

# Veteran and Nonveteran Homelessness Rates: New Estimates

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## Introduction

When analyzing indicators of social problems, researchers usually measure the problems in terms of rates. Examples include poverty, unemployment, crime, and cancer rates. Researchers analyzing homelessness have also measured homelessness in terms of homelessness rates. For example, Mast (2020) analyzed homelessness rates for total homeless populations, and Nisar et al. (2020) analyzed homelessness rates for the unsheltered homeless.

The U.S. Department of Housing and Urban Development (HUD) has long collected data on counts of homeless veterans at the state and continuum of care levels; these data are published in HUD's Point-in-Time (PIT) datasets. PIT data are collected for sheltered and unsheltered homeless populations during a single night in January.<sup>1</sup>

However, until recently, researchers analyzing veteran homelessness have been unable to calculate veteran homelessness rates because of a lack of veteran population data. The lack of veteran homelessness rates made it impossible to compare the relative severity of homelessness among veteran and nonveteran populations.

In 2022, HUD acquired veteran population estimates from the U.S. Department of Veterans Affairs (VA) for all 50 states and Washington, D.C., covering the years 2020, 2014, and 2008.<sup>2</sup> These data, when combined with HUD's PIT homelessness estimates and state population estimates from the U.S. Census Bureau, allow for the calculation of state-specific homelessness rates, defined as the number of homeless persons per 10,000 residents, for veterans and nonveterans for the first time.

This study uses these newly acquired data to calculate state homelessness rates for the years 2020, 2014, and 2008. Findings indicate that, in each year, the mean homelessness rate for veterans is higher than that of nonveterans. In addition, a linked micromap (exhibit 3) displays the state homelessness rates for veterans and nonveterans in 2020, along with the percentage difference between the two. The map illustrates that, in most states, veterans have a higher rate of homelessness.

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<sup>1</sup> For more information on the PIT data collection process, see HUD (2023) and Mast (2020).

<sup>2</sup> The VA population estimates can be obtained from HUD by contacting Brent Mast at [Brent.D.Mast@hud.gov](mailto:Brent.D.Mast@hud.gov).

Furthermore, the study examines the relationship between differences in state homelessness rates in 2020 between veterans and nonveterans, with rental vacancy rates and median incomes. When data are analyzed across states, results indicate that rental vacancy rates have a statistically significant positive effect on the differences in homelessness rates, whereas median incomes do not have a statistically significant relationship. When within-state differences are analyzed, neither rental vacancy rates nor median incomes have statistically significant effects.

The availability of these new data from the VA allow for a deeper understanding of the homelessness rates among veterans and nonveterans at the state level. The findings of this study contribute to the ongoing efforts to address and reduce homelessness among veterans.

## Data

Nonveteran homeless population estimates by state are calculated by subtracting the VA state veteran homeless population estimates for Census Bureau state population estimates from their Population Estimates Program. Homelessness rates per 10,000 population are calculated by dividing the HUD PIT homeless count for each group by the population estimate, then multiplying this ratio by 10,000.

For example, the 2020 Decennial Census population estimate for Alabama is 5,039,877. The VA veteran population estimate for Alabama in 2020 is 363,000. Therefore, the nonveteran population calculation is  $5,039,877 - 363,000 = 4,676,877$ . The HUD PIT 2020 nonveteran homeless population estimate for Alabama equals 3,022, and the veteran homeless population estimate equals 329. As such, the veteran homelessness rate for Alabama in 2020 equals  $(329/363,000) \times 10,000 = 9.063$ . The nonveteran homelessness rate for Alabama in 2020 equals  $(3,022/4,676,877) \times 10,000 = 6.462$ .

Exhibit 1 presents means, standard deviations, minimums, medians, and maximums for each year. The mean veteran homelessness rate exceeds the mean nonveteran homelessness rate in each year; the same is true for the median rates. The mean rates for both groups decline slightly each year. The median rate for veterans increases between 2008 and 2014, then has a large decrease between 2014 and 2020. The median rate for nonveterans decreases each year.

