

MVP MATTERS



A newsletter
for Million
Veteran Program
participants

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One Million: A Momentous Year for MVP

A Letter from Dr. Mike Gaziano



Dr. Mike Gaziano, MVP Principal Investigator.

Dear MVP Participants,

There is only one way to begin this year's annual newsletter, and that is to say thank you. **To all one million plus Veterans who have joined MVP over the years—thank you.**

When I wrote to you last year, one million was still a dream. That all changed on November 8, 2023, as the millionth Veteran joined your ranks.

More than a decade ago, we set out to build one of the nation's largest research programs dedicated to improving health care. **You made that goal a reality.** We can now say that MVP is the world's largest and most diverse genetic research program within a health care system. Because of you—and for you—we are working to better understand how genes, lifestyle, military experiences, and exposures affect health and wellness. Our goal is to help find new ways to detect, prevent, and treat health conditions that matter to Veterans like you.

You may have seen us say that "one million is just the beginning." As more participants from all populations join MVP—across race, sex, and age—MVP researchers have more opportunities to find positive, real-world applications to improve Veteran health care in clinical settings. Since our start in 2011, 700+ researchers have used information from MVP and have published more than 400 scientific papers.

This past year, MVP enabled researchers to:



Publish the largest and most diverse genetic study of pain intensity to date. The results provide insight into some genetic contributors to pain and highlight potential related treatments.



Conduct the world's largest genetic study to date in partnership with the Department of Energy (DOE) and the National Institutes of Health (NIH) National Library of Medicine. The study (the results of which were published in *Science*) investigated links between nearly 44 million genetic variants resulting in more than 250 billion association analyses.

Serving as a Principal Investigator for MVP is an immense privilege. I do not take lightly the honor and responsibility that comes with being a part of this team. Each year, I have the opportunity to meet some of you who have joined, and over and over again I hear things like, "If I have the chance to help a fellow Veteran, I'll take it." Thank you all for seizing the opportunity and for stepping up to help Veterans—to help all Americans.

One million is a huge milestone. We are excited to see what's next.

1 Million
Nov. 8, 2023

"Thanks to the Veterans who signed up for this program, VA can better understand—and eventually treat—the health conditions that affect Veterans of all eras and backgrounds. This will help us improve health care and, ultimately, save lives for Veterans and non-Veterans alike."

Denis McDonough
Secretary of Veterans Affairs

MVP Is for Every Veteran

Groundbreaking discoveries in diverse populations

Diversity is crucial to the success of medical research. While minority populations have historically been underrepresented in research, nearly 1 in 4 participants in MVP are minority Veterans. When more Veterans from different backgrounds join MVP, researchers have more opportunities to understand how military experiences and genetics affect overall health and wellness, helping to improve health care for all Veterans.

MVP researchers have already discovered:



A genetic screening tool that could help predict prostate cancer in male Veterans from different racial and ethnic backgrounds



Opportunities to improve breast cancer screenings and prevention among women of African descent based on a genetic breast cancer risk assessment



Parts of people's genes related to posttraumatic stress disorder (PTSD) in people of European ancestry



Research findings that could help develop glaucoma genetic risk scores for diverse populations, including Black and Hispanic populations

"Using new genetic strategies through MVP helps us look at associations more carefully across diverse populations, not just for breast cancer risk but also for other common disease types to bridge the knowledge gap between different ancestry groups."

Dr. Hongyu Zhao
VA researcher

Help us ensure all people are represented in MVP's research by sharing MVP with a Veteran you know (page 6).

One in a Million: Meet the Veterans of MVP



Veteran Jimmy Anderson

"I provided my genetic data to VA's Million Veteran Program because this program offers a path forward towards equity and inclusion in Veteran health care research. MVP can enable VA to create a future where no Veteran feels left behind."

Captain Jimmy Anderson is currently an intelligence officer and planner in the Air Force Reserve at the Pentagon, an Associate Partner at IBM, and Term Member with the Council on Foreign Relations. Prior to that, he was an enlisted maintenance analyst which included a deployment to Kandahar, Afghanistan in support of Operation Enduring Freedom. Jimmy was previously Special Assistant and Deputy White House Liaison in the Office of Secretary of VA.



