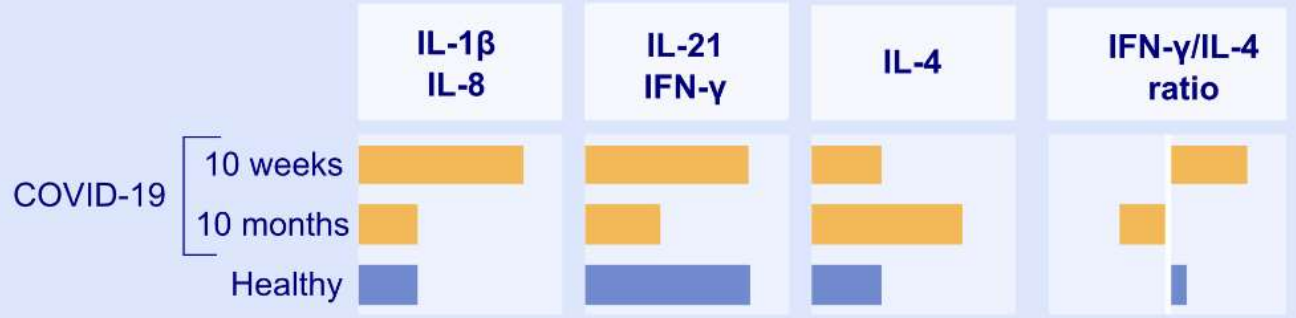
**Study design**



**Long-term reduction of innate and adaptive immune cells**



**Cellular changes associated with a shift from Th1 to Th2 cytokines**



“It thus seems that a single SARS- CoV-2 infection may cause a **long-lasting impact** on the cells of the innate and adaptive immune system.”

“In summary, our results provide a possible explanation that certain manifestations of long-COVID-19 may be associated with **damage of the cellular immune system** by SARS-CoV-2.”

# **PUBLIC HEALTH & COALITION LEADERS UPDATES (ALL)**

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## 2024 National Champion of Local Governmental Public Health Award



**Public Health**  
Protect. Promote. Pursue.

The National Champion of Local Public Health Award gives recognition to outstanding, significant, and innovative activities by an individual, agency, or organization that has consistently and in an extraordinary way, promoted the visibility of local governmental public health departments or NAACHO on a national basis. It is hoped this award will encourage others to act in a similar vein.

### Kim Engel

Panhandle District  
Health Department  
Hemingford, Nebraska



**Panhandle**  
Public Health District

**NACCHO** 30

Congratulations  
to Kim Engel of  
Panhandle  
District Health  
Department!