### Exhibit 1

Summary Statistics						
Year	Variable	Mean	Standard Deviation	Minimum	Median	Maximum
2008	Veteran homelessness rate	22.262	27.649	3.725	13.821	185.278
	Nonveteran homelessness rate	19.157	15.317	5.536	14.546	98.799
2014	Veteran homelessness rate	21.985	16.946	8.158	17.104	116.000
	Nonveteran homelessness rate	17.585	16.661	7.007	12.060	117.036
2020	Veteran homelessness rate	17.417	16.895	3.676	12.052	104.138
	Nonveteran homelessness rate	15.495	14.936	3.758	10.200	94.813

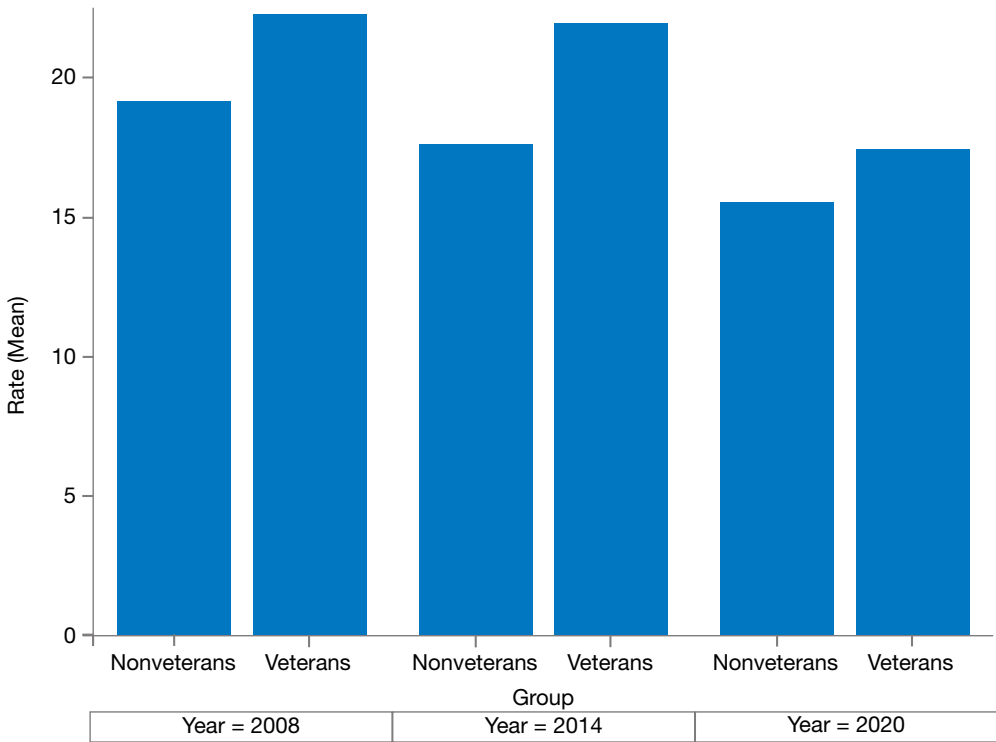
*N = 51 in each year.*

*Sources: U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data*

Exhibit 2 displays a bar chart with mean rates by group and year.

