

Progress towards HCV Elimination Among HIV-HCV Co-infected Patients in the Canadian Co-infection Cohort (CCC)

El Sheikh M, Cooper C , Cox J, Gill J, Martel-Laferrrière V,
Vachon M, Klein M, Canadian Coinfection Cohort Study



CANADIAN CO-INFECTION COHORT
A PROSPECTIVE CLINICAL COHORT OF HIV AND HEPATITIS C CO-INFECTED PATIENTS

McGill

Department of
Epidemiology, Biostatistics
and Occupational Health

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Background

Significant improvement in HCV treatment

- Interferon-based medications
- 1st generation Direct acting antivirals (DAAs)
- 2nd generation DAAs

WHO targets to eliminate HCV globally

- 50% of people living with HCV are treated by 2025 and 80% by 2030

Micro-elimination is needed to achieve these targets

- A pragmatic approach of targeting **priority populations** with tailored interventions to improve the HCV treatment and care cascade.

HIV-HCV co-infected population is a good candidate for micro-elimination

They experience faster progression of liver disease and curing HCV is associated with stopping that progression

They are mostly well-identified in Canada with most patients already linked to HIV care

Modelling studies show that targeting co-infected population is essential to achieving the WHO goals

Methods

- Canadian Co-infection Cohort (CCC) is a multi-site open prospective cohort following HIV-HCV co-infected participants since 2003 from 18 sites in 6 provinces.
- This study includes all participants with at least 1 visit in the CCC since 2003 until 31ST December 2019. Participants with start date after 1st June 2019 were excluded since they do not have time to achieve cure

Assessed progress towards HCV elimination for overall population, by province and priority populations

- Calculated annual proportions of negative HCV RNA (cross-sectional) among all engaged participants, defined as participants with at least 1 visit during the period of interest
- Calculated cure rates stratified by treatment periods: Interferon-based (IFN): 2003-2011, early DAA: 2012-2014 and late DAA: 2015-2019

