

# AIDS-defining events increase mortality risk, says study

February 9 2018, by Paul Govern

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When they occur among people living with HIV, certain cancers and opportunistic infections are considered by health authorities as AIDS-defining events, or ADEs.

The Centers for Disease Control and Prevention recognizes 27 ADEs, from pneumonia to tuberculosis to cervical cancer to wasting syndrome. When a [death](#) is attributed to AIDS, usually one or more recognized ADEs is involved.

The availability of effective antiretroviral drug therapy has rendered HIV/AIDS a chronic disease in much of the world, no longer acutely fatal when treated. Among people living with HIV, at least in some developed regions, a so-called non-AIDS death appears at least as likely as a death attributed directly to AIDS.

In a study published recently in the *Journal of the International AIDS Society*, April Pettit, MD, MPH, assistant professor of Medicine, and colleagues focus on non-AIDS mortality among people on antiretroviral treatment in relatively high-income countries. They specifically examine mortality among patients who've survived an ADE since starting their HIV/AIDS [drug therapy](#).

The team examined records of 124,587 antiretroviral patients, with a median follow-up period of 5.2 years. Data were provided by the international Antiretroviral Therapy Cohort Collaboration (ART-CC).

The overall death rate was 9 percent. Among all deaths, 36 percent were coded as non-AIDS deaths, 24 percent were coded as AIDS deaths, and death codes were missing for the rest.

After adjusting their analysis for medical and demographic covariates (including time-updated covariates), the authors found that having survived an ADE is associated with 121 percent greater risk of non-AIDS death.

"These findings suggest that a common pathway may be independently driving both ADEs and NADE (non-AIDS) mortality. These findings underscore the need for future studies to elucidate a potential mechanism for this association, including that of chronic inflammation and immune activation due to ADEs," the authors wrote.

They focused on three events representing extremes of ADE severity: having survived tuberculosis, considered a mild ADE, is associated with 68 percent greater risk of non-AIDS death; having survived *Pneumocystis jirovecii* pneumonia (PJP), also considered mild, is associated with 121 percent greater risk of non-AIDS death; having survived non-Hodgkin lymphoma, considered severe, is associated with 195 percent greater risk of non-AIDS death.

Of these three ADEs, only TB was associated with a higher cardiovascular death rate. PJP was associated with higher rates of respiratory death and accident/suicide/overdose, with the latter association suggesting the influence of unmeasured confounders, according to the authors, such as mental illness and alcohol or drug abuse. Smoking and [body mass index](#), neither of which are measured by the ART-CC, are two other known confounders not included in the analysis.

The most frequent causes of non-AIDS death overall included cancer at

17 percent, accident/suicide/overdose at 16 percent, cardio-vascular disease also at 16 percent, non-AIDS infections at 15 percent, and liver disease at 13 percent.

Provided by Vanderbilt University

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