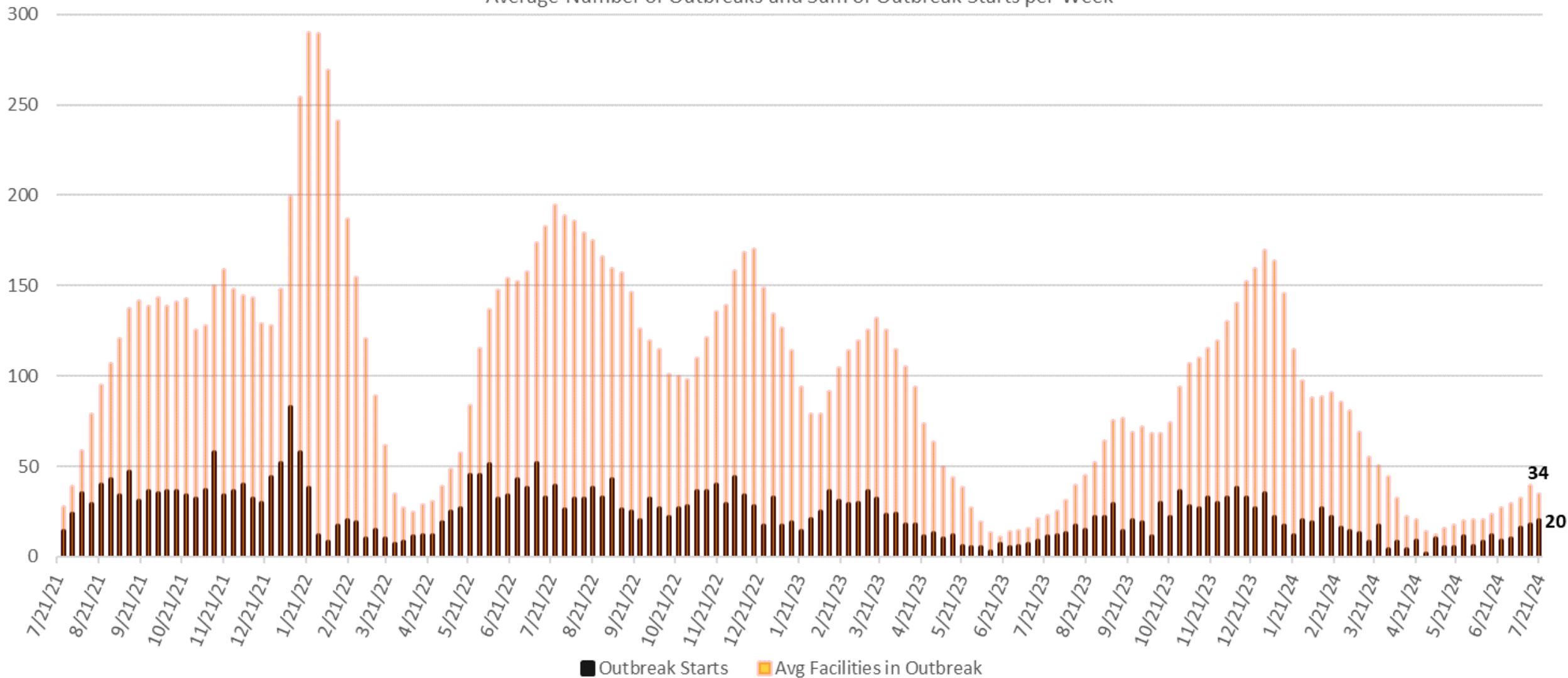


# **ICAP LTC & ALF - JUAN TERAN**

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# Nebraska LTC Facilities in COVID Outbreak by Week

