CONFERENCE CAHR 2020

Assessing Antiretroviral Therapy Interruptions at Release from Provincial Correctional Centres to the Community in British Columbia (BC)

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Background

- Adherence to antiretroviral therapy (ART) remains critical for treatment success and reduced transmission of the virus.
- Incarceration has been observed to negatively impact adherence to ART, in particular on release from correctional facilities to the community.
- In BC, ART distribution is managed by St. Paul's Hospital Ambulatory Pharmacy (SPH) and several satellite pharmacies on behalf of the BC Centre for Excellence in HIV/AIDS Drug Treatment Program (CfE-DTP). This includes all patients in provincial correctional centres (PCC) who receive medications through the Production Distribution Centre pharmacy (PDC) (See Figure 1).
- There is limited local data on treatment interruption and patient outcome data for patients leaving correctional facilities.
- The purpose of this study is to assess ART interruption on release from PCC in BC.

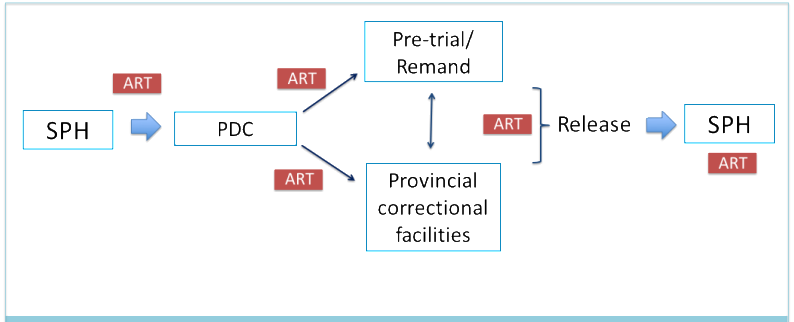


Figure 1: Schematic of movement of ART from SPH through the provincial correctional system.

Methods

Design: Retrospective cohort study from the BC CfE Drug Treatment Program database using ART refill data and laboratory data.

Inclusion Criteria: Patients were included if ≥19 years old, HIV positive, and at least 1 ART refill from the PDC between Jan 1, 2012 – Dec 31, 2016.

Exclusion Criteria: CfE-DTP participants receiving ART from federal corrections before or after a PCC, ART dispensed through PDC through Dec31, 2016 (ie no release), and ART for post exposure prophylaxis therapy were excluded.

Outcomes of interest:

- Treatment interruptions on release (ART no longer dispensed by PDC)
- Proportion with HIV plasma viral load monitoring (pVL) done at 3, 6, and 12 months post release
- Proportion of releases with pVL <50 copies/mL at 3, 6, and 12 months post release

Analysis: Descriptive statistics and logistic regression with the Akaike Information Criterion.

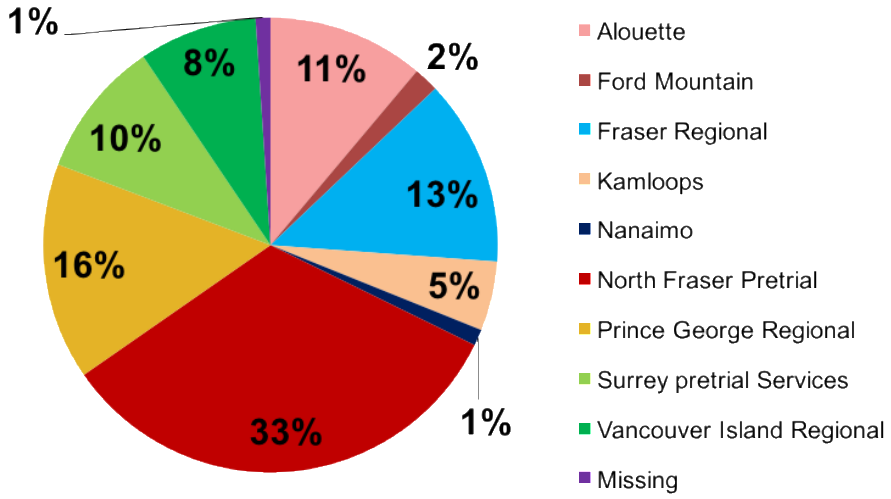
Results

- There were 366 patients who received ART in PCC and a total of 952 incarcerations (see Table 1).
- ART was distributed across 9 correctional facilities (Figure 2)

Table 1. Participant Characteristics

Variable (N=366)	Frequency (%)
Gender - Male	293 (80.1)
History of IDU	306 (83.6)
Indigenous Ancestry	124 (33.9)
Age at first PDC fill	
19 – 29	40 (10.9)
30 – 54	311 (85.0)
≥55	15 (4.1)
Baseline CD4	
<200 cells/mm^3	68 (18.6)
Unknown	61 (16.7)
Plasma Viral Load	
<50 copies/mL	168 (45.9)
Unknown	45 (12.3)
Baseline Adherence	
≥95%	95 (26.0)
Unknown	93 (25.4)
Number of Incarcerations	
1 – 2 events	241 (65.9)
3 – 6 events	101 (27.6)
≥7 events	24 (6.6)