Examined characteristics of patients who remain uncured in the CCC

Results

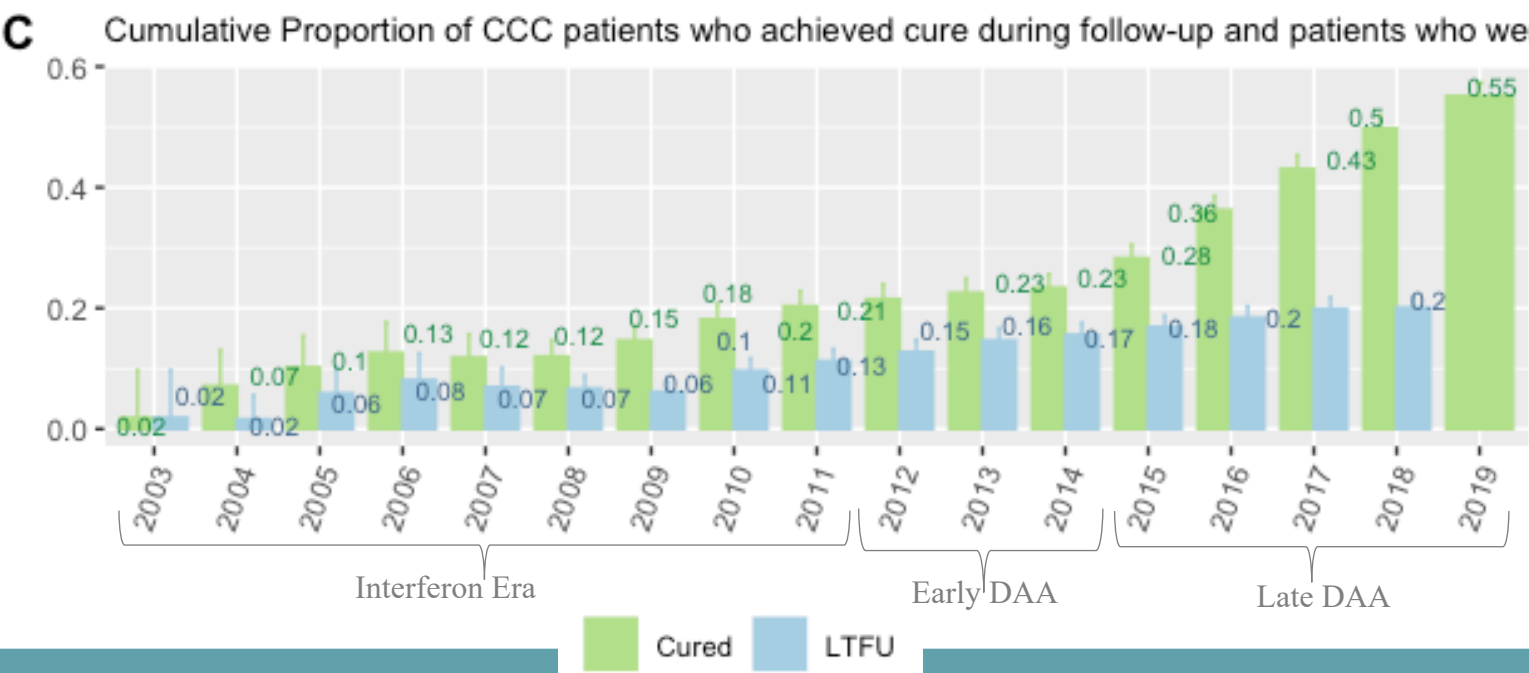
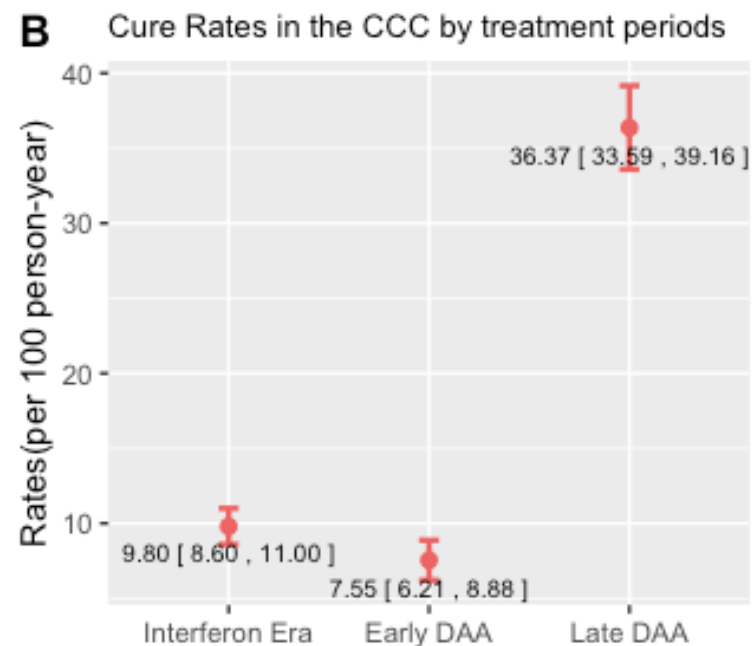
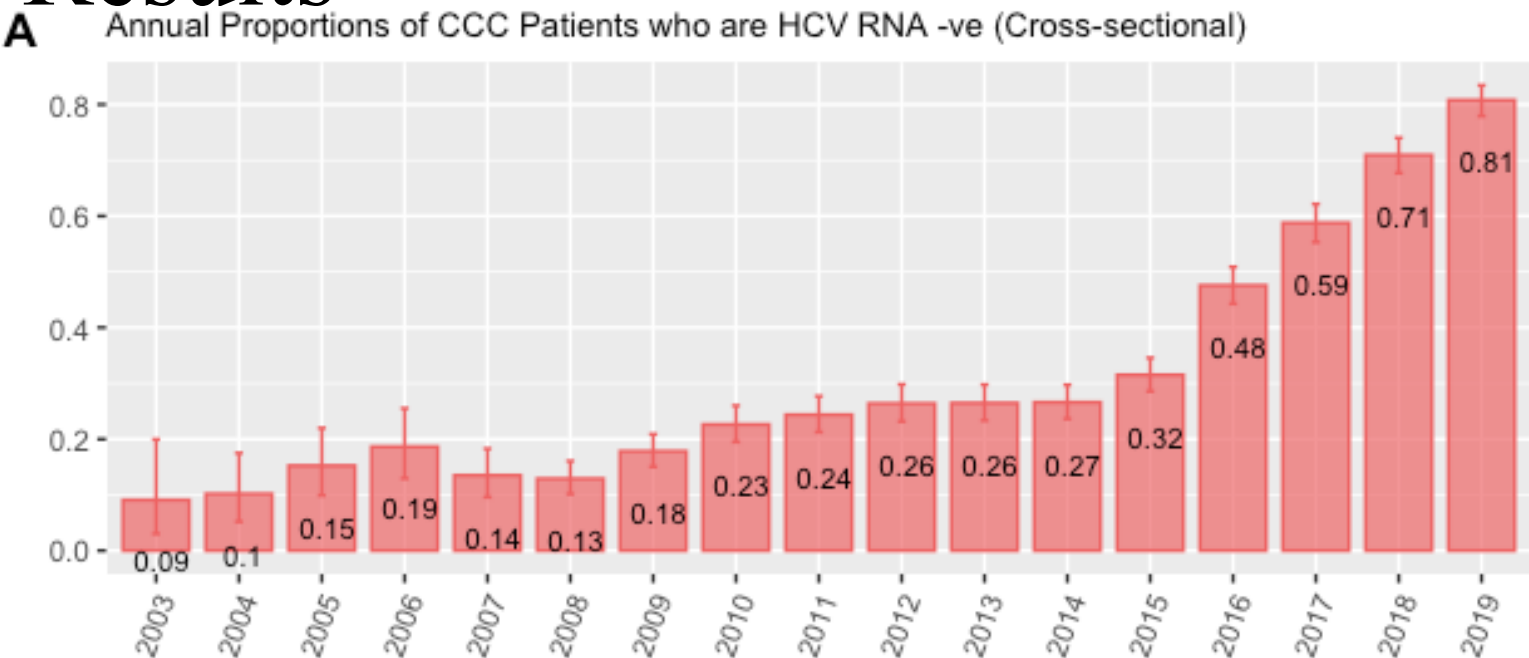
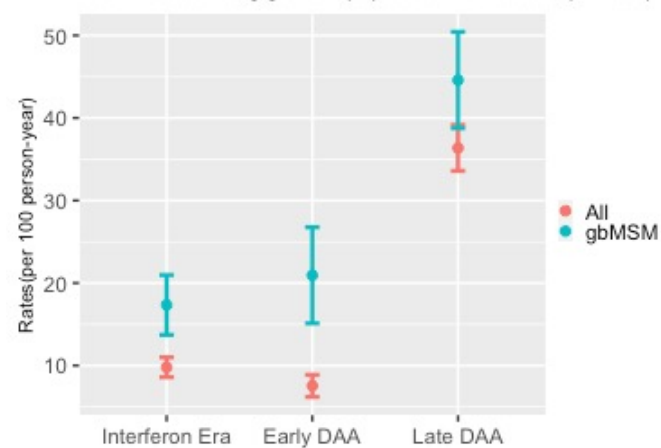