Average Number of Outbreaks and Sum of Outbreak Starts per Week

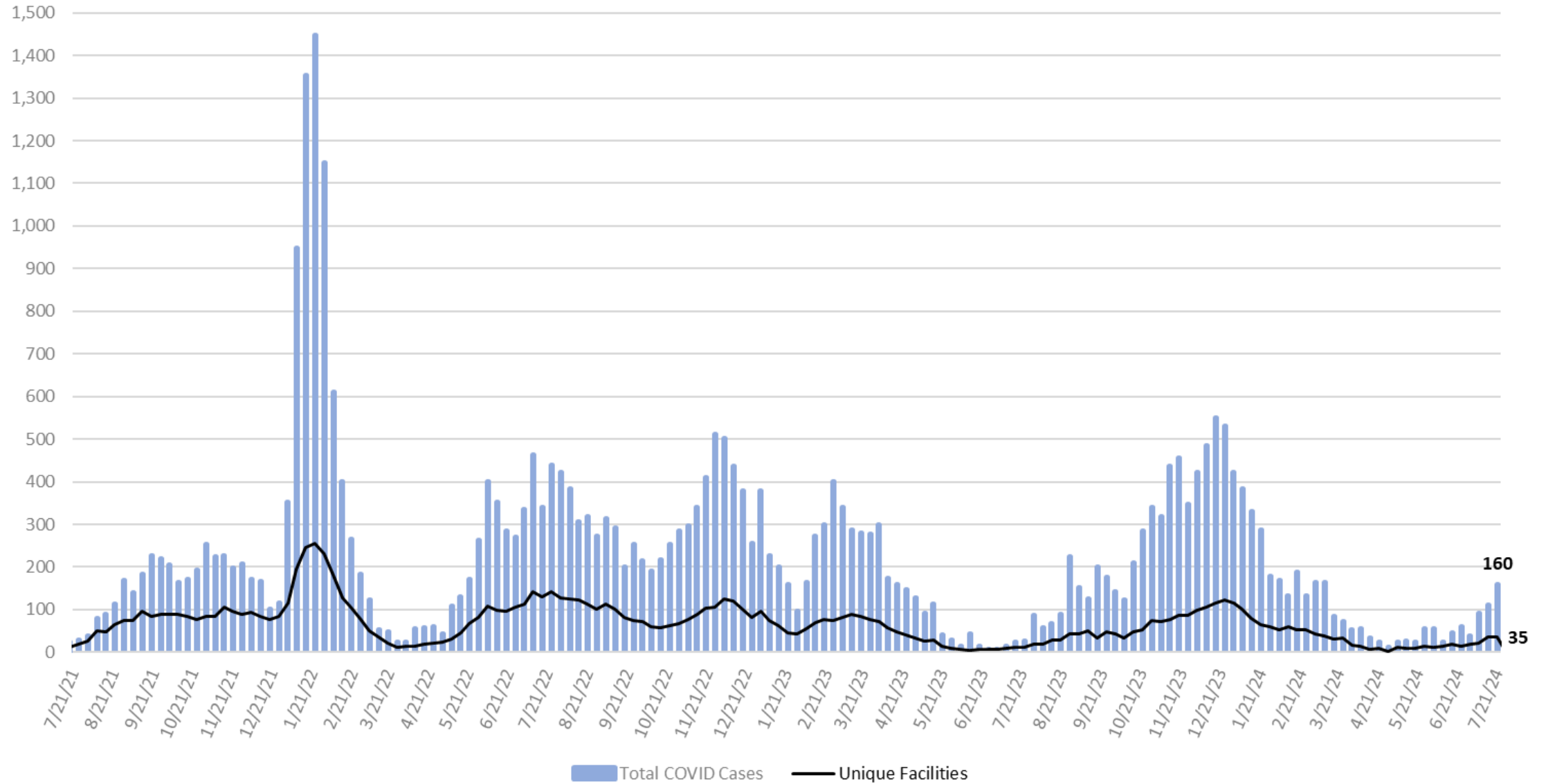


Source: Unofficial Counts Compiled by Nebraska ICAP based on data reported by facilities and DHHS; Actual Numbers may vary slightly

