Mortality Changes In People Who Inject Drugs and Other People Living with HIV and HCV In the DAA-era: An International Comparison (InCHEHC, 2010-2019)

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Background

- Liver disease: one of the main causes of death in people living with HIV[1].
  - ➢ Partly attributable to HIV/HCV coinfection.
- Since 2014, direct-acting antivirals (DAA) for HCV: >90 % cure and ↓ hepatic complications[2,3].
- Among people who inject drugs (PWID) living with HCV, several factors including access to care and other comorbidities may counteract the benefits of DAA treatment.
  - ➢ The impact of DAA treatment on all-cause mortality in PWID remains unknown.

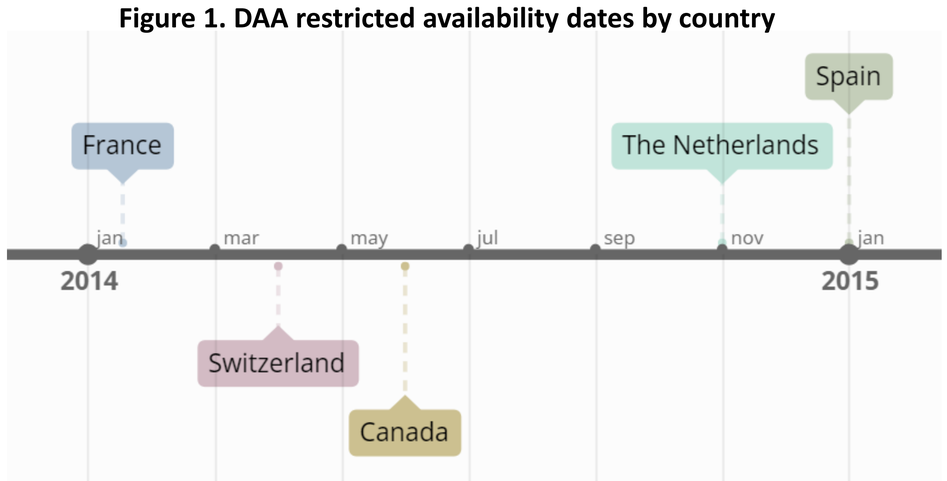
Objective

To compare pre/post-DAA availability mortality changes in three HIV/HCV transmission mode groups: **PWID**, men who have sex with men (**MSM**), and all **other** participants living with HIV/HCV of the International Collaboration on Hepatitis C Elimination in HIV Cohorts (InCHEHC) .

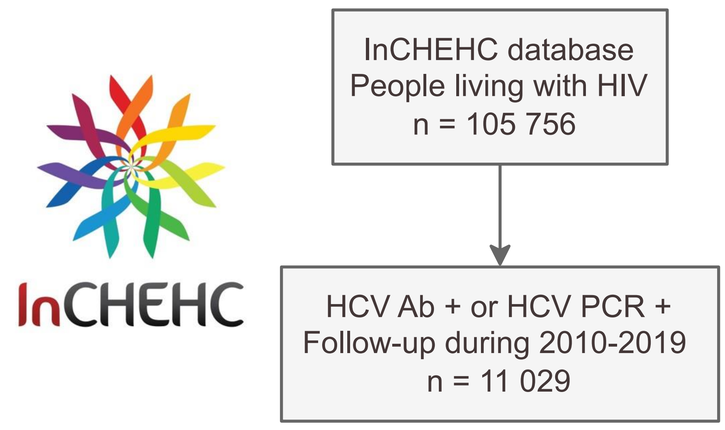
Methods

- InCHEHC participants with HIV with a history of a positive HCV antibody or HCV RNA test, followed between 01/2010 and 12/2019 :
  - Canada, France, the Netherlands, Spain, and Switzerland
- Comparison of all-cause mortality risk in PWID, MSM and other participants
  - Cox proportional hazards regression models
  - ➢ adjusted for sex, age, advanced fibrosis/cirrhosis, and country-specific pre/post-DAA availability (Figure 1).

Figure 1. DAA restricted availability dates by country



Results



1322 deaths

Median [IQR] follow-up 7.2 years [3.7-10.0]

46 years [40;51]

8415 (76%)

5094 (46.2%)

