

Visualizing Veteran and Nonveteran Homelessness Rates in Virginia

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Introduction

The U.S. Department of Veterans Affairs (VA) publishes veteran population estimates at the national, state, and county levels. The U.S. Department of Housing and Urban Development (HUD) publishes homeless count estimates at the national, state, and Continuum of Care (COC) levels. COCs are service areas within state regions that receive HUD grants to address homelessness.

Studies that focus on improving measures of veteran homelessness rates help to advance work in public policy, social services, and veteran care. For example, having timely data for the veteran population at the state and local levels may help providers of veteran care to target resources to veteran populations at the highest risk for homelessness. Tsai and Rosenheck (2015) found that veterans experiencing mental illness, substance use disorders, social isolation, and past incarceration are at the highest risk for homelessness.

Mast (2023) combined VA state veteran population estimates with HUD state Point-In-Time (PIT)¹ homeless count estimates and U.S. Census Bureau state population estimates to approximate veteran and nonveteran homelessness rates for the 50 states and the District of Columbia for 2008, 2014, and 2020. Mast found that at the state level, on average, veteran homeless rates are higher compared with nonveteran homeless rates, although the mean rates have decreased each year for both groups.

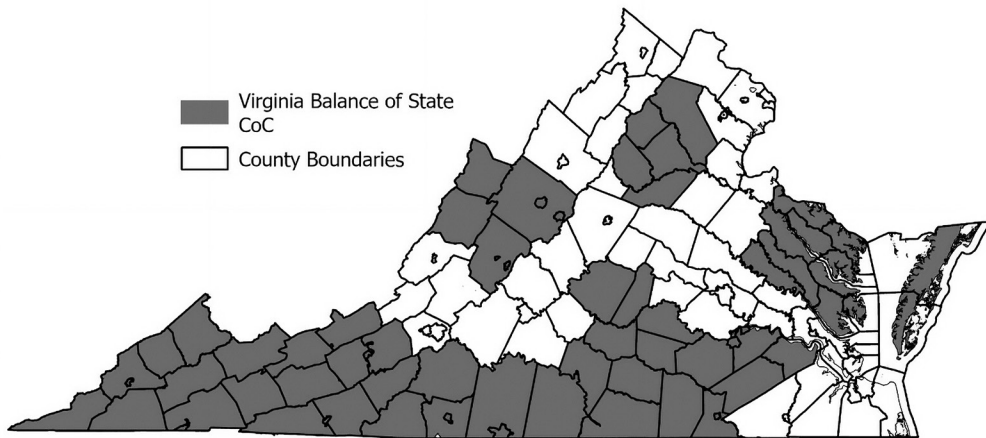
For this study, the authors focus on the same data but at a more local level: within the state of Virginia. Virginia's 16 COCs are county based, and each COC consists of one or more counties or

¹ HUD COC grantees collect PIT counts, which include sheltered and unsheltered homeless persons on a single night in the last 10 days of January for the year reported. More information is available here: <https://www.hudexchange.info/programs/COC/COC-homeless-populations-and-subpopulations-reports/>.

county equivalents (exhibit 1). For example, the Alexandria COC consists of one county equivalent (Alexandria City), whereas the Virginia Balance of State COC, or areas that are outside individual COCs, consists of 71 counties or county equivalents. In this article, the authors estimate COC-level veteran and nonveteran homelessness rates for Virginia in 2020.

Exhibit 1

Map of Counties and Virginia Balance of State Continuums of Care, 2020



CoC = Continuum of Care.

Source: HUD Office of Policy Development and Research

To the authors' knowledge, few studies focus on veteran and nonveteran homelessness rates at the COC level. One study used VA, HUD, and Census data to calculate risk ratios for veterans at risk of homelessness, using a convenience sample of data for 11 urban COCs, including New York, San Jose, Denver, and Phoenix (Fargo et al., 2012). The authors found that veterans were overrepresented in the homeless population and that risk was related to demographic characteristics such as age, sex, and race.