Slide Credit: Dan German



# Nebraska LTC Resident & Staff COVID Cases & Facilities by Week

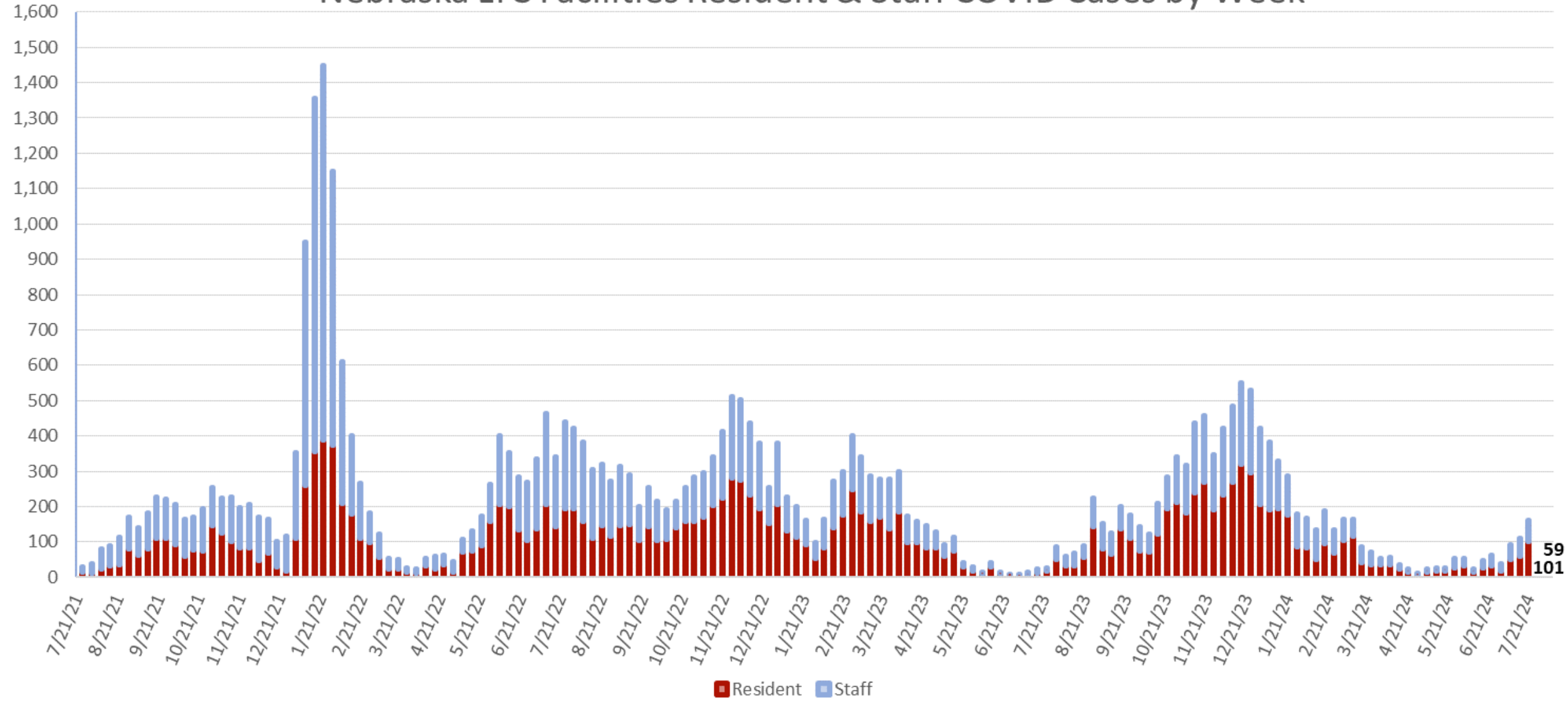


Source: Unofficial Counts Compiled by Nebraska ICAP based on data reported by facilities and DHHS; Actual Numbers may vary slightly