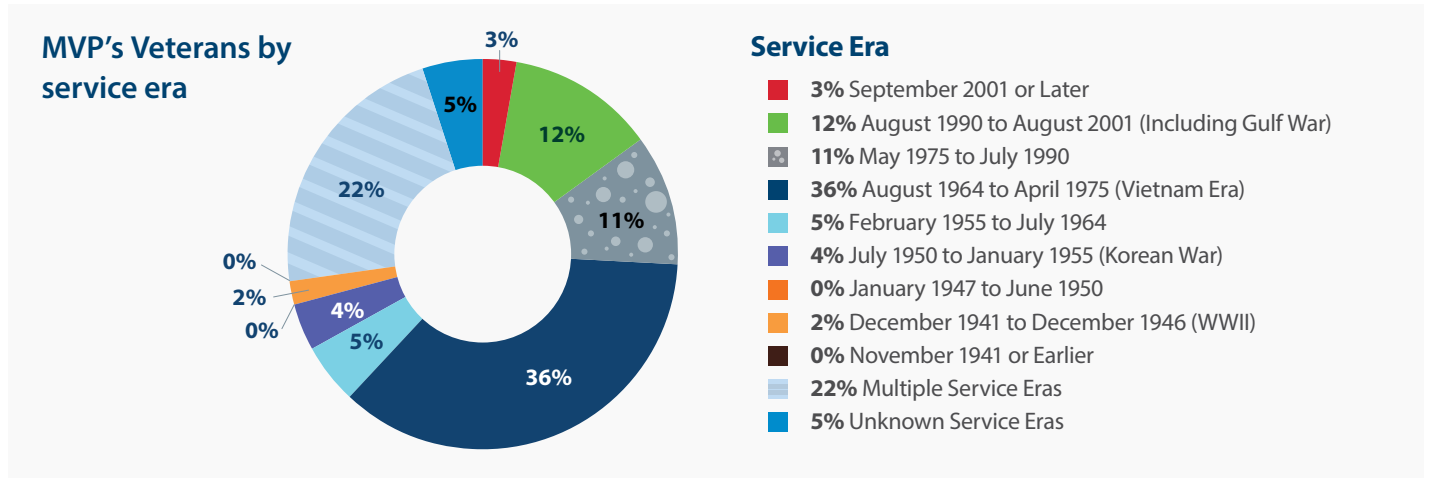
Veteran Melissa Rosse

"I joined MVP to support research for female Veterans. I want to be sure my mother, my sisters, my daughters, my nieces, and my aunts can all benefit from the studies completed by [MVP]. If we don't [participate], we'll never know how our health may have been affected by our military service."

Originally from Melrose, MA, Rosse enlisted with the Navy Reserve in 2000, attached to Naval Hospital Bethesda. Her career brought her to Newport, RI, Houston and Dallas, TX, Tennessee, California, Honduras, Kuwait, and Thailand. She left the Navy in 2008 and used her GI Bill benefits to receive her Doctor of Pharmacy degree from UCSF in 2011. She currently practices as a community pharmacist near Huntsville, AL.

MVP Studies Military Exposures Specific to Different Service Eras

MVP’s one million+ Veterans represent every era of military service going back to WWII. Your unique time spent in military service could help researchers make discoveries for the Veterans you served alongside—and those who came after. In some instances, researchers narrow their study’s focus to groups of individuals who have all experienced similar things, like those who served at the same time in similar areas.



PTSD and TBI

While PTSD and traumatic brain injury (TBI) have been called the signature injuries of Operation Enduring Freedom and Operation Iraqi Freedom, Veterans from all eras have experienced both. The Defense and Veterans Brain Injury Center reported nearly 414,000 TBIs among U.S. service members worldwide between 2000 and late 2019. *Researchers using MVP data:*



Studied the well-being of Veterans screened for deployment-related TBI and found that some Veterans may still benefit from TBI treatment even if they do not have a formal diagnosis.



Found that PTSD and TBI are major risk factors for dementia.

Gulf War Illness

Gulf War Illness (GWI) can appear as a cluster of medically unexplained chronic symptoms that may include fatigue, headaches, joint pain, insomnia, dizziness, respiratory disorders, and memory problems. *Researchers using MVP data:*



Found that Veterans who had deployed during their military service had higher odds of displaying GWI symptoms than Veterans who did not deploy. This study lays the groundwork for future research into the biological and environmental factors associated with GWI.

Toxic Exposures

A variety of toxic exposures can affect Veteran health and the risk for certain illnesses across service eras. For instance, post-9/11 and Gulf War Veterans have a higher risk of exposure to burn pits, which may indicate a higher risk for certain cancers. Vietnam Veterans may have been exposed to Agent Orange, which has been linked to cancer and illnesses like Parkinson’s disease.



Military Exposures Survey coming soon!

MVP is developing a new survey that will ask about your military experiences and exposures. Completing this survey will help us make more discoveries related to military exposures—which could help improve health care for Veterans like you. Thank you for keeping an eye out for this survey and for your continued participation.