**Exhibit 2**

Mean Homelessness Rates by Group and Year

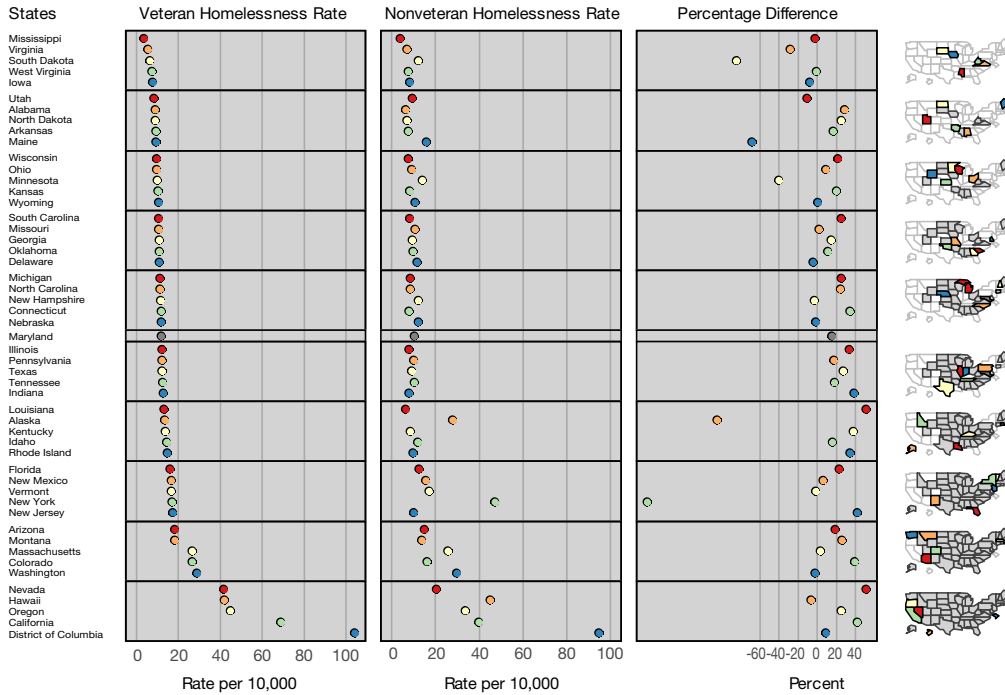


Sources: U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

Exhibit 3 displays a linked micromap that visualizes the 2020 state data and reports veteran homelessness rates, nonveteran homelessness rates, and percentage differences. The data are sorted in ascending order of the veteran homelessness rate.

**Exhibit 3**

**Linked Micromap With 2020 State Homelessness Rates and Percentage Differences**



Sources: U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

The percentage difference in rates equals 100 multiplied by the difference between the veteran homelessness rate and nonveteran homelessness rate divided by the nonveteran homelessness rate. For example, in 2020 in Nevada, the veteran homeless rate equaled 41.622 and the nonveteran homeless rate equaled 20.452. The percentage difference equaled  $100 \times (41.622 - 20.452)/41.622$ , which equals 50.863 percent.

The veteran homelessness rates range from 3.676 in Mississippi to 104.138 in Washington, D.C., with a median of 12.052 in Maryland. The nonveteran homelessness rates vary from 3.758 in Mississippi to 94.813 in Washington, D.C., with a median of 10.200 in Maryland. The percentage differences range from -178.069 percent in New York to 50.888 percent in Louisiana, with a median of 16.221 percent in Idaho. In 35 out of 51 observations, the veteran homelessness rate exceeds the nonveteran homelessness rate.

**Data Analysis**

This section presents data analysis examples by exploring the relationship between the percentage differences in veteran and nonveteran homelessness rates, with median household incomes and rental vacancy rates taken from the American Community Survey (ACS). ACS data from 2005 through 2009 are used for year 2008; 2012–2016 ACS data are used for year 2014; and 2016–2020 ACS data are used for year 2020. Least squares regressions explore the relationships.

The first regression estimates the effects across states using data for 2020. Exhibit 4 reports descriptive statistics for the across-state regression variables, and exhibit 5 reports least squares regression estimates for the first regression.

**Exhibit 4**

Regression 1 Variable Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Median	Maximum
Percentage difference between veteran and nonveteran homelessness rates	5.565	40.349	- 178.069	16.221	50.888
Median household income	65,045.176	11,051.568	46,511	63,015	90,842
Rental vacancy rate	16.526	5.782	4.235	16.636	39.022

N = 51.

Sources: American Community Survey 2020; U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

**Exhibit 5**

Regression 1 Estimates

Variable	Degrees of Freedom	Coefficient Estimate	Standard Error	t-Value	p-Value
Intercept	1	24.755	33.731	0.734	0.467
Median household income	1	- 0.001	0.001	- 1.610	0.114
Rental vacancy rate	1	2.102	0.985	2.135	0.038

N = 51. R squared = 0.107. Adjusted R squared = 0.070.

Note: Dependent variable equals percentage difference between veteran and nonveteran homelessness rates.

Sources: American Community Survey 2020; U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

As exhibit 4 shows, percentage differences between veteran and nonveteran homelessness rates in 2020 ranged from -178.069 to 50.888 percent, with a median of 16.221 percent and a mean of 5.565 percent.<sup>3</sup> Mean median household incomes in 2020 ranged from \$46,511 to \$90,842, with a median of \$63,015 and a mean of \$65,045.176. Rental vacancy rates in 2020 varied from 4.235 to 39.022 percent, with a median of 16.636 percent and a mean of 16.526 percent.