Fig A: Annual proportions of participants who are HCV RNA -ve among participants with at least 1 visit in a given calendar year, whiskers represent 95% CI. Annual proportion with negative HCV RNA increased in the late DAA era to 81[78,83]% overall (Cross-sectional data)

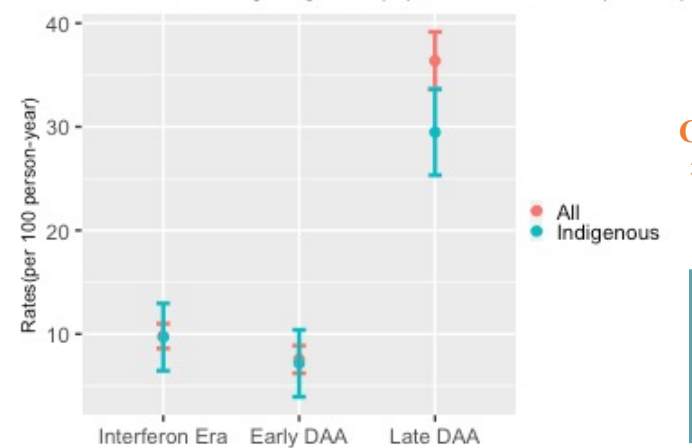
Fig B: Cure rates, cure defined as -ve HCV RNA after spontaneous clearance or treatment among all active participants (total number of cured patients / person-time of population at risk) stratified by treatment periods. Rates per 100 person-year, whiskers represent 95% CIs. Cure rates increased dramatically in the late DAA period. (Longitudinal data)

