

# RUPRI Center for Rural Health Policy Analysis

## Rural Data Brief

Brief No. 2023-5

MARCH 2023

<http://www.public-health.uiowa.edu/rupri/>

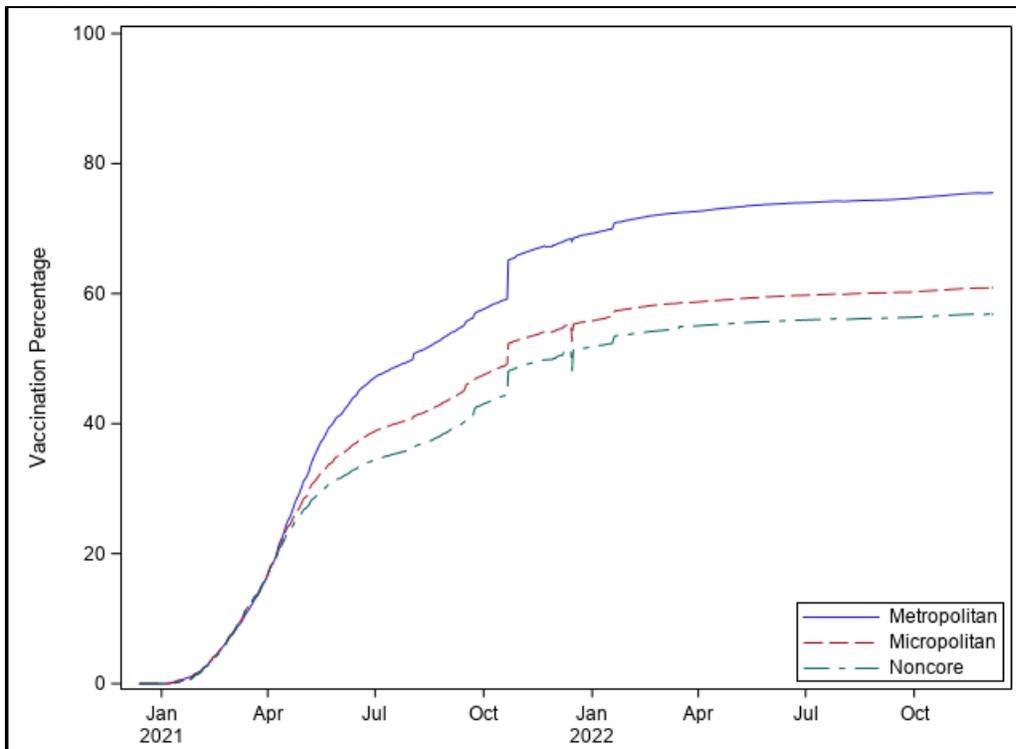
### COVID-19 Vaccination Rates

*Fred Ullrich, BA; and Keith Mueller, PhD*

#### Purpose

Lagging COVID-19 vaccination rates in nonmetropolitan areas of the United States have been long observed<sup>1</sup> with noncore counties having the lowest rates. Vaccines were first made available to select populations in December 2020 with eligibility extended to adults ages 16+ in April 2021. By May 2021, adolescents ages 12+ were eligible to receive vaccinations and by November 2021, vaccination eligibility was extended to children ages 5+<sup>2</sup>. Age-based vaccination data (county-level) has been provided by the CDC since early in 2022<sup>3</sup> and data as of December 7, 2022, are used in this report<sup>4</sup>. This data brief examines variations in vaccination rates in metropolitan and nonmetropolitan populations in the U.S.

**Figure 1. Population Age 12+ who have Completed a Primary COVID-19 Vaccination Series**



Proportion of people ages 12+ with a completed primary series (have second dose of a two-dose vaccine or one dose of a single-dose vaccine).

Source: CDC COVID-19 Vaccinations in the United States, County



Funded by the Federal Office of Rural Health Policy  
[www.ruralhealthresearch.org](http://www.ruralhealthresearch.org)

This project was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement/grant 1U1GRH07633. The information,

conclusions and opinions expressed in this policy brief are those of the authors and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.



