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News Release

VA Boston Healthcare System

1400 VFW Parkway

West Roxbury, MA 02132

Contact: Winfield S. Danielson III

617-435-7809

winfield.danielsoniii@va.gov

FOR IMMEDIATE RELEASE

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VA Researchers Find Potential Benefit in Pharmacogenomic Testing Prior to Prescribing Antidepressants

BOSTON – VA Boston Healthcare System researchers joined the Cpl. Michael J. Crescenzo VA Medical Center in Philadelphia, Pa., Tuesday in announcing findings of a \$12 million VA-funded study that examined potential clinical benefits in administering pharmacogenomic testing in patients suffering from major depressive disorder prior to prescribing antidepressant medications.

The PRecision Medicine In MEntal Health Care, or PRIME Care, study is the largest clinical trial to date to examine a drug-gene interaction in patients with depression. Some 1,944 Veterans were part of a randomized clinical trial at 22 Department of Veterans Affairs medical centers across the country, including Veterans with major depression from Primary Care and Mental Health clinics at VA Boston HCS. In the randomized clinical trial, some Veterans were first given a pharmacogenomic test – a test that assesses how a person’s genes or DNA make-up will metabolize a particular medication – to assist in the selection of antidepressants and avoid medications with genes that altered the metabolism of the antidepressant.

In reviewing the data, investigators observed that testing significantly reduced the use of medications with possible drug-gene interactions. Roughly 59 percent of patients who had testing were prescribed an antidepressant with no drug-gene interaction compared to about 26 percent of those without testing. Patients also showed better rates of remission in the pharmacogenomic-guided care compared to usual care, but the effects were small. Additionally, results showed that about 20 percent of Veterans in usual care were started on a medication with a significant drug-gene interaction, which represented the group who could best benefit from testing.

“While the effect in the overall population was small, these findings indicate that for a key segment of patients, pharmacogenomic testing could provide an important piece of the puzzle clinicians face in developing effective, tolerable, personalized depression treatment plans,” said lead author Dr. David Oslin, chief of Behavioral Health at the Cpl. Michael J. Crescenzo VA Medical Center, director of the Veterans Health

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Administration's VISN 4 Mental Illness Research, Education and Clinical Center, and professor of psychiatry at the Perelman School of Medicine at the University of Pennsylvania.

Other study results found that patients who also had posttraumatic stress disorder, commonly known as PTSD, showed a lower response rate to antidepressants.

Depression is a common condition among Veterans, and is tied to military service and combat exposure. It can increase the risk for suicide and other common medical conditions, and can lead to disability and increased rates of mortality.

"Although the PRIME Care trial is now complete, Veterans at VA Boston can still get pharmacogenetic testing from their providers through the Pharmacogenetic Testing for Veterans, or PHASER, program," said Dr. Jason Vassy, a primary care physician at VA Boston HCS and associate professor of medicine at Harvard Medical School, who led VA Boston's clinical participation in the study.

The study is available at <https://jamanetwork.com/journals/jama/fullarticle/2794053>

More information about the PHASER program is available at <https://www.cancer.va.gov/phaser.asp>