Fig C: Cumulative proportions of patients who achieved cured and were lost to follow-up (LTFU), defined as no study visit for at least 18 months, by calendar year and among participants who have been followed up until the year of interest. There is no LTFU percentage for 2019 because there isn't enough time to identify LTFU (less than 18 months from the end study period). (Longitudinal data)

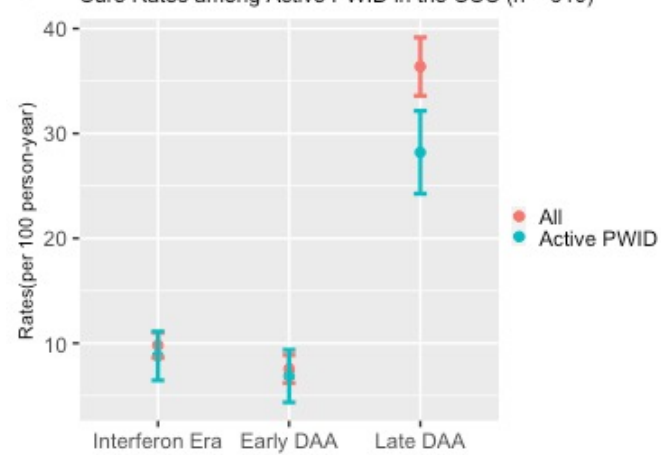
A Cure Rates among gbMSM population in the CCC (n = 603)



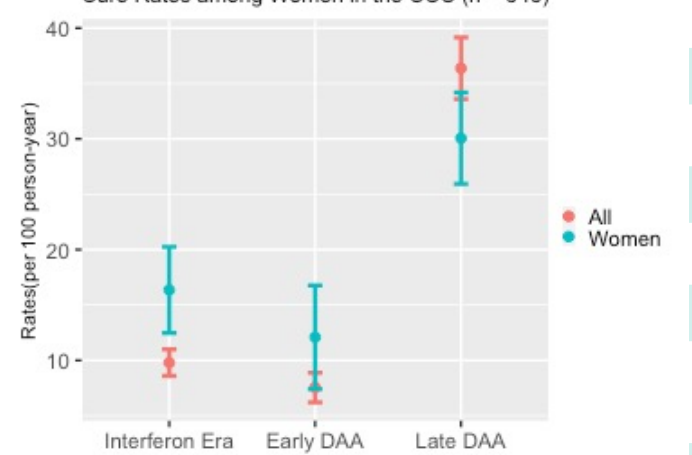
B Cure Rates among Indigenous population in the CCC (n = 480)



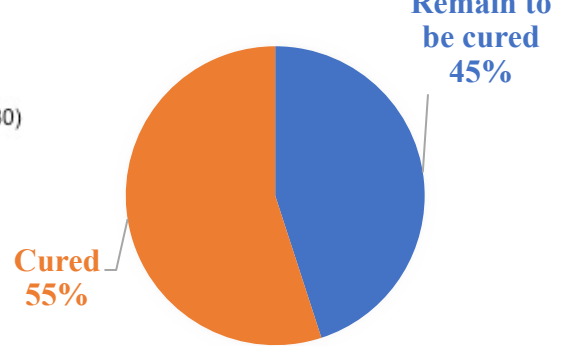
C Cure Rates among Active PWID in the CCC (n = 610)



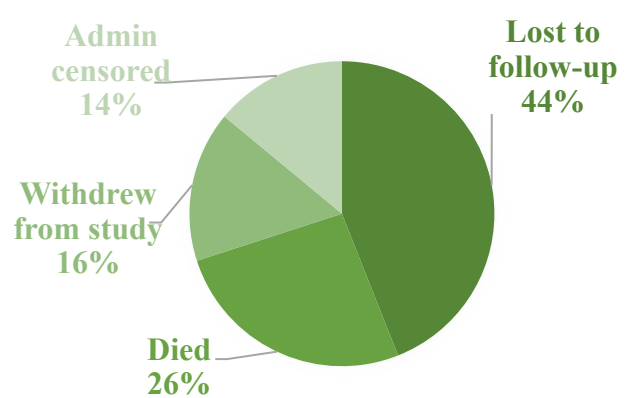
D Cure Rates among Women in the CCC (n = 545)



TOTAL (N=1946)



REMAIN TO BE CURED (N = 874)