Figure 2. Distribution of PCC releases by institute



Results

- Median duration of ART from PDC was 31 days (Q1-Q3 14-84)
- Median time to first fill after release was 0 days (Q1-Q3 0-15)
- Multivariate logistic regression found
  - Having fewer incarcerations was associated with having pVL monitoring done
  - Longer durations of incarceration was associated with pVL < 50 copies/mL

Figure 3. Percentage of PCC releases with a pVL <50 copies/mL at 3, 6 and 12 months after release

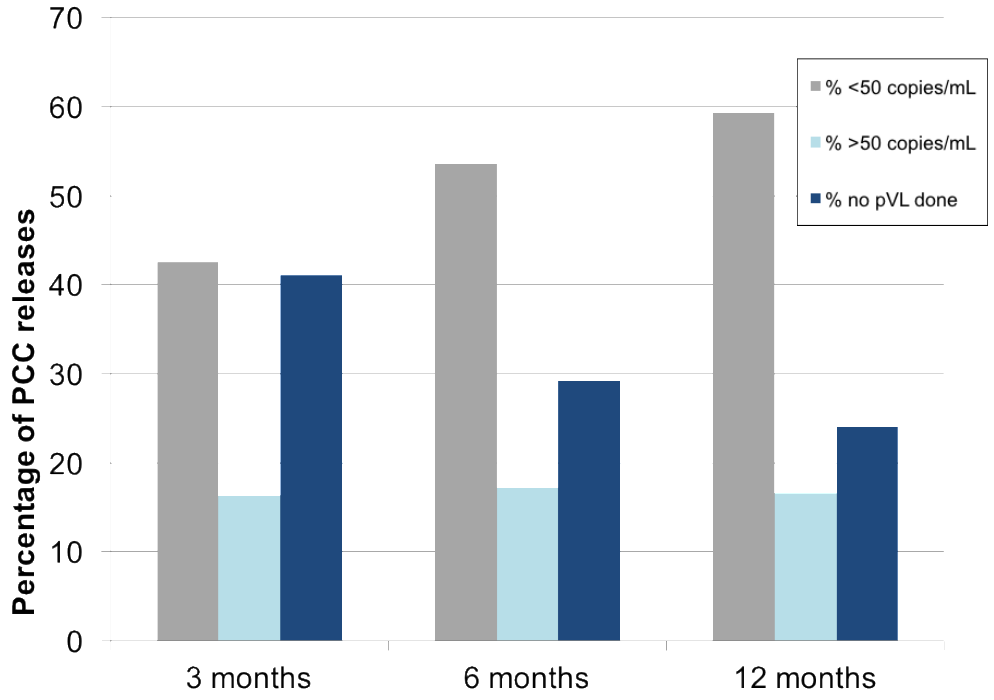


Table 2. Adjusted Modeling for Explanatory Variables

	Adjusted OR	P value
Viral Load Monitoring at 3 months (N=952)		
Number of PDC events	0.94 (0.89-0.99)	**0.022**
Baseline CD4 ≥200	0.54 (0.34-0.84)	**0.006**
Baseline CD4 unknown	0.46 (0.28-0.73)	**0.001**
Viral Load <50 copies/mL at 3 months (N=561)		
Baseline pVL (log10)	0.34 (0.27-0.44)	**<0.001**
Duration of PDC fill – days (per 30 day increment)	1.15 (1.02-1.30)	**0.020**
Baseline CD4 ≥200	3.41 (1.87-6.20)	**<0.001**

Discussion

- Based on ART prescription fill, identified ART distribution interruptions in this study were few.
- Despite this, the proportion with suppressed viral loads was suboptimal and viral load was not consistently monitored once back in the community.
- Qualitative data to describe patients' experiences on PCC release would be useful alongside this data to understand factors affecting continuation of care on release from PCC and make recommendations for local interventions.

Limitations

- Prescription refill data makes assumptions that a patient is taking medication when this may not be the case.
- Many factors affect adherence and limited explanatory variables are available in this analysis.
- Release date from PCC was unknown leaving assumptions of release to prescription refill location.

Conclusions

- Patients in PCC are vulnerable, often having detectable pVL at baseline and on release despite available ART supply.
- Encounters with PCC, particularly longer ones, are opportunities to engage vulnerable patients in health care.
- ART dispensing records alone may be inadequate to identify treatment non-adherence and persons who need additional supports.

Conflict of interest declaration: I have no conflicts of interest.

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