

Risk factors for 5-year mortality in people with HIV after cancer diagnosis (2000-2017)



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Introduction

- Studies demonstrating higher mortality following a cancer diagnosis among people with versus without HIV compels characterizing the factors driving poorer prognosis
- We estimated 5-year survival and risk factors for 5-year mortality among people with HIV (PWH) diagnosed with any cancer in North America from 2000-2017

Methods

Study Population:

- PWH, ≥18 years old, participating in the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD)
- Participated in cohorts collecting ICD-O-3 site/histology data
- Diagnosed with any validated cancer (except for non-melanoma skin cancer) from 2000-2017

Observation time:

Study entry: date of cancer diagnosis

Study exit, earliest of: death, administrative censoring (12/31/2017), loss-to-follow-up, or 5 years of follow-up after cancer diagnosis

Timescale: time since cancer diagnosis

Statistical Analysis:

- Estimated 5-year survival by cancer type using Kaplan Meier methods
- Cancer types were categorized as:
 - AIDS-defining cancer (ADC)
 - Virally-associated non-AIDS-defining cancer (VAC): certain oral cavity/pharyngeal cancers, hepatocellular carcinoma, vulvar, penile, vaginal and anal squamous cell carcinoma, and Hodgkin's Lymphoma
 - Non-AIDS-defining cancer (NADC): all other cancer types
- Patients could contribute multiple cancer diagnoses
- Assessed association between demographic/clinical factors and 5-year all-cause mortality using Cox proportional hazards models
- Risk factors included:
 - Age at cancer diagnosis (per 5-year increase)
 - Race/ethnicity (non-Hispanic [NH] white, NH-Black, Hispanic, Other)
 - Sex (male or female)
 - Viral suppression at cancer diagnosis (≥200 copies/mL vs. <200 copies/mL)
 - CD4 count at cancer diagnosis (<200 cells/μL, 200-350 cells/μL, ≥350 cells/μL)
 - AIDS-defining illness ([ADI] clinical diagnosis or CD4 <200 cells/μL) prior to cancer diagnosis (yes, no)
 - Calendar year of cancer diagnosis (per 1-year increase)

Results

Associations between all-cause mortality and race/ethnicity, CD4 count and viral suppression merit further exploration into social, structural, and clinical/provider driven factors that may explain poor outcomes following a cancer diagnosis in people with HIV

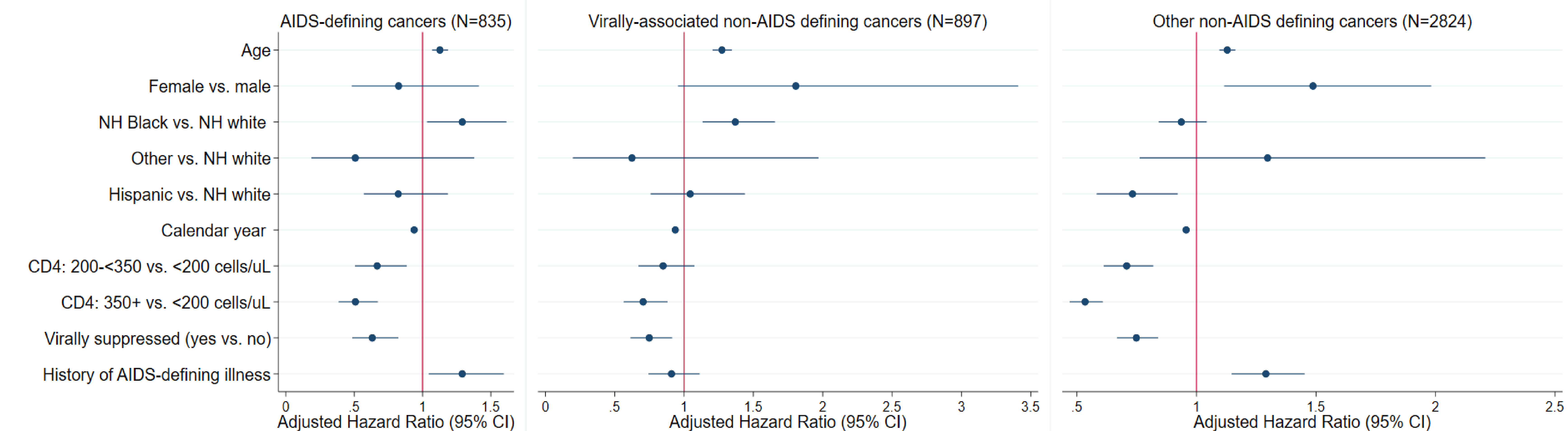


Figure 1. Risk factors for 5-year mortality following a cancer diagnosis in the NA-ACCORD, 2000-2017

- Mortality following ADCs and VACs was higher in Black vs. white patients; mortality following NADCs was lower for Hispanic vs. white patients
- For ADCs and NADCs, prior ADI was associated with increased mortality risk