The median income regression coefficient in exhibit 5 is negative but is not statistically significant at the 0.10 level; the rental vacancy rate coefficient is positive and statistically significant at the 0.05 level.

The second regression uses data for all years to estimate the effects within states. To control for differences across states, the model includes state fixed effects (that is, state dummy variables). To control for national trends, the model also includes dummy variables for years 2014 and 2020. To control for inflation, median household incomes are adjusted with consumer price index data for 2008, 2014, and 2020.

<sup>3</sup> See the map in exhibit 3.

Exhibit 6 reports descriptive statistics for the second regression variables (excluding the state dummy variables), and exhibit 7 reports least squares regression estimates for the second regression. Exhibit 7 does not report coefficient estimates for the state dummy variables.

### Exhibit 6

Regression 2 Variable Descriptive Statistics					
Variable	Mean	Standard Deviation	Minimum	Median	Maximum
Percentage difference between veteran and nonveteran homelessness rates	1.941	57.128	-296.903	16.737	60.234
Median household income (inflation adjusted)	62,580.688	10,547.053	44,231.662	59,896.000	90,842.000
Rental vacancy rate	17.874	5.733	4.235	17.497	39.022
Year 2014 dummy variable	0.333	0.473	0	0	1
Year 2020 dummy variable	0.333	0.473	0	0	1

*N* = 153.

Sources: American Community Survey 2020, 2016, 2009; consumer price index 2020, 2014, 2008; U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

### Exhibit 7

Regression 2 Estimates				
Variable	Coefficient Estimate	Standard Error	t-Value	p-Value
Intercept	28.376	114.619	0.248	0.805
Median household income (inflation adjusted)	-0.001	0.002	-0.260	0.796
Rental vacancy rate	0.872	2.503	0.349	0.728
Year 2014 dummy variable	40.685	12.267	3.317	0.001
Year 2020 dummy variable	29.919	17.851	1.676	0.097

*N* = 153. *R squared* = 0.491. *adjusted R squared* = 0.211.

Sources: American Community Survey 2020, 2016, 2009; consumer price index 2020, 2014, 2008; U.S. Census Bureau Population Estimates Program; U.S. Department of Veterans Affairs; HUD Point-in-Time data

As exhibit 6 shows, during all 3 years, percentage differences between veteran and nonveteran homelessness rates varied from -296.903 to 60.234 percent, with a median of 16.737 percent and a mean of 1.941 percent. Inflation-adjusted median household incomes varied from \$44,231.662 to \$90,842, with a median of \$59,896 and a mean of \$62,580.688. Rental vacancy rates ranged from 4.235 to 39.022 percent, with a median of 17.497 percent and a mean of 17.874 percent.

Regression coefficient estimates reported in exhibit 7 indicate that neither inflation-adjusted median household incomes nor rental vacancy rates had statistically significant effects on percentage differences between veteran and nonveteran homelessness rates. The dummy variables for both years are positive and statistically significant at the 0.10 level, revealing an increase in percentage differences between 2008 and 2014 and a decrease between 2014 and 2020.

## Conclusion

In 2022, the VA provided HUD with state veteran population estimates for 2020, 2014, and 2008. These estimates allowed HUD to calculate state homeless rates for veterans and nonveterans for the first time when combined with HUD Point-in-Time homeless count data and Census Bureau state population estimates.

This article demonstrates how to calculate state homelessness rates for veterans and nonveterans using the new VA data. The veteran homeless rates are higher on average each year compared with the rates for nonveterans, and the mean rates decrease each year for both groups.

For data analysis examples, this study explores the relationship between percentage differences in veteran and nonveteran homelessness rates and median household incomes and rental vacancy rates with least squares regressions. Across-state regression estimates using data for 2020 indicate that rental vacancy rates are positively related to percentage differences between homelessness rates for veterans and nonveterans; estimates indicate that median incomes have no statistically significant relationship. Within-state regression estimates using data for all years find no statistically significant effect of either median household incomes or rental vacancy rates on percentage differences between veteran and nonveteran homelessness rates.

## Acknowledgments

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## Author

Brent D. Mast is a social science analyst at the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

## References

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