In the late DAA era	Among those who remain to be cured	Among those who are cured
Indigenous	40%	24%
Elementary as their highest education level	32%	21%
Unstable housing	28%	11%
Do not work	81%	65%
Live below poverty line	78%	62%
Currently smokes	80%	64%
Currently injects drugs	49%	26%
Used services where they can obtain sterile syringes, and clean needles	40%	20%
Have ever been in jail	73%	42%
Currently on ARV	87%	96%
APRI score > 1.5 and/or a cirrhosis diagnosis	11%	4%
Did not initiate HCV treatment	65%	22%

Discussion

- There has been a marked increase in cure rates across priority populations and geographic regions since the availability of DAAs in Canada.
- Majority of participants achieved cure suggesting that we may reach elimination targets among HIV-HCV co-infected persons linked to care but there was still a sizable gap remaining which needs to be closed if HCV elimination targets are to be met. This gap is expected to have widened due to the COVID-19 pandemic.
- Majority of participants who remain to be cured tend to belong to marginalized populations and face social and clinical instability compared to those who achieved cure, which underscores the importance of holistic interventions.
- Despite being linked to care LTFU before being cured was notable, which suggests that efforts to retain patients in care and ensure prompt treatment are needed to sustain elimination efforts.

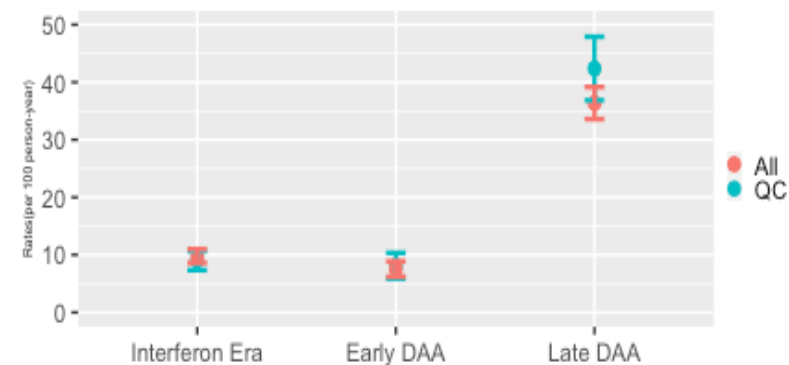
A Cure Rates for BC (n = 592)



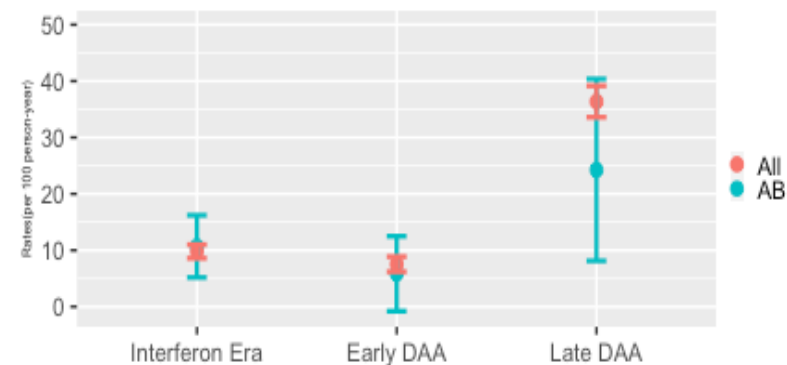
B Cure Rates for ON (n = 428)



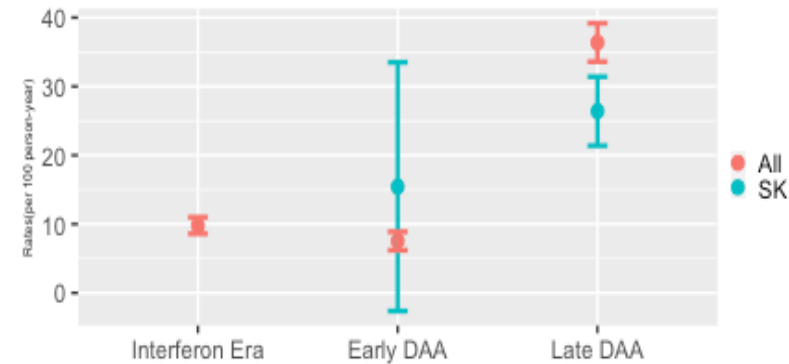
C Cure Rates for QC (n = 630)



D Cure Rates for AB (n = 47)



E Cure Rates for SK (n = 220)



F Cure Rates for NS (n = 29)

