

Overdose, chronic disease, and HIV-related complications driving mortality outcomes among historically marginalized people living with HIV

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Background

In a setting of universally provided antiretroviral therapy (ART), many of the advantages of modern therapy are not able to be realized by marginalized or harder-to-reach populations of people living with HIV (PLWH) due to their social and structural realities.

In a recent study, HIV/AIDS-related complications and non-AIDS-defining malignancies emerged as the top two causes of mortality among PLWH in British Columbia (BC)¹.

Over 1,400 people across BC died from drug overdoses in 2017. Illicit drug-related death rates have increased more than 6-fold in BC since the early 1990s².

Study objective: To investigate mortality outcomes among a cohort of historically marginalized PLWH in the province of British Columbia (BC).

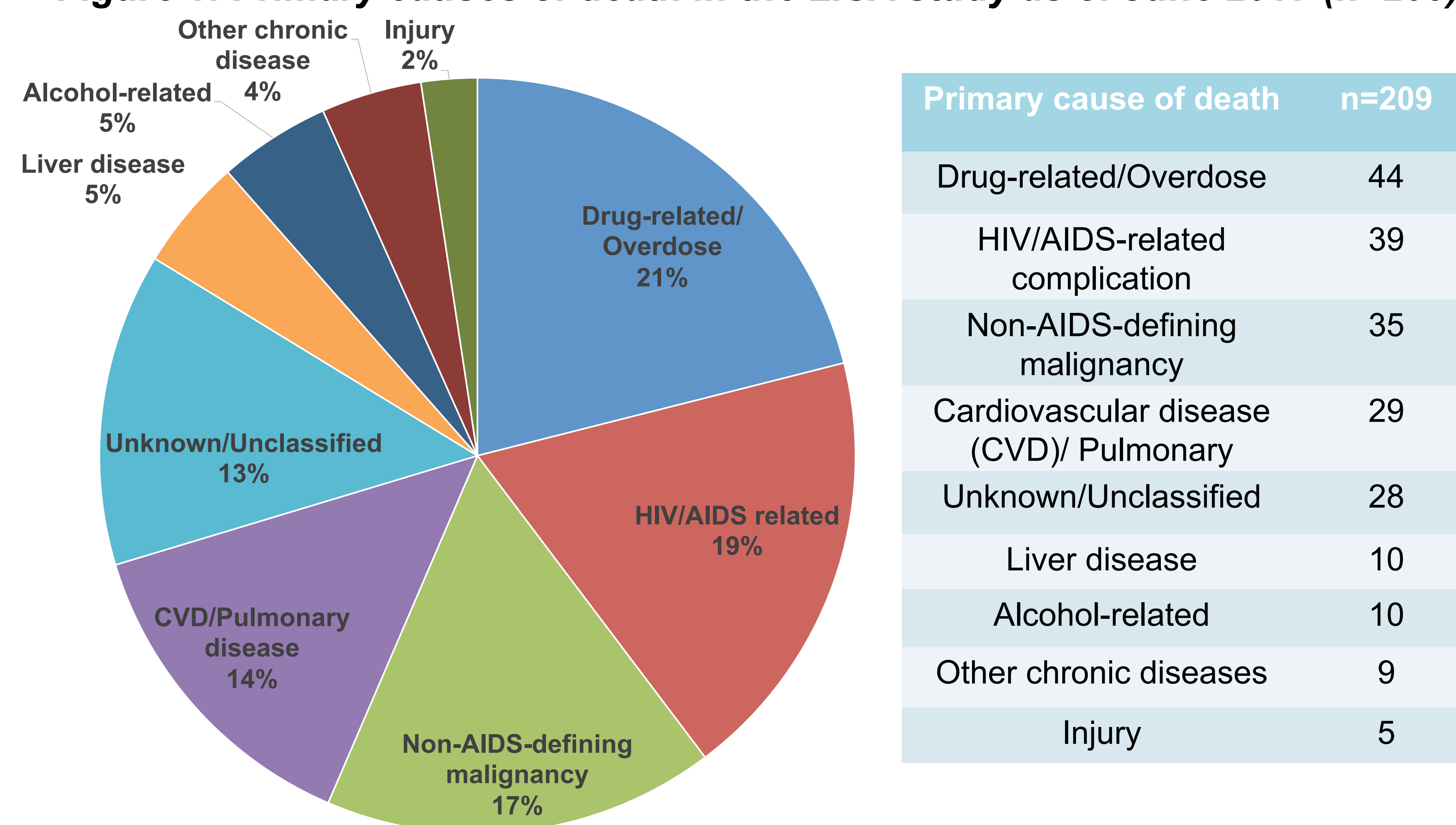
Methods

- Between 2007-2010, 1000 PLWH across BC participated in a cross-sectional interviewer-led survey on health outcomes and health care as part of the **Longitudinal Investigation into Supportive and Ancillary health care (LISA) study**.
- Study participants were recruited via convenience sampling and, as such, the sample is generally over-represented by historically marginalized populations of PLWH across the province.
- For the purposes of this analysis, we examined mortality outcomes as captured by primary cause of death data from the Ministry of Health data as of June 30, 2017.
- Logistic regression modelled the probability of mortality in this study among LISA participants who initiated treatment in BC and had follow-up past the date of interview (n=910).

Results

Among 1000 participants interviewed as part of the LISA study between 2007 and 2010, by June 2017 209 (21%) had passed away.

Figure 1: Primary causes of death in the LISA study as of June 2017 (n=209)



Results