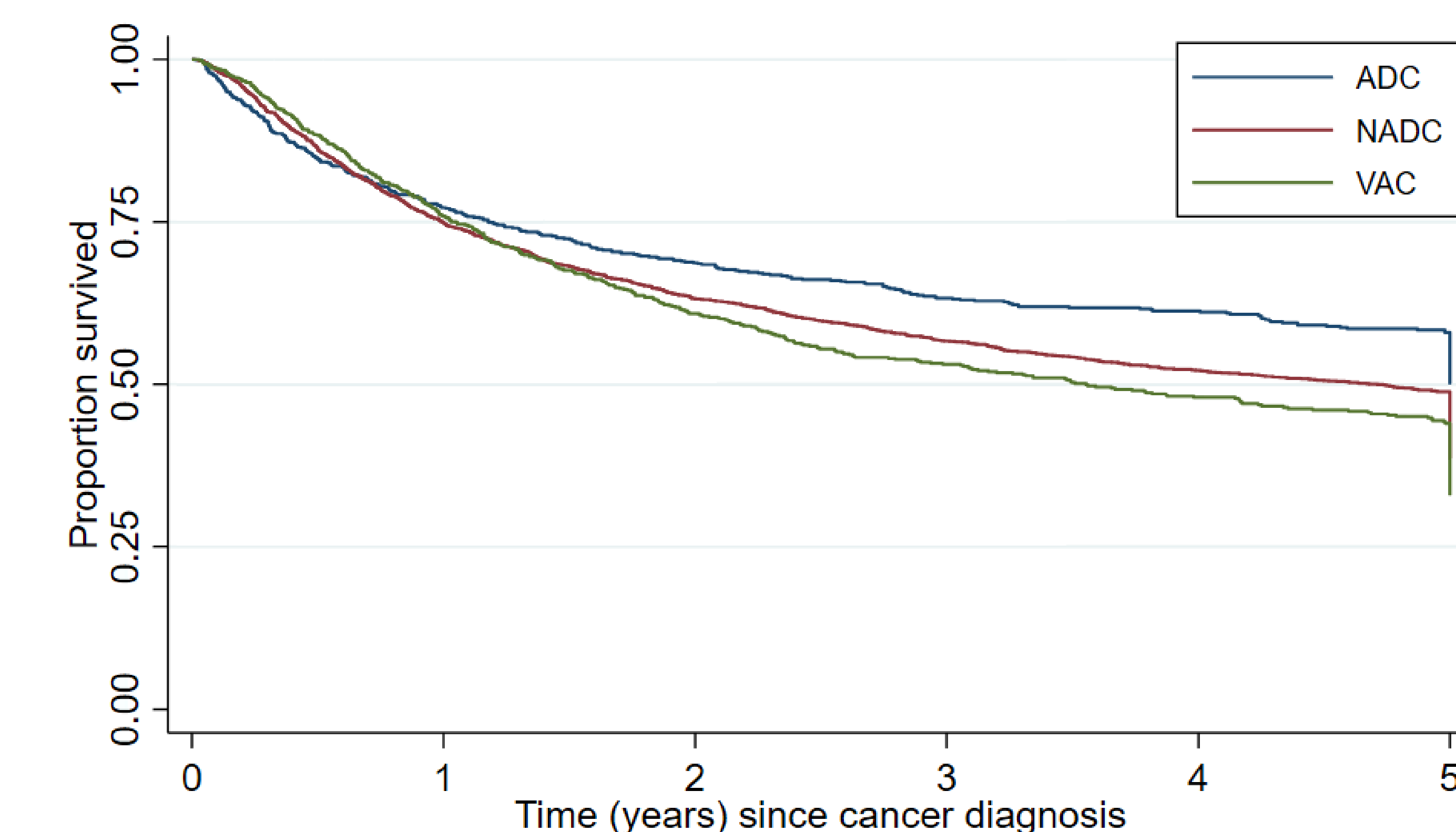


Figure 2. 5-year survival following a cancer diagnosis in the NA-ACCORD, 2000-2017 stratified by cancer type

There were 4556 cancer diagnoses (835 ADC, 897 VAC, 2824 NADC) in 4103 patients (12185 person-years); 5-year survival: for ADCs, 50% (95% CI 46%, 54%); for VACs, 33% (95% CI 29%, 37%); for NADCs, 39% (95% CI 36%, 41%)

Conclusions

- Lack of viral suppression and low CD4 count at cancer diagnosis increased 5-year mortality risk following cancer diagnosis for all cancer types
- Inconsistent racial disparities in mortality were observed by cancer type
- Limitations include assessment of all-cause, not cause-specific mortality
- Findings underscore importance of successful HIV treatment and exploring potential etiology for NADCs/VACs
- Future work will incorporate cancer treatment, stage, individual cancer site assessment, and longitudinal HIV viremia/ immune status

Acknowledgements

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. This work was supported by National Institutes of Health grants U01AI099918, F31AI124794, F31DA037788, G12MD007583, K01AI093197, K01AI131886, K23EY013707, K24AI065298, K24AI118591, K24DA004032, KL2TR000421, N01CP010004, N02CP055504, N02CP01027, P30AI027767, P30AI027767, P30AI036219, P30AI050409, P30AI050410, P30AI094188, P30AI110527, P30MH62246, R01AA016893, R01DA011802, R01DA012568, R01AG053100, R24AI067039, R34DA045592, U01AA013566, U01AA020790, U01AI038855, U01AI038858, U01AI068634, U01AI068636, U01AI069432, U01AI069434, U01DA036297, U01DA036935, U10EY008057, U10EY008052, U10HL146192, U10HL146193, U10HL146194, U10HL146201, U10HL146202, U10HL146203, U10HL146204, U10HL146205, U10HL146206, U10HL146207, U10HL146208, U10HL146209, U10HL146210, U10HL146211, U10HL146212, U10HL146213, U10HL146214, U10HL146215, U10HL146216, U10HL146217, U10HL146218, U10HL146219, U10HL146220, U10HL146221, U10HL146222, U10HL146223, U10HL146224, U10HL146225, U10HL146226, U10HL146227, U10HL146228, U10HL146229, 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