Data

The authors aggregated 2020 VA veteran population estimates for Virginia counties and county population estimates from the Census Bureau's Population Estimates Program to the COC level. The authors then estimated (1) COC nonveteran populations by subtracting VA veteran population estimates from Census Bureau total population estimates and (2) COC nonveteran homeless populations by subtracting HUD PIT veteran homeless counts from HUD PIT total homeless counts.

Homelessness rates are defined as the rate of homeless persons per 10,000 population. For example, in the Arlington County COC in 2020, the estimated veteran population was 16,843, and the estimated nonveteran population was 236,633. The estimated veteran homeless population was 3, and the estimated nonveteran homeless population was 196. The veteran homelessness

rate equaled $10,000 \times 3 / 16,843$, which equals 1.781. The nonveteran homelessness rate equaled $10,000 \times 196 / 236,633$, which equals 8.283.

Exhibit 2 reports summary statistics for nonveteran and veteran homelessness rates and the percentage differences between the two rates.

Exhibit 2

Summary Statistics for Nonveteran and Veteran Homelessness Rates in Virginia, 2020

Variable	Mean	StdDev	Min	Median	Max
Nonveteran homelessness rate	7.987	3.527	2.921	7.722	16.140
Veteran homelessness rate	5.919	3.695	1.076	4.627	14.660
Percentage difference	20.122	58.296	-155.222	41.724	78.496

Max = maximum. Min = minimum. StdDev = standard deviation.

Sources: Census Bureau Population Estimates Program, 2020; HUD Point-in-Time estimates, 2020; U.S. Department of Veterans Affairs, 2020

The percentage difference equals 100 multiplied by the difference between the nonveteran and veteran homelessness rates divided by the nonveteran homelessness rate. A positive percentage difference indicates that nonveteran homelessness rates are greater than veteran homelessness rates; a negative value indicates that veteran homelessness rates are higher than nonveteran homelessness rates.

For example, in the Virginia Beach COC, the estimated nonveteran homelessness rate equals 7.390, the estimated veteran homelessness rate equals 4.116, and the percentage difference equals $100 \times (7.390 - 4.116) / 7.390$, which equals 44.307 percent. So, for Virginia Beach, the nonveteran homelessness rate is 44.3 percent higher than the veteran homelessness rate.

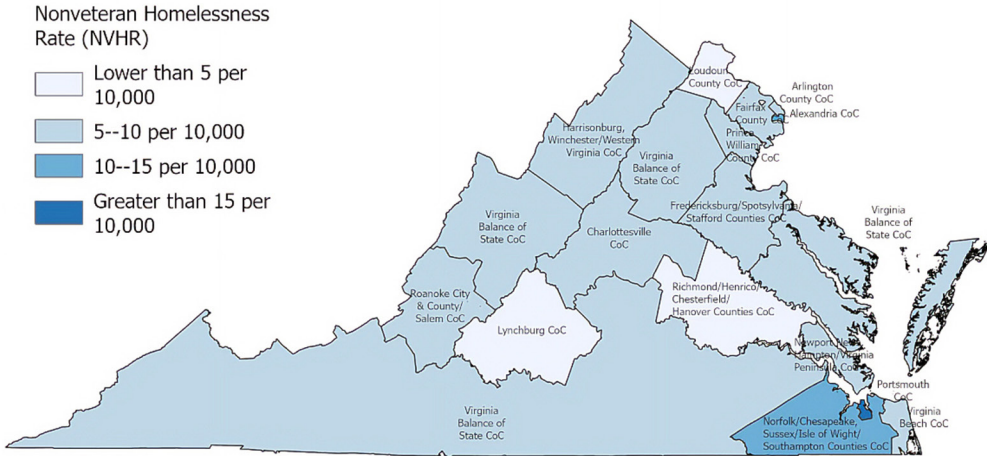
Nonveteran homelessness rates in Virginia range from 2.921 in the Lynchburg COC to 16.140 in the Portsmouth COC, with a mean of 7.987. Veteran homelessness rates range from 1.076 in the Lynchburg COC to 14.660 in the Roanoke City & County/Salem COC, with a mean of 5.919. Percentage differences between nonveteran and veteran rates range from -155.222 percent in the Richmond/Henrico, Chesterfield, Hanover Counties COC to 78.496 percent in the Arlington County COC, with a mean of 20.122 percent.

