

## VetPop2020: A Brief Description

The Department of Veterans Affairs (VA) completed a new Veteran Population Projection Model, VetPop2020, including the projections for each fiscal year from 2020 to 2050. The model will be used by the Office of Enterprise Integration (OEI) as well as other VA offices for strategic, long-term planning and to understand demographic characteristics of Veteran population. This paper summarizes the design, data sources and results of the new model. Details of all aspects of the development and content of the model are available from the Analytics Service in the Office of Data Governance and Analytics in OEI.

VetPop2020 is the latest in a series of Veteran Population Projection Models that provide data widely used both inside and outside VA as the official estimate and projection of the total number of Veterans and their demographic characteristics. The new model maintains the general approach from the prior model, VetPop2018, and incorporates more recent information from the U.S. Veterans Eligibility Trends and Statistics (USVETS) (U.S. Department of Veterans Affairs 2020) and other data sources such as the American Community Survey (ACS) (U.S. Census Bureau 2019/2020).<sup>1</sup>

### What's New

- The model incorporates more recent administrative data on actual separations through 9/30/2020, that are identified in USVETS, the integrated database of VA and U.S. Department of Defense (DoD) administrative information.
- The net-migration assumption at the state level is based on the historical longitudinal data from VA and U.S. Internal Revenue Service (IRS).
- Projections of the new Veterans in the future years are mainly based on the projections by the DoD Office of the Actuary.
- The VetPop2020 estimate of the starting population is about 144 thousand (0.7%) lower than the VetPop2018 projection, due to updated information from USVETS and ACS.

### Methodology

VetPop2020 is a deterministic population projection model that estimates and projects the living and deceased Veteran population at the end of each Federal Fiscal Year (FY) from 2020 to 2050. Using the best available Veteran data at the end of FY2020 as the base population, living and deceased Veteran counts are projected by key demographic characteristics such as age and gender at various geographic levels for the next 30 years.

VetPop2020 estimates the starting population count at the baseline date, 9/30/2020, and projects one year at a time by accounting for mortality, migration, and separation assumptions. The first task of baseline estimation involves selecting the qualifying individuals from USVETS to ensure only those with valid identity and federal active-duty service, other than training, are

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<sup>1</sup> See the Major Data Sources section for a description of these and other sources.

included. As done in the previous models, the next step is to blend in the latest ACS estimates of Veteran population to account for data limitations in the USVETS administrative data on the older Veterans. However, due to the impact of the COVID-19 pandemic on 2020 ACS data collection and its data quality, the Census Bureau did not produce the standard 1-year products. Therefore, VetPop2020 mortality assumptions were applied to the 2019 ACS 1-year estimates to serve as a proxy of the 2020 estimates and blended with USVETS data.

The blended data then represent the estimated living Veteran population at the end of FY2020. The Veteran population counts so obtained represent the end of subsequent FYs are then adjusted by subtracting deaths, applying state level net-migration assumptions, and then adding new military separations. Iteratively, the Veteran population is projected for each subsequent fiscal year to obtain projections for 30 fiscal years. Each year's projections are at the national and state levels by the core demographics of age, gender and race/ethnicity. Additional characteristics including period of service, officer status, and branch of service are projected by allocating the respective national or state projections. Race, ethnicity, and period of service projections are available at national and state levels. Officer status and branch of service projections are available at the national level.

For each projection year, the state level projections by age and gender are allocated to counties using general population trends obtained from Woods & Poole Economics (W&P) (Woods&Poole Economics 2021). In addition, the county allocation model accounts for impacts of military base installations and the foreign-born population in each county.

## **Key Assumptions**

The information on those with valid identity and military service records in USVETS is assumed to be fully representative of younger Veterans while the ACS estimates are considered as the benchmark for the number of older aged Veterans.

Mortality assumptions are based on Veteran mortality information from USVETS and U.S. general population mortality data from the *2021 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (2021 OASDI Trustees Report) (Board of Trustees 2021) which is produced by the Social Security Administration (SSA). Mortality projections are developed by single year of age and gender by blending the mortality rates between VA and SSA. The blended mortality rates are then smoothed and projected for the next 30 years using implied mortality improvement factors from the 2021 OASDI Trustees Report. Therefore, for the years 2020 through 2023, the blended mortality rates reflect increases in death rates due to the COVID-19 pandemic that are assumed in the Report.