Slide Credit: Dan German



# Nebraska LTC Facilities Resident & Staff COVID Cases by Week

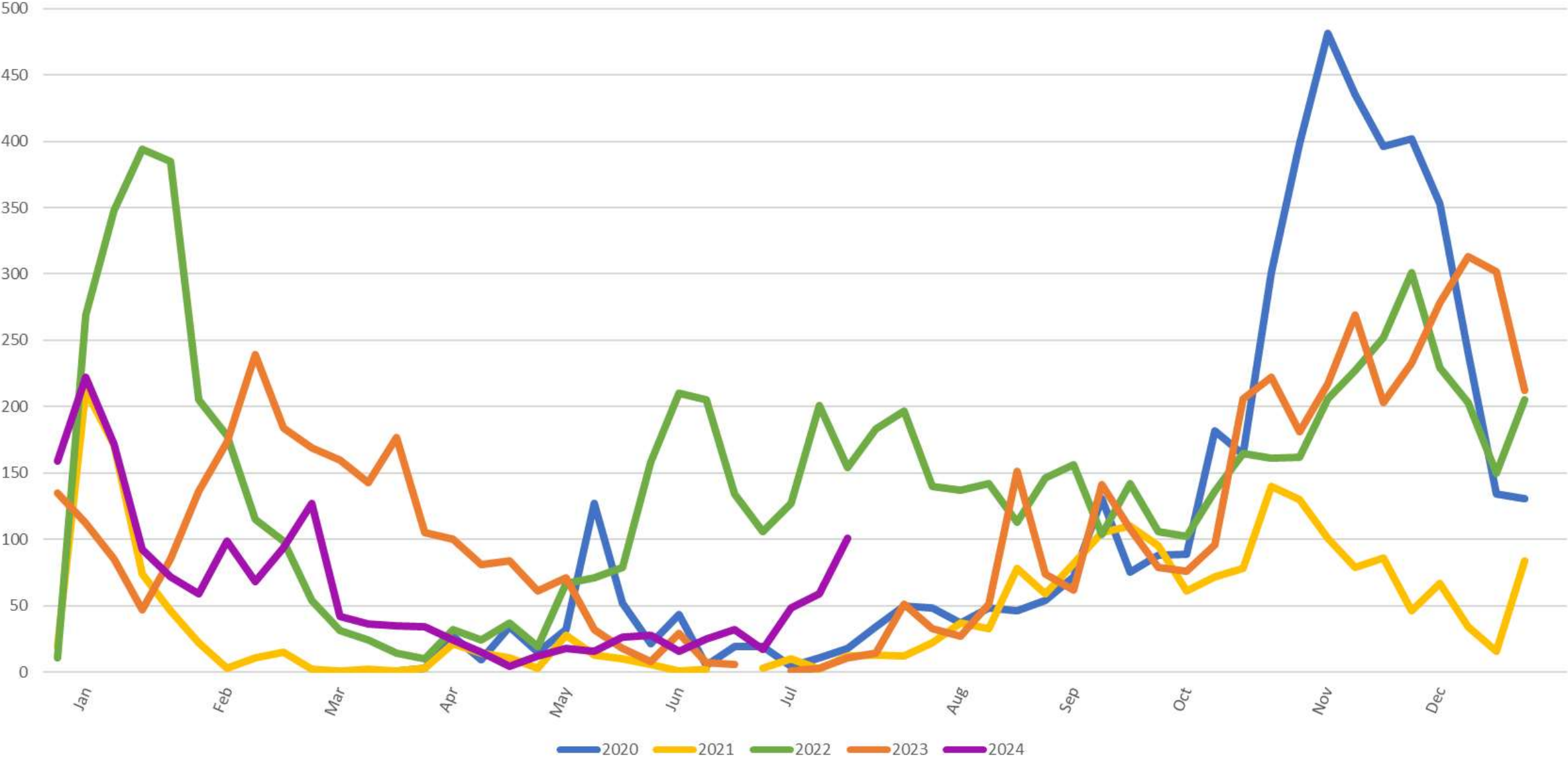


Source: Unofficial Counts Compiled by Nebraska ICAP based on data reported by facilities and DHHS; Actual Numbers may vary slightly

Slide Credit: Dan German



# Nebraska LTC COVID Residents by Week



Source: Unofficial Counts Compiled by Nebraska ICAP based on data reported by facilities and DHHS; Actual Numbers may vary slightly

