



## WOMEN VETERANS

### Program Purpose

The Department of Veterans Affairs' Million Veteran Program (MVP) is a national program to better understand how genes affect health and illness, with the goal of improving health care for Veterans.

### How Genes Affect Health?

Genes are made up of DNA and are inherited. They are the instructions for building and maintaining our bodies. Genes determine the color of our eyes or hair, our height etc. Genes may influence our risk for disease. For example, people with certain genes have a higher risk for developing neurological disorders. Genes may interact with the environment or lifestyle and behavioral factors such as diet, exercise, or smoking and contribute to the risk of developing common illnesses such as heart disease, diabetes or cancer. Thus, genes may explain why some people get diseases and others do not.

Genes may also have an effect on how we respond to certain medications. For example, some people may respond to a treatment while others do not, or have bad reactions to certain medications while others do not. A better understanding of how genes work may help to prevent and improve treatment of disease.

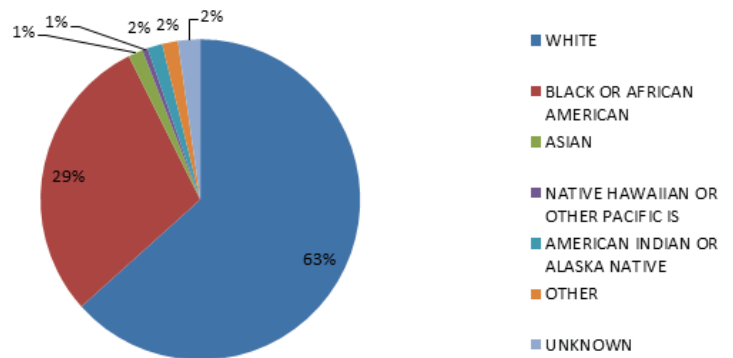
The MVP database will serve as a national resource for an unprecedented scope of discovery, including precision medicine, by making the coded data available to a broad community of researchers from Federal and academic institutions. By looking at genetic make-up along with health and disease information in a very large number of Veterans with and without a disease, researchers may be able to identify people with increased risk for specific diseases, when prevention of a disease is possible, or when early treatment would be helpful. This research could improve treatment, for example, by identifying people who will respond well to certain medicine, reducing serious side effects, and leading to the development of new treatments by learning how genes contribute to disease.

### Women Veterans in Research

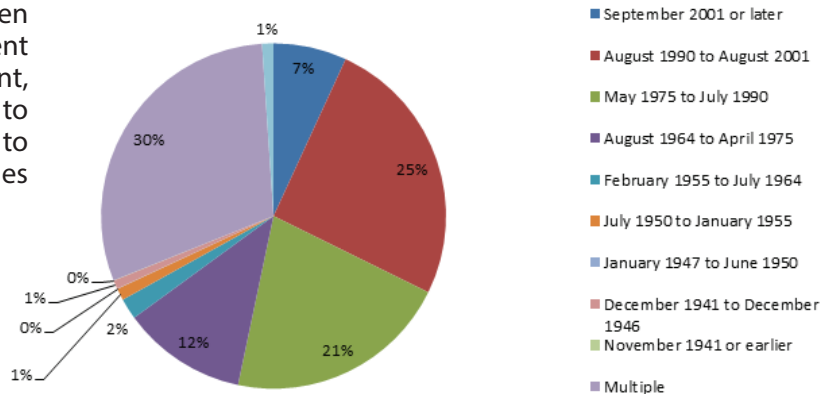
Historically, women were underrepresented in biological and medical research, leading to knowledge gaps that can lead to problems including misdiagnoses and drugs that may affect men and women differently. Although this has been changing in recent years, women minority status in the Veteran population can make it much more difficult for VA researchers to recruit enough women to get statistically valid results. By volunteering to participate in VA research, women Veterans can make a big difference for other Veterans of today – and the future.

So far, only 8% of more than 600,000 MVP enrollees are women. The goal is to increase the number to at least 11% with various backgrounds that will increase the probability for the results to be of greater statistical validity.

**MVP Enrolled Women - Race (n = 51,175)**



**MVP Enrolled Women - Service Era (n = 51,175)**



***The decision to participate in this program is entirely voluntary and will not in any way affect Veterans' access to healthcare.***



U.S. Department of Veterans Affairs

Veterans Health Administration  
Office of Research & Development

## WOMEN VETERANS (continued)

### What Is Involved in Participation?

Active involvement in this program includes:

- Filling out surveys about health and health-related behaviors;
- Providing a blood sample (containing DNA and other substances) that will be stored for future research;
- Completing an optional health assessment; and
- Allowing secure access to VA and VA-linked medical and health information, including past and future health records.

### MVP Confidentiality & Privacy Protection

Protecting the privacy of Veterans is our top priority. We will make every effort to protect MVP participants' confidentiality and to make sure that their identity does not become known.

- All blood samples will be stored in a secured VA Healthcare System laboratory facility (also called a biorepository).
- All blood samples and medical and other personal information will be labeled with a code so that no one can directly identify participants. Only a small number of authorized VA employees will have access to the code.
- The research database containing medical and genetic information will be encrypted so that no one can read it or access it without special permission.

The goal is to make this opportunity to participate in MVP available to as many Veterans as possible, and to follow and update their health information over time. Enrollment is expected to reach 1 million participants over the next few years.

Below are the top five symptoms currently reported by women Veteran enrollees:

Symptom	Women Enrollees (n=51,175)%	% Enrollees reporting conditions
Depression	15888	31%
High cholesterol	14001	27%
Hypertension	13714	26%
Acid reflux/GERD	12492	24%
Anxiety/Panic disorder	10290	20%



***Enrolling in the Million Veteran Program is an easy way that you can continue serving your fellow Veterans and your nation. Learn more about why others are signing up, and join fellow Veterans in this important health research initiative. Women Veterans of today – and tomorrow – are counting on us to make a difference in research that could save their lives.***

## Research Studies

MVP is on the forefront of a science revolution made possible by new ways to analyze our genes, the rapid expansion in the availability of health care data, and the development of ever more powerful computers to analyze these rich data. In many ways MVP represents a new way of doing research. Never before have we tried to assemble as much data that comes from our genes and combine it with large amounts of health data. Below is a list of studies underway as of fall 2017:

- Gulf War Illness risk factors
- Posttraumatic stress disorder risk factors
- Genetics of schizophrenia and bipolar illness
- Genetic vulnerability to substance abuse
- Heart disease risk factors
- Genetics related to heart disease
- How genes affect kidney disease
- Genetic risk for macular degeneration
- Genetic risk for suicide
- New computer algorithm to search database
- How gene variation relates to disease
- Genetics of osteoarthritis
- Genetics of diabetes
- Genes related to tinnitus

### Predicting breast cancer risk for women Veterans-

Researchers are using MVP data to build a new screening strategy for breast cancer. The team is studying genetic and clinical markers to predict breast cancer risk. They will use this information to develop more personalized screening strategies for individual women, rather than relying, say, on age alone to plan screening. They are also looking at how military experience and race might affect breast cancer risk. Most current screening plans are based on studies of civilian, Caucasian women. This is an important study to look at a more diverse population in women who served.



For more information about MVP, visit [www.research.va.gov/MVP](http://www.research.va.gov/MVP), or call toll free 866-441-6075