Among 910 LISA participants with sufficient follow-up clinical data, 194 (21.3%) died. Of the 194 participants who passed away, many key populations were over-represented including Indigenous participants (69, 36%), as seen in **table 1**.

Table 1: Descriptive table of LISA participants by mortality outcomes (n=910), chi-squared, fisher's exact or Mann-Whitney test

Variable name	Alive (716) n(%) or median (IQR)	Died (194) n(%) or median (IQR)
Female sex (vs male or trans)	189 (26%)	59 (30%)
Indigenous ancestry (vs not)	180 (25%)	69 (36%)*
Started ART after 2004 (vs before)	268 (37%)	67 (35%)
Food insecure (at interview) (vs no)	456 (64%)	147 (76%)*
Tobacco use (at interview) (vs no)	442 (62%)	154 (80%)*
Injection drug use (at interview) (vs no)	137 (19%)	65 (34%)*

*indicates statistical significance at p<0.05

Table 2: Explanatory logistic regression modeling the probability of death (n=893), based on type III p-values and AIC

Variable name	Adjusted Odds Ratio (aOR)	95% Confidence Interval
Age (at interview), per 10 year	1.07	1.05, 1.10*
Indigenous ancestry	1.48	0.99, 2.20
Viral suppression (<50 copies/mL) at follow-up	0.22	0.14, 0.34*
CD4 cell count (at interview), per 100cells/mm ³ increase	0.90	0.82, 0.98*
Tobacco use (at interview)	1.74	1.11, 2.73*
CAGE alcohol problematic use	1.43	1.00, 2.06
Injection drug use (at interview)	1.43	0.95, 2.15
Stable housing (at interview)	0.50	0.34, 0.74*

*indicates statistical significance at p<0.05

Key Findings

- In less than 10 years since closing the LISA study, 21% of our sample has passed away.
- 1 in every 5 deaths was attributed directly to drug-use and/or overdose.
- Older age, Indigenous ethnicity, poorer HIV clinical outcomes, tobacco use and unstable housing all were associated with an increased risk of all-cause mortality.
- Culturally appropriate harm-reduction strategies, including substance use interventions and smoking cessation programs, will be increasingly important among aging PLWH in order to reduce mortality.

Acknowledgements

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