

Veteran Population Projection Model 2016

Executive Summary

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Department of Veterans Affairs,
Office of Enterprise Integration,
Data Governance and Analytics,
Predictive Analytics and Actuary

The Veteran Population Projection Model 2016 (VetPop2016) provides the latest official Veteran population projection from the Department of Veterans Affairs (VA). VetPop2016, a deterministic actuarial projection model, was developed by the office of Predictive Analytics and Actuary (PAA) to estimate and project the Veteran population from Fiscal Year (FY) 2015 to FY2045. Using the best available Veteran data at the end of FY2015 as the base population, VetPop2016 projects living and deceased Veteran counts by key demographic characteristics such as age, gender, period of service, and race/ethnicity at various geographic levels for the next 30 years.

VetPop2016 is the eighth generation of the Veteran Population Projection Model with improvements in data, methodology, and modeling processes. Similar to the previous Veteran Population Projection Model 2014 (VetPop2014), it is a bottom-up model that projects future Veteran population starting at the county level. County level projections are then aggregated to provide Veteran information at larger geographic units such as congressional districts, states, and at the national level. The VetPop2016 uses both Veteran record-level data and survey data from a wide variety of sources including VA, Department of Defense (DoD), U.S. Census Bureau, Internal Revenue Service (IRS), and Social Security Administration (SSA). With more recent information from these sources, PAA updated the three major modules of VetPop2016 described below: the Separation Module, the Mortality Module, and the Migration Module.

The Separation Module projects military separations from the Armed Forces. The projected separations are new entrants to the Veteran population. While VetPop2014 relied solely on historical military separation data from FY1980 to FY2013, VetPop2016 uses the separations projected by the DoD Office of the Actuary for the military services (Army, Air Force, Navy, and Marines). These separations reflect projected changes in future military end strength. For non-DoD agencies (Coast Guard, National Oceanic and Atmospheric Administration, and U.S. Public Health Service) and federally activated National Guard and Reserves, VetPop2016 uses historical military separation data through FY2015.

The Mortality Module is updated from the 2016 mortality study conducted by PAA. The mortality study was based on the Veteran mortality information from the VA data and the U.S. population mortality data from the SSA 2016 OASDI Trustees Report. VetPop2016 mortality projections were developed by single year of age and gender through the use of credibility blending of the mortality rates between VA and SSA. The blended mortality rates were then smoothed and projected for the next 30 years using implied mortality improvement factors from the same Trustees Report referenced above.

The Migration Module at the county level is another major component of the bottom-up VetPop2016 model. Using the American Community Survey (ACS) and commercial database, PAA evaluated the Veteran specific migration rates from VetPop2014, which were developed for using historical longitudinal data from VA, IRS, and ACS. For VetPop2016, PAA determined the VetPop2014 migration rates to be applicable with minimal changes. However, when more recent longitudinal geographic information from administrative data becomes available, PAA will conduct migration research for the next VetPop development.

The 2016 Veteran Population Projection Model estimated 20.8 million living Veterans at the baseline of September 30, 2015, which is about 4 percent lower than VetPop2014 projection and 4 percent higher than the estimate from 2015 American Community Survey. This lower estimate is mainly due to changes in the baseline development of Veteran population. Compared with ACS, the higher estimate from VetPop2016 reflects the inclusion of more young Veterans through the use of VA data. Over the next 30 years, the male Veteran population is projected to steadily decrease while women and minority Veteran populations are projected to increase slightly.

The projected living Veteran data for the next 30 years and the VetPop2016 Overview documentation that describes the data sources, model process, and model output are available in https://www.va.gov/vetdata/Veteran_Population.asp. For questions on VetPop2016 model, please contact the office of Predictive Analytics and Actuary via e-mail at VANCVAS@VA.GOV.

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