Phone (319) 384-3830  
<http://www.public-health.uiowa.edu/rupri>  
E-mail: [cph-rupri-inquiries@uiowa.edu](mailto:cph-rupri-inquiries@uiowa.edu)

RUPRI Center for Rural Health Policy Analysis, University of Iowa College of Public Health, Department of Health Management and Policy, 145 Riverside Dr. N200 Iowa City, IA 52242-2007

## Key Findings

- Following an initial uptake period, COVID-19 vaccination rates in noncore and micropolitan counties have lagged that in metropolitan counties. In December 2022, the proportion of the population ages 12+ with a completed primary COVID-19 vaccination (i.e., have second dose of a two-dose vaccine or one dose of a single-dose vaccine) was 75.5 percent in metropolitan counties, 60.9 percent in micropolitan counties, and 56.8 percent in noncore counties.
- The same geographic pattern of vaccination rates exists across all reported age categories.
- The vaccination rate in all geographies and across all age groups has been nearly unchanged for over six months.

## Results

The nonmetropolitan COVID-19 vaccination lag has continued, and grown, since April 2021. Figure 1 shows the proportion of the population age 12+ with a completed primary vaccination series with rates as of December 7, 2022, shown in table 1.

**Table 1. Vaccination rates by age group: December 7, 2022**

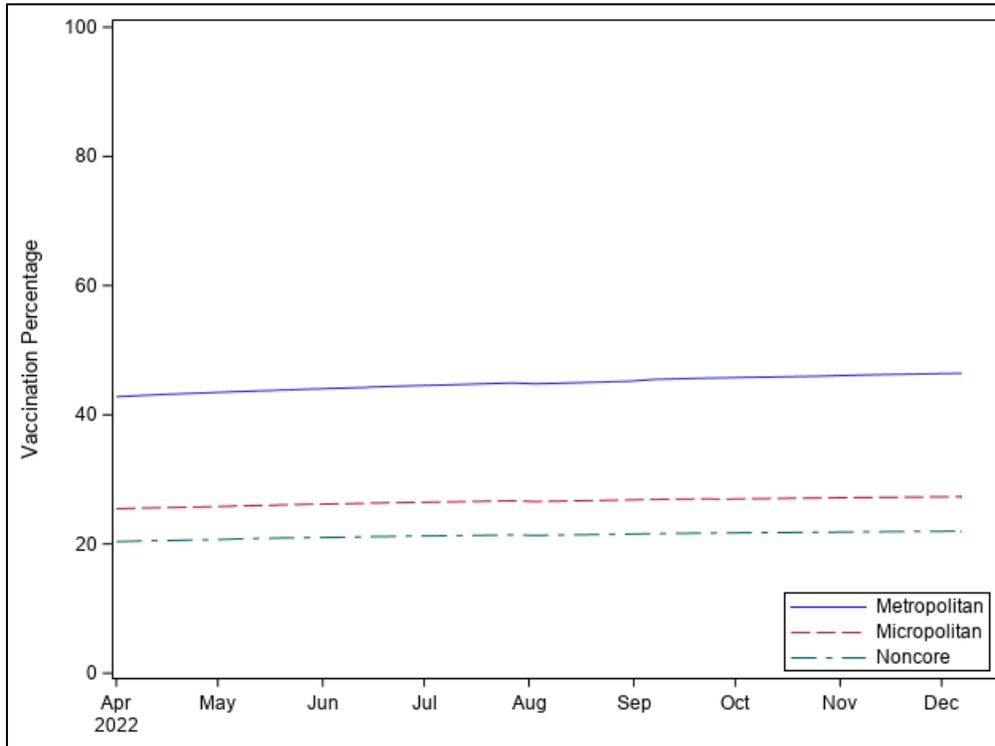
	Metro.	Micro.	Noncore
Age 5-17	46.4%	27.3%	22.0%
Age 18+*	76.4%	63.2%	59.5%
Age 65+	90.0%	83.4%	78.4%
Age 5+**	71.6%	56.9%	53.0%

\*Includes people age 65+

\*\*Age 5+ represents the entire age-eligible population.

The same urban/rural vaccination rate patterns seen in the general population are also seen in younger (i.e., ages 5-17) and older (i.e., ages 65+) populations (Figures 2 and 3, respectively). Note that the figures show a narrower date range owing to data availability. Vaccination rates in the younger population are significantly lower than in the elderly population (Table 1). Note that the plots show that rates have remained relatively unchanged for the past six months.

