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VA partners with Department of Energy on big-data initiative to improve health care for Veterans

WASHINGTON — Today the Department of Veterans Affairs (VA) and the Department of Energy (DOE) announced the formation of a new partnership focused on the secure analysis of large digital health and genomic data, or so-called “big data,” from the VA and other federal sources to help advance health care for Veterans and others in areas such as suicide prevention, cancer and heart disease, while also driving DOE’s next-generation supercomputing designs.

Known as the VA-DOE Big Data Science Initiative, the partnership will be based within DOE’s [National Laboratory](#) system, one of the world’s top resources for supercomputing. The effort will leverage the latest DOE expertise and technologies in big data, artificial intelligence and high-performance computing to identify trends that will support the development of new treatments and preventive strategies.

“VA has developed unparalleled health data trend information from some 24 million Veterans who have used VA for health care over the past two decades,” said VA Secretary [Dr. David J. Shulkin](#). “We are partnering with DOE to use their high-performance computing capabilities to allow thousands of researchers access to this unprecedented data resource over time in a secure environment. The transformative science that will be developed through this partnership will improve health care for Veterans and all Americans.”

DOE high-performance computing represents the state of the art in global computer science, involving machines capable of millions of billions of calculations per second.

VA takes privacy seriously and has ensured all reasonable safeguards are in place to protect the records at the DOE National Laboratory.

“Driving innovation through our national laboratories in ways that can improve Veterans’ health care is a remarkable opportunity,” said DOE Secretary Rick Perry. “I look forward to working together to shape this VA-DOE partnership.”

One part of the new initiative is MVP-CHAMPION— short for the Million Veteran Program (MVP) Computational Health Analytics for Medical Precision to Improve Outcomes Now. [MVP](#), VA’s landmark genomics program, has already enrolled more than 560,000 Veteran volunteers, who have provided DNA samples; completed surveys about their health, lifestyle and military experiences; and granted secure access to their electronic health records for research purposes. The partnership with DoE will maximize the impact of studies using MVP data.

Along with data from MVP and VA’s electronic health records system, the new VA-DOE program will use health data from the Department of Defense, Centers for Medicare and Medicaid Services, and the Center for Disease Control’s National Death Index.

An initial suite of specific studies that are part of VA-DOE Big Data Science Initiative is already being planned. One aims to build algorithms to generate highly tailored personalized risk scores for suicide. The scores could be used by VA clinicians and researchers to help predict which patients are at the highest risk, and to evaluate prevention strategies. The researchers will work with VA’s Office of Suicide Prevention to enhance current algorithms already in use in VA.

Another project focused on prostate cancer will seek new ways to tell which tumors are lethal versus nonlethal cancer and require treatment, and, by contrast, others that are slow growing and unlikely to cause any symptoms. Yet another study will explore what sets of risk factors are the best predictors of certain forms of cardiovascular disease to inform individualized therapy and treatments for patients based on their individual risk factors.

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

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