Predicting survival among those aging with HIV infection

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(Medical Xpress)—A new collaborative study led by Yale, the VA Healthcare System, and the North American Cohort Collaboration supports the accuracy of an index used for predicting mortality as patients with HIV age. The study appears in the *Journal of Acquired Immune Deficiency Syndromes (JAIDS).*

The course of chronic HIV infection has changed with the advent of antiretroviral therapy (ART). Viral suppression is common, the authors write, and there have been reductions in AIDS-related deaths in regions where ART is easily accessible. Yet, the authors say, people with HIV infection continue to experience a higher rate of mortality due not just to HIV-related factors, but because chronic HIV infection appears to exacerbate vulnerability to aging-related organ system injury.

The Veterans Aging Cohort Study (VACS) Index, funded by the National Institutes of Health (NIH), builds upon older indices that measured biomarkers for HIV (the virus that causes AIDS)—such as CD4 cell count, HIV-1 RNA levels, and patient age — in order to determine mortality risk. The newer VACS Index takes other critical factors into account, such as the increasing role of multi-organ system injury and hepatitis C infection, and the decreasing role of other factors such as

CD4 count.

The researchers analyzed data from over 5,000 veterans and over 10,000 non-veterans representing 14 separate cohorts of HIV-infected patients around the country who had had at least a year of exposure to ART. They followed up with those patients for just over three years. Researchers found the new VACS index to be much more accurate and effective than an index restricted to CD4 count, HIV-1 RNA, and age.

According to senior author Dr. Amy Justice, professor of internal medicine at Yale School of Medicine, "The VACS Index accurately estimates risk of mortality among those aging with HIV infection whether they live in Canada or the United States. Further, it is accurate among men and women, those who are older and younger, and white individuals and people of color." The team has developed an app that allows patients and their providers to use this information in care. It can be accessed online.

Justice is professor of medicine and public health at Yale School of Medicine; she also serves as section chief of general internal medicine in the VA Connecticut Healthcare System and is affiliated with Yale's Center for Interdisciplinary Research on AIDS.

Provided by Yale University

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