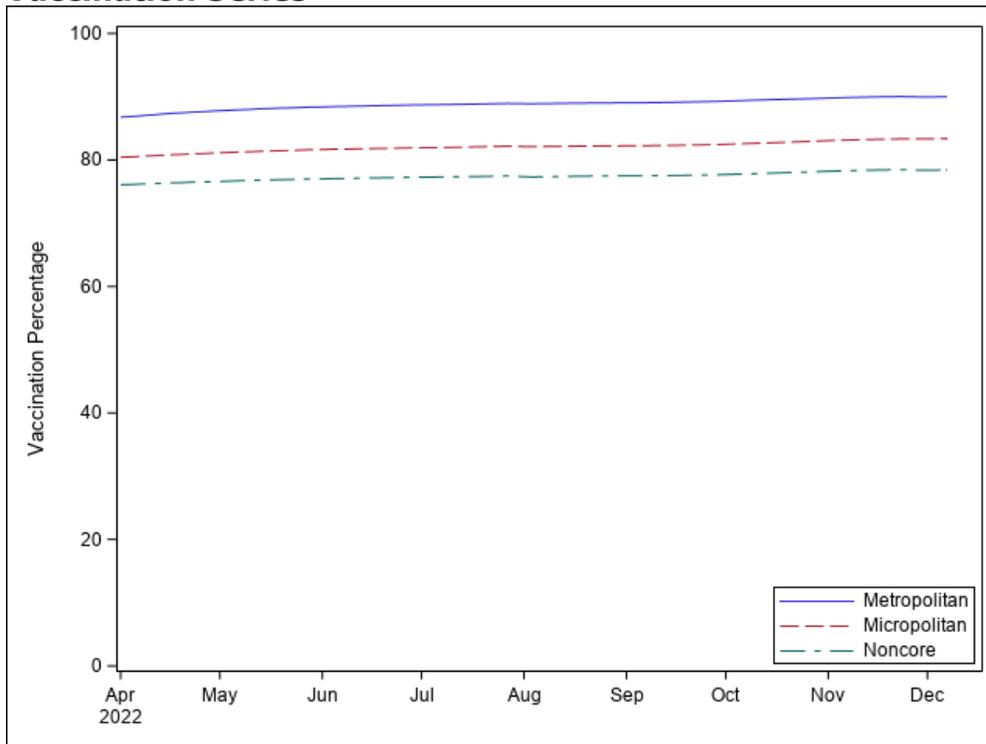
**Figure 2. Population Age 5-17 who have Completed a Primary COVID-19 Vaccination Series**



Proportion of people ages 5-17 with a completed primary series (have second dose of a two-dose vaccine or one dose of a single-dose vaccine).

Source: CDC COVID-19 Vaccinations in the United States, County

**Figure 3. Population Age 65+ who have Completed a Primary COVID-19 Vaccination Series**



Proportion of people ages 65+ with a completed primary series (have second dose of a two-dose vaccine or one dose of a single-dose vaccine).

Source: CDC COVID-19 Vaccinations in the United States, County

## Notes

1. Ullrich F, Mueller KJ, *COVID-19 Cases and Vaccination Rates*. September 2021. RUPRI Center for Rural Health Policy Analysis Rural Data Brief. Accessed 12/11/2022 at <https://ruprihealth.org/publications/policybriefs/2021/COVID%20Vaccinations%20and%20Cases.pdf>.
2. Washington State Department of Health. *COVID-19 Vaccine Timeline, Eligibility & Requirements*. October 2022. Accessed 12/11/2022 at <https://doh.wa.gov/sites/default/files/2022-02/348-862-VaccineTimeline.pdf>.
3. Centers for Disease Control and Prevention. *COVID-19 Vaccinations in the United States, County*. December 2022. Accessed 12/11/2022 at <https://data.cdc.gov/Vaccinations/COVID-19-Vaccinations-in-the-United-States-County/8xkx-amqh>.
4. Hawaii, Michigan, and Nebraska did not provide county-level information for the data used in this report.

### Suggested citation:

Ullrich F, Mueller KJ. 2023 Data Brief, **COVID-19 Vaccination Rates**, RUPRI Center for Rural Health Policy Analysis, Brief No.2023-5.