Slide Credit: Dan German

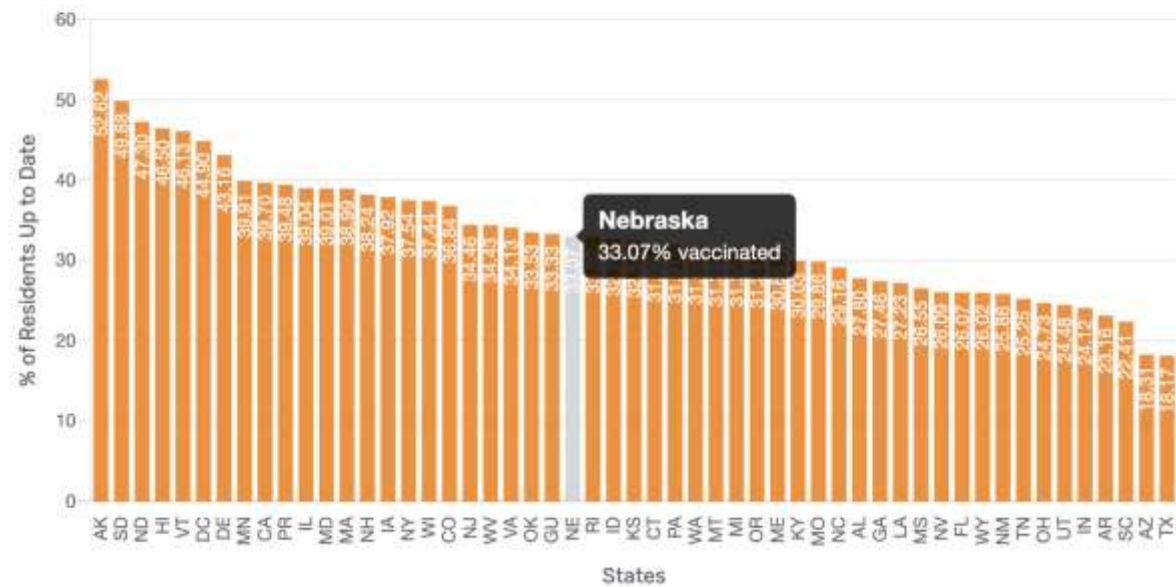




# CMS Nursing Home Data

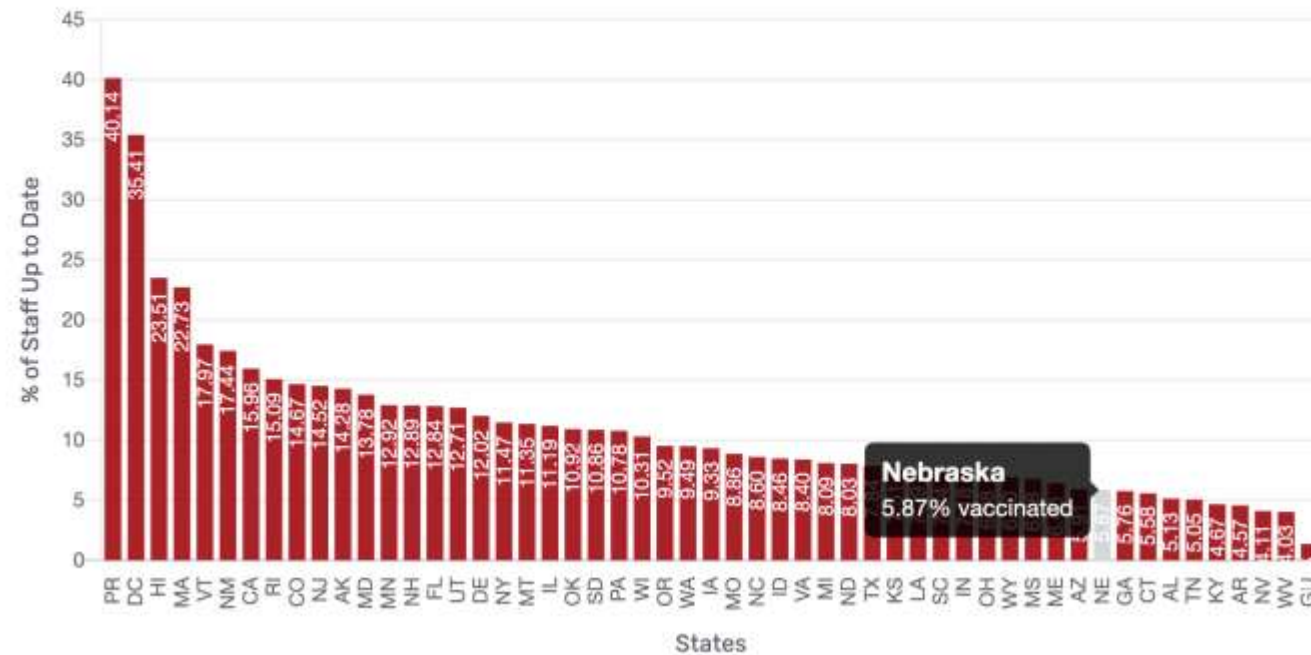
Percentage of Current Residents Up to Date with COVID-19 Vaccines per Facility

This shows the average percentage among facilities who have reported vaccination data in the current or prior week.