Data Visualizations

Exhibit 3 is a choropleth map of the nonveteran homelessness rate in Virginia. The majority of COCs experience rates between 5 and 10 per 10,000, illustrated by the medium-shaded COCs on the map. Three COCs—Loudon, Lynchburg, and the multicounty COC including Richmond and Henrico counties—had lower-than-average nonveteran homelessness rates, at lower than 5 per 10,000. Three COCs had the highest rates, greater than 10 per 10,000: Norfolk, Alexandria, and Portsmouth.

Exhibit 3

Choropleth Map of Nonveteran Homelessness Rate in Virginia, 2020

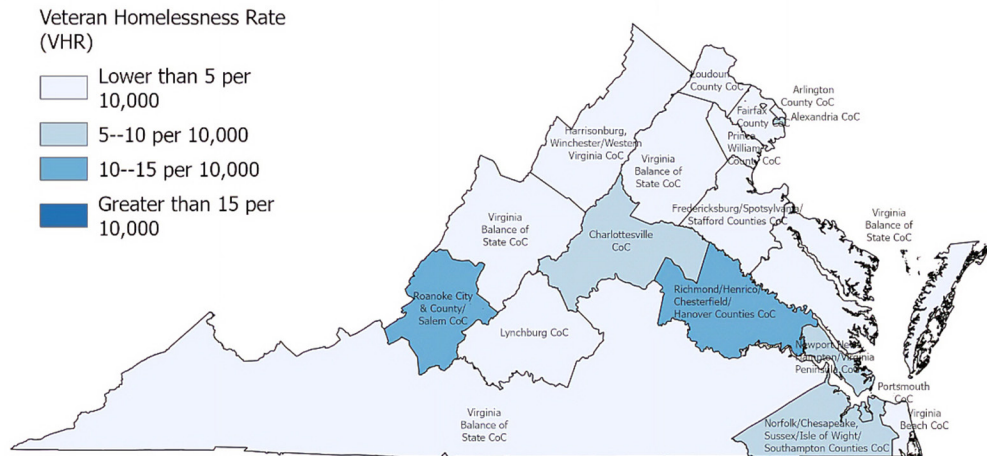


CoC = Continuum of Care. NVHR = nonveteran homelessness rate.
 Sources: Census Bureau Population Estimates Program, 2020; HUD Point-in-Time estimates, 2020; U.S. Department of Veterans Affairs, 2020

Using the same choropleth scale and class breaks, exhibit 4 is a choropleth map for the veteran homelessness rate for COCs in Virginia. The maps show that most COCs, represented by the lighter-shaded areas, experience lower rates of homelessness for veterans, lower than 5 per 10,000 persons. Only two COCs, Roanoke and the multicounty COC that includes Richmond and Henrico, have rates higher than 10 per 10,000.

