HCV, AIDS, Living in US South are Risk Factors for Mortality in Persons with HIV and Substance Use

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BACKGROUND

- Persons with HIV (PWH) are living longer due to engagement in HIV care and achieving HIV viral suppression.
- However, excess risk of death still exists among substance using PWH.
- Gaps in knowledge exist on risk and cause specific mortality in PWH and substance use.
- Project HOPE enrolled substance using PWH not on antiviral therapy to examine navigation (PN) vs. PN with financial incentives vs. usual care on HIV viral suppression.[1] A follow-up study (CTN 0064), re-engaged this group to examine care facilitation for hepatitis C virus (HCV).[2]
- This ancillary study of CTN 0064 is to address these knowledge gaps.

METHODS

- Retrospective cohort study among 801 PWH enrolled in Project HOPE between July 2012 to January 2014; maximum of 62 months.
- Primary and secondary cause of death was determined by site based on WHO criteria using hospital records, medical examiner reports, or death certificates.[3]
- Two independent adjudicators reviewed each death narrative; tertiary review completed to resolve disagreement in cause of death.
- A National Death Index was conducted in those who were lost to follow-up.
- Kaplan-Meier estimates with a Renyi type test were used for survival curves and an Accelerated Failure Time (AFT) model assuming a log logistic distribution was used to examine predictors of all-cause mortality.

One in three substance users with HIV died in a 5-year follow-up.

Approximately 12 deaths per 100 person-years of follow-up occurred.

Having HCV, AIDS, and living in the South significantly increased risk of death.

Primary cause of death overall was non-AIDS infections. Among those with HIV/HCV, the leading cause of death was non-AIDS infections; AIDS was the leading cause of death among those with HIV only.

Inadequate access and fragmented care, often seen in the South, may decrease survival in persons who use substances.

To improve survival among PWH and substance use, new strategies will be needed to improve the care continuum for this disadvantaged population.

RESULTS

- Median survival time 54 months (95%CI 52-58)
- Participants with HCV coinfection had significantly worse survival time with a slight reversal at the end of the survival curves. The difference was significant (Renyi test statistic=3.58, p=0.0007).
- Average survival time for participants with HCV coinfection was 27% lower than those with HIV alone(p=0.0490).
- Average survival time for participants with CD4 <200 cellsl/µl was 40% lower than those with higher CD4 count (p=0.0015).
- Average survival time for participants located in the South was 38% lower than those not located in the South (p=0.0021).

Figure 1: Survival Estimates by HCV antibody (Ab) status

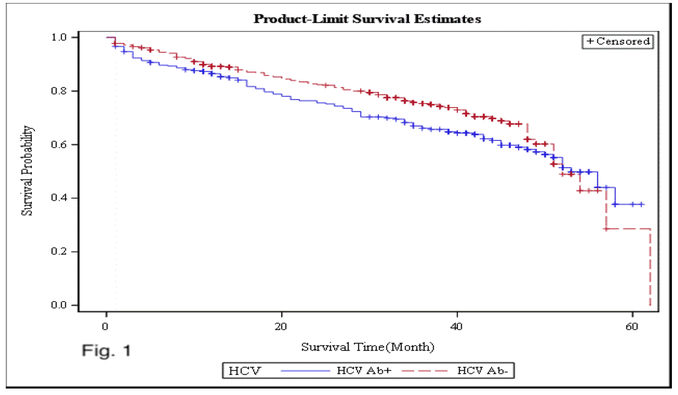


Fig. 1

Figure 2: Mortality rate per 100 person-years

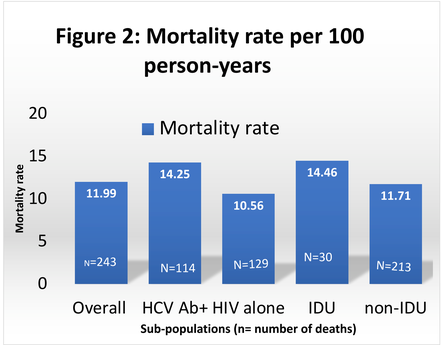
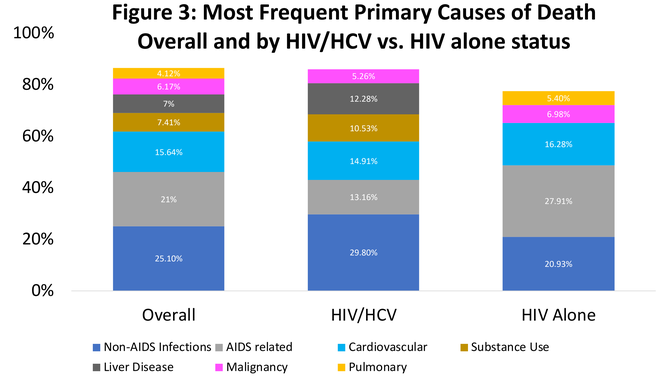


Figure 3: Most Frequent Primary Causes of Death Overall and by HIV/HCV vs. HIV alone status



Liver Disease includes: Liver malignancies
AIDS related includes: AIDS infections and malignancies
Malignancies: other malignancies not AIDS related or Liver related
Substance use: includes overdose
** Please note all causes of death are not listed and only the top 7 overall causes of death are reported in the subgroup of HIV/HCV and HIV alone

Table 1: Baseline characteristics	Alive (n=558) N (%)	Died (n=243) N (%)	Chi square; t-test; Fisher's Exact
Gender			0.15
Male	385 (69)	155 (64)	
Female	173 (31)	88 (36)	
Transgender			0.76
No	548 (98)	240 (99)	
Yes	10 (2)	3 (1)	
Race /Ethnicity			0.36
Hispanic	65 (12)	19 (8)	
Black	395 (71)	184 (76)	
White	67 (12)	30 (12)	
Other	28 (5)	10 (4)	
Located in South			
No	246 (44)	81 (33)	**0.004**
Yes	312 (56)	162 (67)	
Treatment Group (0049)			0.30
PN	177 (32)	89 (37)	
PN+CM	197 (35)	74 (30)	
TAU	184 (33)	80 (33)	
Had Health Insurance			**0.0012**
No	201 (36)	60 (25)	
Yes	351 (64)	183 (75)	
HCV			**0.0004**
Negative	369 (66)	129 (53)	
Positive	187 (34)	114 (47)	
Shelter			0.096
No	466 (84)	191 (79)	
Yes	92 (16)	52 (21)	
Education			**0.02**
< high school	205 (37)	114 (47)	
high school	195 (35)	76 (31)	
> high school	158 (28)	53 (22)	
Work			**<.0001**
Working	79 (14)	14 (6)	
Unemployed	204 (37)	77 (32)	
Disabled	262 (47)	137 (56)	
Other	13 (2)	15 (6)	
Current, HIV medication			0.33
No	282 (51)	114 (47)	
yes	275 (49)	129 (53)	
Age, mean (SD)	43.9 (9.82)	46.3 (10.16	**0.0014**
CD4 count (SD)	172.6 (172.4)	132.9 (139.5)	**0.0006**

REFERENCES

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[2]Metsch, LR et al. Care facilitation for hiv/hcv co-infected increases movement on the hcv care cascade. CROI 2019.
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