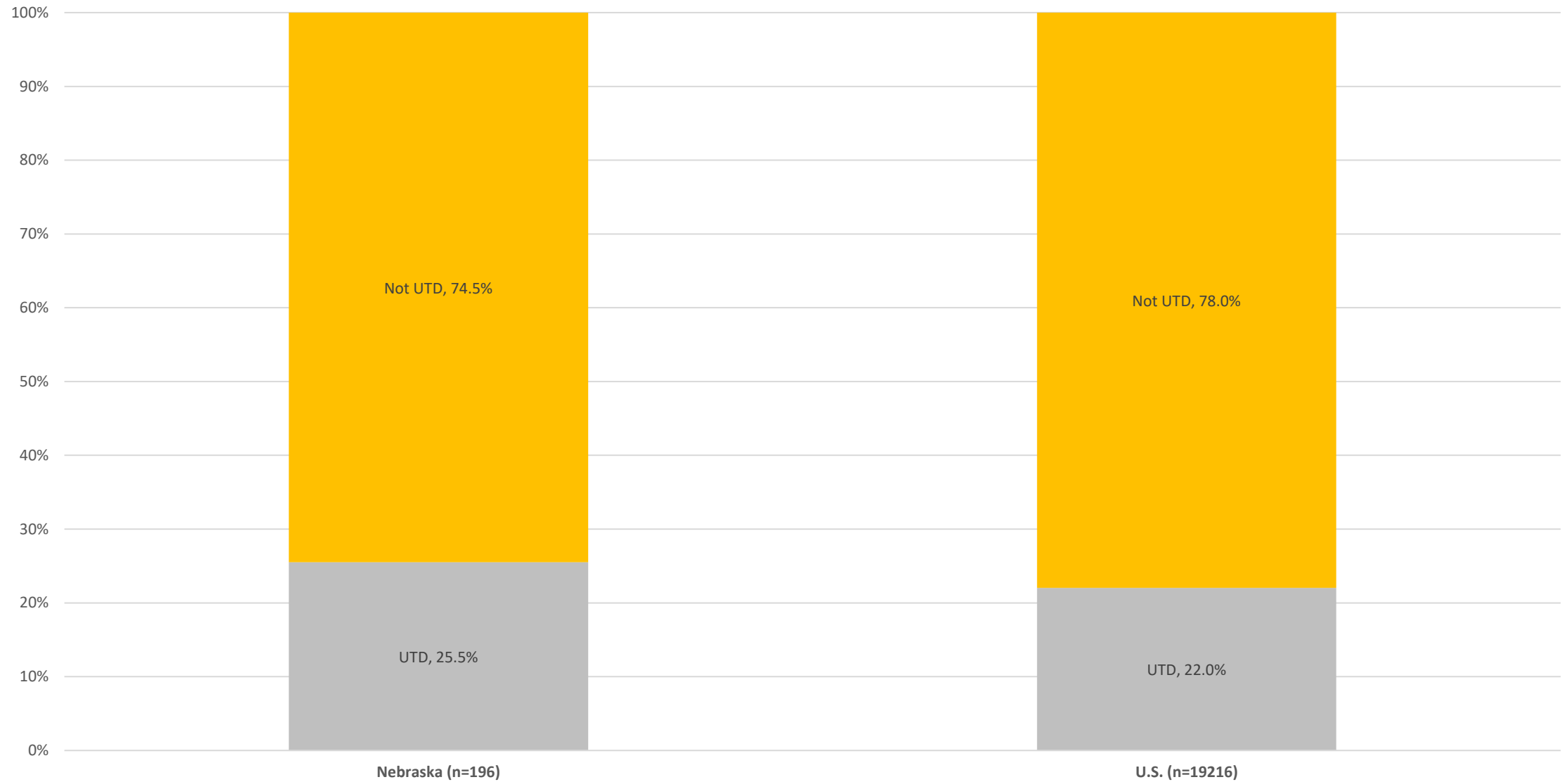
Percentage of Current Staff Up to Date with COVID-19 Vaccines per Facility

This shows the average percentage among facilities who have reported vaccination data in the current or prior week.