Exhibit 4

Choropleth Map of Veteran Homelessness Rate in Virginia, 2020

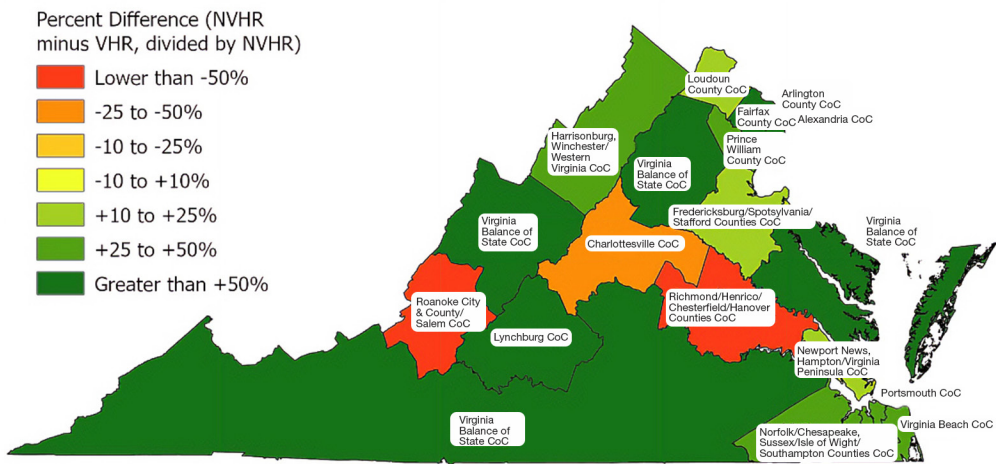


CoC = Continuum of Care. VHR = veteran homelessness rate.
 Sources: Census Bureau Population Estimates Program, 2020; HUD Point-in-Time estimates, 2020; U.S. Department of Veterans Affairs, 2020

Exhibit 5 is a choropleth map depicting the percent difference between the two rates. As previously mentioned, a negative value indicates that the veteran homelessness rate is higher than the nonveteran homelessness rate. Exhibit 5 illustrates that three COCs have negative values: Roanoke, Charlottesville, and the multicounty COC that includes Richmond and Henrico; this is illustrated with the orange-shaded COCs. Maps such as these can help service providers and policymakers direct their attention and resources to veterans in those areas, which include Richmond, Virginia's capital, and Roanoke, the largest regional city in southwest Virginia.

Exhibit 5

Choropleth Map of Percent Difference between Nonveteran and Veteran Homelessness Rates in Virginia



CoC = Continuum of Care. NVHR = nonveteran homelessness rate. VHR = veteran homelessness rate.
 Sources: Census Bureau Population Estimates Program, 2020; HUD Point-in-Time estimates, 2020; U.S. Department of Veterans Affairs, 2020

Within-state percentage differences for Virginia are in sharp contrast to the state-level results reported by Mast (2023), which indicated that the veteran homelessness rate in 2020 exceeded the nonveteran rate in 35 of 51 cases (the 50 states and the District of Columbia). This awareness can be important for veteran service providers to know in reviewing where resources are most needed at the local level.

Conclusion

The use of geospatial tools and mapping to address homelessness can help determine what areas and populations are most at risk of homelessness and can support efforts to prioritize housing assistance and related social services.² In this study, the authors focus on veteran homelessness,

² See for example, the Urban Institute's recent work on developing an Emergency Rental Assistance Priority Index: https://www.urban.org/data-tools/mapping-neighborhoods-highest-risk-housing-instability-and-homelessness?&utm_source=urban_newsletters&utm_campaign=DAU.

which often has a more specific set of causes, needs, solutions, and programs targeted at veterans, such as those at the VA and HUD.³

This study extends earlier work by Mast (2023), which used veteran population estimates. Mast demonstrated how calculating homelessness rates for both nonveteran and veteran populations can be used to compare and analyze differences across states. In this article, the authors use the same data but at a more local level, using HUD COC service areas in Virginia. Findings indicate that, on average, across Virginia, the veteran homelessness rate is lower compared with the nonveteran homelessness rate, with the exceptions of Roanoke, Charlottesville, and the multicounty COC that includes Richmond and Henrico Counties. Data visualizations such as this provide insight into local experiences of homeless veterans and nonveterans and contribute to the larger body of research methods that can improve local policies to address the issues of veteran homelessness.

Authors

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³ Discover more about the unique characteristics of homeless veterans and resources to address their needs at the VA—<https://www.va.gov/homeless/>—and HUD—https://www.hud.gov/program_offices/comm_planning/veteranhomelessness.