

Increased Mortality Among Aboriginal Persons in a Multisite Cohort of People Living with HIV in Canada

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Building Bridges

Building Bridges was a collaborative community-based research project using Indigenous methodology to conduct epidemiological health research between Aboriginal and allied stakeholders and the Canadian Observational Cohort (CANOC).

Objective

Determine differences in mortality between Aboriginal and non-Aboriginal CANOC participants.

Methods

- CANOC is a collaboration of 8 cohorts of treatment-naïve HIV-infected participants initiating combination antiretroviral therapy (cART) after 1/1/2000.
- Participants were followed from the date of cART initiation until death or date of last viral load (VL) test before 12/31/2012.
- Cox proportional hazard models were used to estimate the effect of ethnicity on time until death after adjusting for confounders.

Results

- 794 (9%) participants died; 131 (26%) Aboriginal Peoples, 20 (3%) ACB, 185 (7%) Caucasian, 29 (5%) other ethnicity and 429 (9%) unknown ethnicity participants.
- Five year survival was lower for Aboriginal Peoples (68%) compared to Caucasian (91%), ACB (97%), other ethnicity (93%) and unknown ethnicity (86%) participants (p<.0001).

	N=9300	Aboriginal Peoples N=498	ACB N=789	Caucasian N=2474	Other N=629	Unknown N=4910	P
Demographics							
Age		39 (32-44)	37 (32-43)	41 (34-48)	38 (31-44)	40 (33-47)	<.0001
Male		59%	47%	87%	88%	86%	<.0001
Province							<.0001
BC		83%	11%	47%	40%	51%	
ON		13%	59%	45%	48%	22%	
QC		4%	31%	8%	12%	27%	
Risk Factors							
MSM		20%	8%	60%	64%	28%	<.0001
IDU		72%	3%	29%	10%	17%	<.0001
Clinical							
Year of cART Initiation		2005 (2002-08)	2006 (2003-09)	2006 (2003-09)	2007 (2003-09)	2008 (2005-10)	<.0001
Regimen							<.01
PI Based		49%	48%	50%	48%	48%	
NNRTI Based		47%	48%	46%	49%	46%	
CD4		160 (80-270)	189 (102-277)	210 (105-313)	204 (90-290)	240 (140-350)	<.0001
VL (log ₁₀ c/mL)		4.9 (4.4-5.0)	4.5 (4.0-5.0)	5.0 (4.5-5.2)	4.9 (4.3-5.2)	4.9 (4.4-5.2)	<.0001
AD1		17%	15%	19%	20%	11%	<.0001
Hepatitis B		3%	9%	7%	10%	8%	<.0001
Hepatitis C		70%	6%	30%	13%	21%	<.0001

Acknowledgements

- Traditional territory of the Mississaugas of the New Credit
- CANOC participants



*Investigators

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Figure 1: Kaplan Meier curves of time to death by ethnicity.

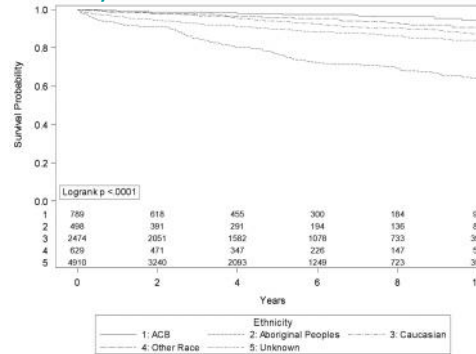
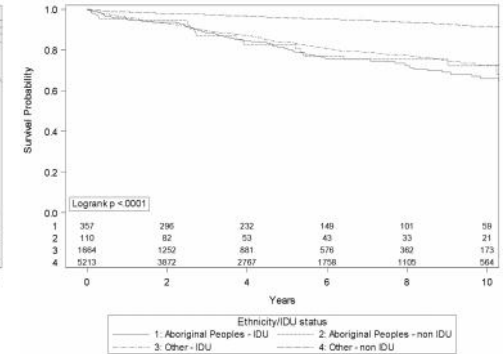


Figure 2: Kaplan Meier curves of time to death by Aboriginal/non-Aboriginal and IDU/non-IDU.



Parameter	HR (95% CI)	p	Parameter	HR (95% CI)	p
Ethnicity (ref = Caucasian)					
Aboriginal	2.29 (1.80,2.91)	<.0001	cART Regimen (ref = Boosted PI)		
ACB	0.94 (0.57,1.54)	0.80	II	1.48 (0.55,3.99)	0.44
Other	1.11 (0.75,1.65)	0.59	NNRTI	0.87 (0.75,1.02)	0.08
Unknown	1.89 (1.54,2.31)	<.0001	Other	0.83 (0.56,1.23)	0.34
IDU					
Yes	1.29 (1.00,1.68)	0.05	PI	1.14 (0.86,1.51)	0.35
Unknown	1.66 (1.24,2.22)	<.001	Hep C (ever diagnosed)		
MSM					
Yes	1.01 (0.79,1.29)	0.95	Yes	2.49 (2.00,3.11)	<.0001
Unknown	0.90 (0.66,1.23)	0.50	Unknown	3.32 (2.58,4.27)	<.0001
Gender (ref = Male)					
Female	1.14 (0.92,1.40)	0.23	Province (ref = Ontario)		
Transgender	1.27 (0.63,2.58)	0.50	BC	2.28 (1.80,2.89)	<.0001
Age (10y)					
	1.52 (1.41,1.63)	<.0001	Québec	1.18 (0.84,1.65)	0.35
CD4 > 200					
			Year of ARV initiation	0.92 (0.89,0.94)	<.0001
VL >100,000					
			VL >100,000	1.23 (1.06,1.42)	<.01

Conclusions

- The mortality rate for Aboriginal Peoples with HIV in CANOC was significantly higher than for other ethnic groups accessing cART.
- Addressing treatment challenges and identifying HIV-and non-HIV related causes for mortality among Aboriginal persons is required to optimize their clinical management.

Please visit our other Building Bridges' projects

- EPH53 - "Building Bridges: A Model for Community Engagement in Epidemiology Research".
- CS56 - "Differences in time to virologic suppression and rebound between Aboriginal Peoples and other ethnic groups among individuals initiating combination antiretroviral therapy in a multisite cohort of individuals living with HIV in Canada".
- CS02- "Differences in antiretroviral treatment interruption between Aboriginal Peoples and other ethnic groups in a multisite cohort of people living with HIV in Canada".



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