Migration assumptions are developed using Veteran information from USVETS and migration data from IRS. The linkage of IRS and USVETS became available for VetPop2020 through the data sharing agreement between IRS, the Census Bureau, and VA. Based on the analysis of yearly migration patterns for fiscal years 2008 through 2020 (migration years 2008-2009 through 2019-2020), the net-migration rate was projected via a 5-year weighted moving average method

starting with migration year 2015-2016. Given the relatively small amount of migration, net-migration at the state level by age group and gender is modeled for VetPop2020.

Separation assumptions account for future military separations from the U.S. Armed Forces. Projected separations by the DoD Office of the Actuary for the military services (Army, Air Force, Navy, and Marine Corps) are used as the main driver of future separations and are assumed to reflect projected changes in future military strength by fiscal year. For separations from non-DoD agencies (Coast Guards, National Oceanic and Atmospheric Administration, and U.S. Public Health Service) and federally activated National Guards and Reserves, historic information in USVETS is used in estimation.

As in the prior VetPop models, we assume that the change in ratio of Veterans to the general population in the projection years relative to the ratio at baseline date is the same for both the county level and the state level. Also, counties with higher percentages of Armed Forces personnel or lower percentages of foreign-born are assumed to have more Veterans than other counties.

## **Major Data Sources**

The U.S. Veterans Eligibility Trends and Statistics database, also produced by the Analytics Service in the Office of Data Governance and Analytics within OEI, is a collection of datasets made from the integration of Veteran information from the benefits and services administered by VA with military separations data from the Department of Defense to support department-wide analyses on the Veteran population. Although much of the Veteran population is represented by the two data sources, information on some Veterans who have not had a relationship with VA and who served only prior to 1970, is not complete.<sup>2</sup> This limitation may explain the higher estimates by the ACS of Veterans at older ages. Another limitation is related to geography. For the Veterans included in the integrated data, information on their residence may not be available or current as not all Veterans are required to report or update such information with VA.

DoD's separation projection (U.S. Department of Defense, Office of the Actuary 2020) is part of their annual valuation on military retirement system and includes projected separations by age, officer status, length of service, and type of separation from Active and Reserve components for each projection year.

The American Community Survey is an ongoing annual survey by the Bureau of the Census conducted in every county across the nation, including every municipality in Puerto Rico. As the largest nationally representative survey in the U.S. with a sample of about 3 million households each year, the ACS collects essentially the same detailed demographic, social, economic, and housing information previously collected every ten years on the decennial Census long-form questionnaire. In VetPop models, ACS has been used as a benchmark and incorporated into baseline estimations in a way that recognizes differences between survey data and administrative records. In ACS, Veteran status is self-, or proxy-reported while administrative

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<sup>2</sup> In 1973, historic information was destroyed in a fire at the National Personnel Records Center.  
<https://www.archives.gov/personnel-records-center/fire-1973>

records contain empirical indicators of Veteran status. Also, due to a 2-month residence rule in ACS, the survey universe is different than administrative records, with an undercount of people who are highly mobile. Finally, the ACS is based on a sample and thus ACS estimates can have high variability, particularly for less populated areas. Despite these differences, the ACS is a high-quality benchmark for Veteran data.

## **Selected Results**

VetPop2020 estimates 19.4 million living Veterans at the baseline of 9/30/2020, which is consistent with the VetPop2018 projection of 19.5 million (a difference of only 144 thousand or 0.7%). The women Veteran estimate is 2.0 million in both VetPop models.

Over the next 30 years, the total Veteran population is projected to steadily decrease (-1.6%) while the women Veteran population is projected to increase slightly (+0.3%). This is consistent with the VetPop2018 model which projected a decline of -1.7% and an increase of +0.3% for the total and women Veteran populations, respectively.

The “White, non-Hispanic” and “Hispanic or Latino (of any race)” estimates are 75.1% and 7.9%, respectively, in FY2020. By FY2050, those are projected to change, 62.1% and 15.3% respectively.

## **Conclusion**

VetPop2020 is the 10<sup>th</sup> generation of the Veteran Population Projection Model with updated information on Veterans. The main data source of USVETS continues to improve in terms of data quality and increased coverage of the Veteran population. The projected overall trends are similar to the prior model, VetPop2018.

For questions on the VetPop2020 model, please contact the Analytics Service via e-mail at [VANCVAS@VA.GOV](mailto:VANCVAS@VA.GOV).

## References

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