Spotlight: Health and Wellness Research

Researchers using MVP data are studying how genes, lifestyles, military experiences, and exposures affect overall Veteran health and wellness. Here are some of their latest research findings.

Loneliness

Researchers using MVP data identified the first genetically informed evidence that reducing loneliness may decrease a person's risk for depressive illness. This reaffirms that efforts to reduce loneliness may help prevent or improve major depression.

Social connection is important. Find ways to engage with your community, such as investing time in your relationships, volunteering or joining groups like gyms or run clubs, or finding activities that help you feel connected to the world around you.

Whole Health

At VA, Whole Health means supporting your health and well-being by focusing on what *matters to you*, rather than what's the *matter with you*. For many people, that means being healthy, strong, and active for the duration of their lives.

Across the board—regardless of health care background or conditions—there are steps you can take to help support your whole health and stay happy and healthy for a long time. *Researchers using MVP data:*

- Found evidence supporting several lifestyle factors you should focus on to add years to your lifespan, like exercise, good social relationships, quality sleep, and maintaining minimal stress.
- Found evidence to support initial findings that eating high levels of sodium and low levels of potassium can increase your risk of heart disease.
- Discovered that both short sleep (less than 5 hours consistently) and long sleep (more than 10 hours consistently) may be associated with depression.

If your goal is to get healthier, eat better, sleep more, or you just want to know how you can improve your overall health and wellness, talk to your health care team to develop a whole health strategy that works for you.

Brain Health

There are many links between brain health, physical health, and mental health—meaning that brain health can have a big impact on a person's quality of life. We're studying the complex ways that lifestyle factors, health conditions, and genetics can affect brain health. *Researchers using MVP data:*

- Discovered that PTSD, TBI, and APOE gene variants are linked with increased risk for Alzheimer's Disease and related dementia (ADRD).
- Found that type 2 diabetes may be a risk factor for dementia in white and Black populations, but not in Hispanic populations.
- Found that Veterans with a history of TBI have significantly higher rates of experiencing other medical issues, particularly mental health and neurological conditions.

Research shows that you can positively affect your brain health by getting quality sleep, regularly engaging in physical activity, and maintaining your personal relationships and social network.

Mental Health

Mental health **is** health. Researchers are using information from MVP to study PTSD, suicide prevention, depression, anxiety, substance use disorders, and other mental health conditions. *Researchers using MVP data:*

- Learned more about the biological basis for anxiety and related conditions.
- Found that Veterans who attempted suicide had a harder time absorbing oxytocin—a natural hormone that helps humans with feelings of bonding and trust—than Veterans who did not attempt suicide.
- Found that a potential relationship exists between multisite chronic pain and substance use disorder.

This research helps us understand more about mental health conditions, which could lead to improved screenings, preventions, interventions, and treatments for Veterans.

The Veterans Crisis Line offers 24/7 confidential crisis support for Veterans and their loved ones. Dial 988 then press 1, or text 838255.

A Million and More: MVP's Next Chapter

A letter from Dr. Sumitra Muralidhar, MVP's Program Director

For years, we've been saying "A Million and More." To us, one million was never just a goal—it was a promise, a starting point for endless possibilities for scientific discoveries and improved health care for all Veterans and all people. Thanks to you, we've reached this extraordinary milestone, and you may be wondering—what's next for MVP?

Over the years, we listened closely to your feedback and one thing has stood out: you want to know how MVP's findings affect you and your fellow Veterans. Time and again, you've told us that your motivation for joining MVP was deeply personal—to *help other Veterans*—those who served before you, those who stood beside you, and those who will follow in your footsteps.

We hear you and we're dedicated to honoring that commitment. We're determined to make our research findings more accessible, to ensure MVP represents Veterans from all backgrounds, and to make meaningful discoveries for health conditions **that matter to you**.

Here's a sample of what we're doing to achieve those goals.

We recently conducted and published a study identifying a polygenic risk score (PRS)—a screening tool—for prostate cancer based on data from MVP participants of European and African ancestries. This tool is undergoing testing in a clinical trial to see if adding the PRS to standard prostate cancer screening can improve early and accurate detection.

A large-scale analysis using findings from one of the largest ever genetic association studies (using MVP data) has identified several hundred potentially new opportunities to repurpose FDA-approved medications—or use them to treat or prevent additional health conditions. These advancements highlight our commitment to translating research into real-world benefits for Veterans like you.

