Continuity of patient care decreases hospital readmission among people living with HIV

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Background

- **Hospital readmission** is associated with a number of adverse health outcomes, including increased mortality
- **People living with HIV** (PLWH) experience elevated rates of hospital readmission compared to the general population
- **Continuity of care** with a healthcare provider has been shown to be associated with lower rates of 30-day readmission among the general patient population

Objective

The objective of this study was to examine whether continuity of care is associated with 30-day readmission among PLWH

Methods

- We utilized the Seek and Treat for Optimal Prevention HIV/AIDS in British Columbia (**STOP HIV/AIDS) cohort**, a provincial-level linkage of a series of surveillance, laboratory and administrative databases of all identified PLHIV in BC
- Main outcome variable: **30-day hospital readmission,** defined as any re-hospitalization that occurred less than 30 days after the index hospitalization
- Main explanatory variable: **patient-provider attachment,** defined as the percentage of HIV-related services provided by the physician who provides the most services in the calendar year
- Generalized estimating equation (GEE) models to examine the relationship between readmission and patient-provider attachment, for both readmission for **all causes** or for **similar cause** as the index admission

Results

- **5122** participants, 22% female, median age 43 (Q1-Q3: 37-51). At baseline, the highest proportion (27.1%) of participants had an attachment between 20% and 30%
- **13%** (670) readmitted for **all causes** at baseline
- **8%** (396) readmitted for **similar cause** at baseline

Results cont'd

Patient-provider attachment was negatively associated with 30-day readmission for all causes and similar cause

TABLE 1. Multivariable GEE analyses of factors associated with hospital readmission within 30-days of discharge

Characteristic	Odds Ratio (OR) excluding same-day readmission	
	AOR (95% CI)- all causes	AOR (95% CI)- similar cause
Attachment to primary physician within 12 months (per 10% increase)	0.90 (0.88-0.93)	0.92 (0.88-0.95)
Sex (female vs male)	0.84 (0.75-0.95)	0.86 (0.74-1.00)
Age at admission (per 10 years)	0.96 (0.91-1.02)	0.88 (0.82-0.95)
History of injection drug use		
No	Reference	Reference
Yes	0.98 (0.88-1.10)	0.92 (0.79-1.06)
Unknown	1.30 (1.10-1.53)	1.24 (1.02-1.52)
Discharge against medical advice (yes vs no)	2.89 (2.56-3.26)	3.14 (2.72-3.63)
Calendar year (per 10 years)	0.81 (0.72-0.90)	0.84 (0.73-0.96)
Charlson comorbidity index (per unit increase)	1.11 (1.10-1.13)	1.07 (1.05-1.10)
Latest viral load within 12 months (log10 copies/ml)	1.08 (1.04-1.13)	1.09 (1.03-1.14)
Latest CD4 within 12 months (100 cells/mm3)	0.97 (0.95-1.00)	0.96 (0.93-0.99)

Conclusions

- Strong patient-provider attachment is **protective** against 30-day readmission for PLWH in British Columbia
- 64% of physicians were **GPs**, who may be well suited to provide versatility of care and person-centered approach to PLWH
- Our study findings support the adoption of **interventions that seek to build patient-provider relationships** in order to optimize outcomes for PLWH, and enhance healthcare sustainability

Acknowledgements

We thank the participants that make up the STOP HIV cohort. Funding: BC Ministry of Health, as well as an Avant-Garde Award (No. 1DP1DA026182) and grant 1R01DA036307-01 from the National Institute of Drug Abuse, at the US National Institutes of Health (NIH). The funder had no direct role in the conduct of the analyses and the decision to present these results.

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