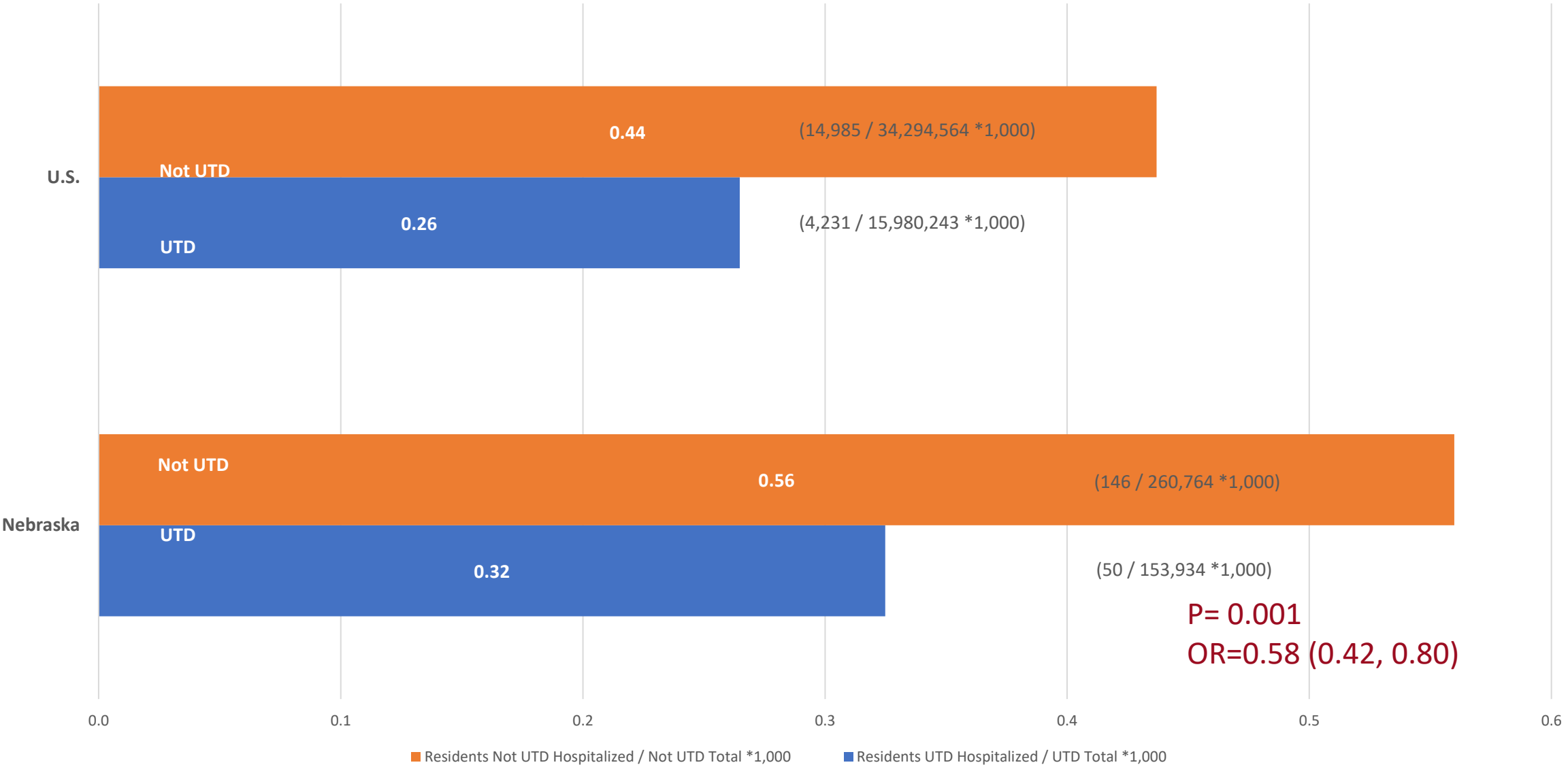


### LTC Resident COVID Hospitalizations by Vaccination Status Since October 2023

Source: CMS



LTC Residents Hospitalized with COVID by Vaccination Status per 1,000 Resident Weeks Source: CMS Data October 1, 2023 to July 7, 2024



# NEBRASKA

Good Life. Great Mission.

DEPT. OF HEALTH AND HUMAN SERVICES

## MEMO



Jim Pillen, Governor

To: Clinicians, Healthcare Facilities, & Laboratories

From: Tim Tesmer, M.D., Chief Medical Officer

Date: May 29, 2024

RE: Public Health Reporting Updates for Congenital CMV, Alpha-Gal Syndrome, & *Candida auris*

*C. auris* DNA testing by NAAT (both positive and negative), *C. auris* isolation and culture, and *C. auris* antimicrobial susceptibility testing should be immediately reported to the Nebraska Department of Health and Human Services, Division of Public Health, within 24 hours of testing. All positives require reporting regardless of method of reporting. Please see [Electronic Lab Reporting \(ELR\) in Nebraska](#) for onboarding instructions for reporting.

# *Candida auris* Wastewater





# **HOT TOPICS / OTHER UPDATES**

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