

Veteran Oral Health State Profiles Technical Information

Summary of Methods

Three publicly available data sources were used to create the AIDPH Oral Health State Profiles. The number of veterans overall was sourced from the U.S. Department of Veteran Affairs. The number of adults (18+) was extracted from the U.S. Census Bureau National Population Characteristics (estimates for 2022). All other variables included in the profiles are weighted estimates calculated from the Behavioral Risk Factor Surveillance System (BRFSS, 2020). BRFSS is a state-based, ongoing, telephone survey conducted by the Centers for Disease Control and Prevention (CDC) in the United States. It collects data on various health-related behaviors, chronic conditions, and preventive health practices among adults. In the 2020 BRFSS wave, over 400,000 adults were surveyed across 279 variables. All data were weighted using the BRFSS multi-stage, complex sampling approach to ensure the representation of non-institutionalized U.S. adults; this data is not weighted by veteran status.

Descriptive statistical analyses were performed to summarize all statistics at the state level. State-level comparisons were made using ranks and grades (detailed below). The analysis included the 50 states and Washington D.C. The territories of Guam and Puerto Rico were excluded from the analysis.

Ranks and Grades

While the ranking and grading systems utilized are robust, it is important for readers to understand that they are also subjective. The following describes the processes used to measure each state's rank in terms of selected indicators and corresponding grades, as well as the state's overall grade.

Individual indicator ranks and grades

All ranks were assigned based on comparisons with other states. Ranks were established by sorting unrounded state-level indicators reflective of veterans in that state and assigning a rank from worst (1) to best (51). Each state received a ranking for the following indicators, which is reflected on each state profile:

- **Edentulism:** ranking #1 signified the state with the highest proportion of edentulous veterans
- **Heart Disease:** ranking #1 signified the state with the highest proportion of veterans with CHD/MI
- **Diabetes:** ranking #1 signified the state with the highest proportion of veterans with diabetes
- **Uninsured:** ranking #1 signified the state with the highest proportion of veterans without insurance

If two states had the same value for an indicator, they were considered to be “tied” and received the same rank.

The following table details the numerical ranks for each indicator and corresponding letter grade:

Ranks	Grade
41 to 51	A
31 to 40	B
21 to 30	C
11 to 20	D
1 to 10	F

Overall grade

Five state-level indicators among veterans were considered in assigning each state an **overall grade**. In addition to the four rankings of indicators described previously and displayed on each individual state profile (i.e., edentulism, heart disease, diabetes, uninsured), the metric of “dental visits” was also incorporated.

To maintain consistency with the rankings of worst (1) to best (51), individual ranks were assigned for dental visits. Ranking #1 signified the state with the **lowest** proportion of veterans with a dental visit in the past year. Ranking #51 signified the state with the **highest** proportion of veterans with a dental visit in the past year. The previously described grading system was used to assign each state a letter grade for the dental visits indicator.

To calculate a state’s overall grade, the five individual state-level indicators were each assigned a point value as described in the table below:

Grade	Points
A	4
B	3
C	2
D	1
F	0

The overall grade for each state was then calculated by averaging the points for all five indicators. This system has been described by organizations including [Virginia Health Catalyst](#). Final point values were rounded to the nearest whole number in determining the final letter grade.

List of Variables, Brief Description, and Data Sources

Variable	Brief Description	Data Source
Number of Veterans	The estimated number of veterans (2021)	US Department of Veterans Affairs; Fiscal Year 2021 Expenditures data table; Veteran population estimates, as of September 30, 2021, are produced by the VA Predictive Analytics and Actuary Service (VetPop 2018)
Total Adult Population	The estimated adult population size (2022)	US Census Bureau: Population Estimates by Age (18+): July 1, 2022 (SCPRC-EST2022-18+POP)
Percent Veterans	Percent of adults that are veterans ((number of veterans/total population)*100).	Calculated variable using a combination of VA and Census Bureau data
Percent of Veterans Living in Rural Counties	The estimated (weighted) percent living in rural counties	Behavioral Risk Factor Surveillance System (BRFSS) Weighted Estimates, 2020 Datafile
Percent of Veterans with Coronary Heart Disease (CHD) or Myocardial Infarction (MI)	The estimated (weighted) percent who have ever reported having coronary heart disease (CHD) or myocardial infarction (MI)	
Percent of Veterans with Diabetes	The estimated (weighted) percent who have ever been told they had diabetes	
Percent of Veterans with a Dental Visit	The estimated (weighted) percent of adults that have visited a dentist, dental hygienist, or dental clinic within the past year	
Percent of Edentulous Veterans	The estimated (weighted) percent of those who have had all permanent teeth extracted	
Percent of Uninsured Veterans	The estimated (weighted) percent of those who reported having no health insurance coverage	