We began sharing a digital newsletter, *MVP Matters*, that often features our latest research findings. We're also refreshing our website to make it easier for you to stay up to date on what's new with MVP and explore our latest research on health concerns that matter to you, like mental health, cancer, or women's health. You can find all this and more at mvp.va.gov.



Dr. Sumitra Muralidhar, MVP's Program Director.

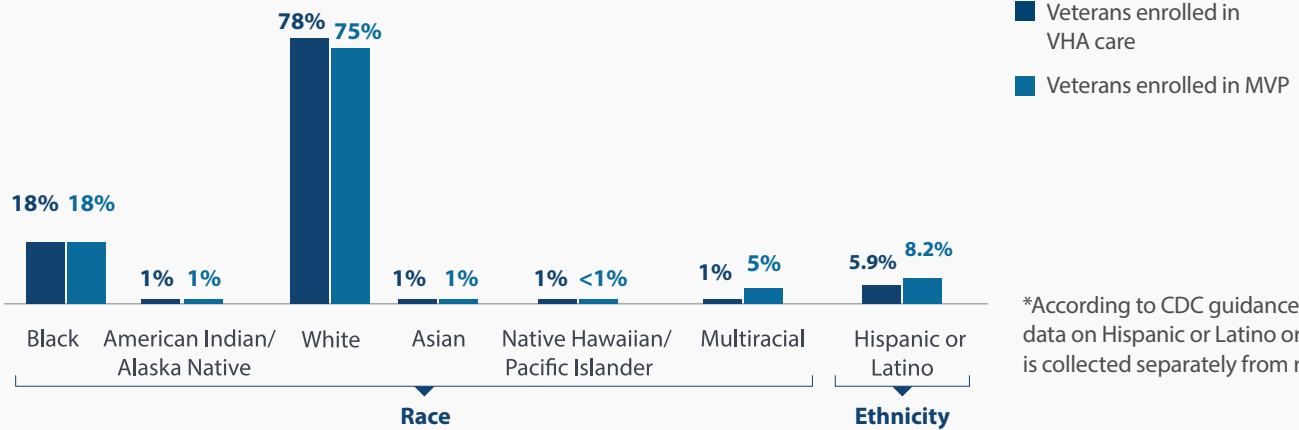
Thank You!

One million is your achievement—a powerful testament to the strength, commitment to service, and patriotism of every Veteran who has joined our program. While we celebrate this incredible milestone, we know that the full impact of MVP is still unfolding. Without you, none of this would be possible. Because of you, we're poised to make groundbreaking discoveries in diverse populations—discoveries that will lead to better detection, prevention, and treatments for conditions that matter most to Veterans like you.

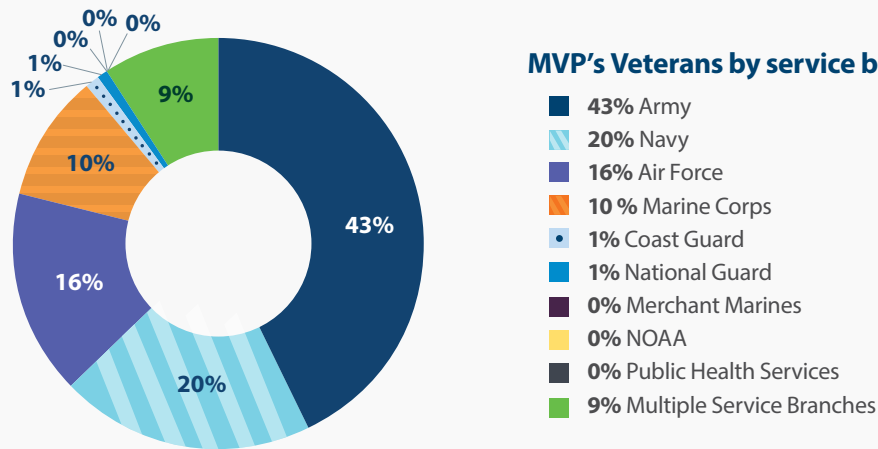
MVP: Strength in Diversity

Medical research works best when it represents everyone. As more Veterans from different racial and ethnic backgrounds join MVP, we can continue to make discoveries for all populations.

MVP is representative of the Veterans in VHA health care



MVP's Veterans by service branch



Data as of 03/24

Invite More Veterans to Join the Million Veteran Program

- Cut out the invitation below and share it with a Veteran you know
- Tell us why you joined MVP on social media by using the hashtag **#MyMVPMoment**



Join VA's largest effort to improve health for Veterans
 Visit mvp.va.gov to join today
 Questions? Call 866-441-6075

