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VA Funds New Studies Using Million Veteran Program Data
Database Links Genetic, Clinical, Lifestyle and Military Exposure Information

WASHINGTON – The Department of Veterans Affairs (VA) is announcing four new studies that will use genetic and other data from VA's Million Veteran Program (MVP) to answer key questions on heart disease, kidney disease, and substance use—high-priority conditions affecting Veterans.

MVP, which has enrolled more than 390,000 Veterans so far, has already become the nation's largest database linking genetic, clinical, lifestyle and military exposure information. Part of a beta test for data access, the newly funded studies are among the first to use MVP data to delve into pressing questions on Veterans' health. MVP-based studies on PTSD, schizophrenia and bipolar disorder are already underway.

"MVP is making important discoveries that will impact healthcare for Veterans and all Americans," said VA Secretary Bob McDonald. "We're grateful to our Veteran partners, whose altruism has made this possible."

The new research, which will specifically include the understudied African American and Hispanic Veteran populations, ties into the broader national Precision Medicine Initiative announced by President Obama earlier this year.

"There's already been an impressive amount of data collected through MVP, and we're continuing to engage more Veterans in the program and building its research infrastructure through studies like these," said Dr. Timothy O' Leary, VA's chief research and development officer.

The new studies, involving consortiums of VA researchers and university colleagues, will explore specific questions related to chronic illnesses common among Veterans. They will also help establish new methods for securely linking MVP data with other sources of health information, including non-VA sources such as the Centers for Medicaid and Medicare Services (CMS).

The new studies include the following:

Cardiovascular risk factors—Drs. Farooq Amin and Peter Wilson at the Atlanta VA Medical Center, and Dr. Kelly Cho at the Boston VA Health Care System, will lead an effort probing the genes that influence how obesity and lipid levels affect heart risk. Using MVP data, their team will also look at whether these genetic factors differ among African Americans and Hispanics. "These populations are extremely important in VA," said Amin.

Multi-substance use—Drs. Daniel Federman and Amy Justice at the VA Connecticut Healthcare System, and Dr. Henry Kranzler at the Philadelphia VA Medical Center, will examine the genetic risk factors for chronic use of alcohol, tobacco, and opioids—and the dangerous use of all three together. "MVP offers an unprecedented opportunity to advance this field," said Federman.

Pharmacogenomics of kidney disease—Dr. Adriana Hung at the VA Tennessee Valley Healthcare System will focus on how genes affect the risk and progression of kidney disease. One goal is to examine how patients with diabetes—who often develop kidney problems—respond differently to the drug metformin, the standard first-line treatment for diabetes, based on their genetic profile. The project will also look at the genetics of hypertension, a major risk factor for kidney disease. "Kidney disease is a major cause of morbidity and mortality in Veterans and we're hoping to gain insights that will drive personalized medicine for this population," said Hung.

Metabolic conditions—Dr. Philip Tsao at the VA Palo Alto Health Care System and Dr. Kyong-Mi Chang at the Philadelphia VA Medical Center, leading a team of researchers from five VA regions and two universities, will explore the role of genetics in obesity, diabetes, and abnormal lipid levels (namely, cholesterol and triglycerides), as drivers of heart disease. "This project will help us more thoroughly understand the underlying causes of cardiometabolic disease and develop new therapies that are safe, effective, and personalized," said Tsao. "This is also a great opportunity to partner with our colleagues at Stanford and the University of Pennsylvania," added Chang.

For more information about MVP and VA research in general, visit www.research.va.gov

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