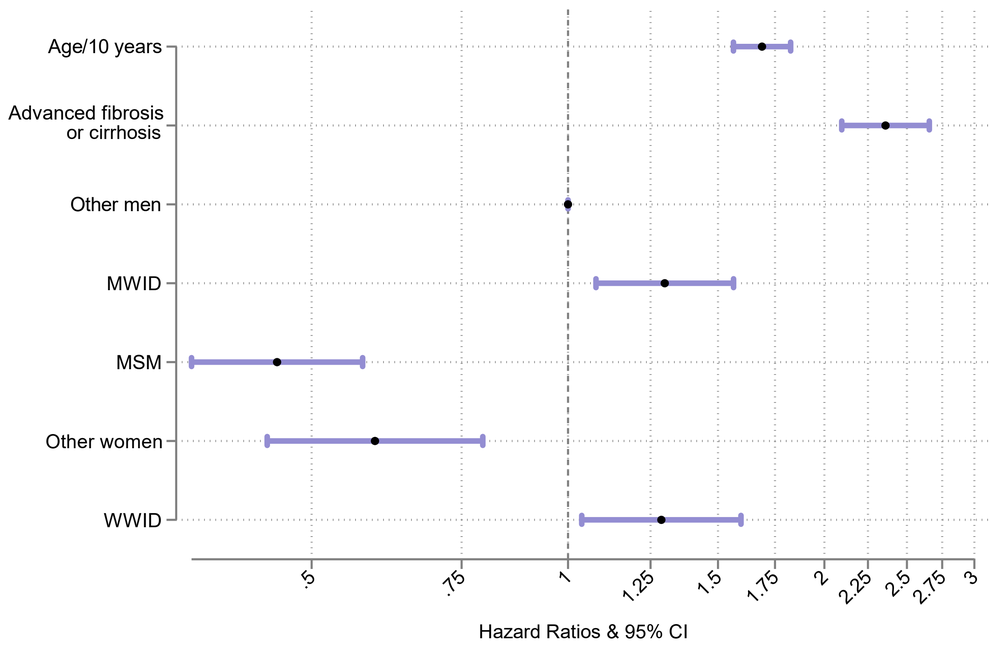
3449 (31.3%)

- Unlike in MSM, all-cause mortality did not decline in PWID after DAA availability (post-DAA rate: 2.6/100 person-years)

- In Canada, mortality in PWID increased after DAA availability (HR [95%CI]: 1.7 [1.2-2.6])

- Overall, women who inject drugs had a higher risk mortality than other women (HR [95%CI]: 3.2 [1.8-5.5])

Figure 3. Factors associated with all-cause mortality. Model with HIV/HCV transmission mode by sex. Multivariable analysis (N=10 062)



Abbreviations: CI, confidence interval; HCV: hepatitis C virus; HIV: human immunodeficiency virus; MSM: men who have sex with men; MWID: men who inject drugs. WWID: women who inject drugs.

Figure 2. Mortality rates by HIV/HCV transmission mode and pre/post-DAA period (N=11 029)

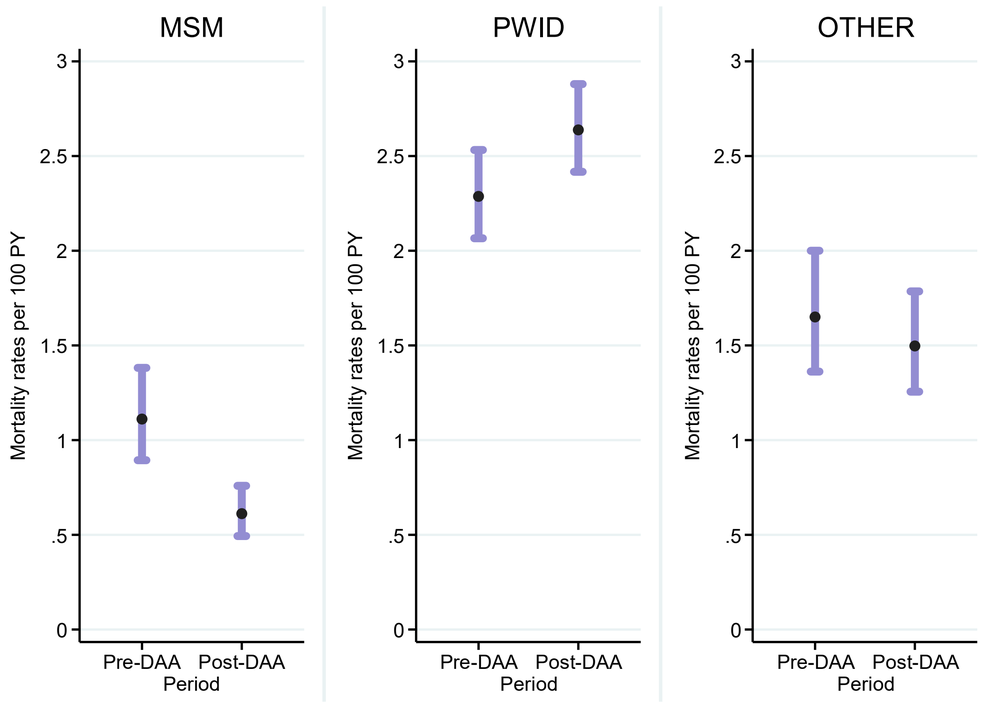


Table 1. Factors associated with all-cause mortality by country. Model with pre/post-DAA period and HIV/HCV transmission mode interaction. Multivariable analysis* (N=10 062)

			Canada (N=1286)	France (N=2573)	Netherlands (N=2196)	Spain (N=1587)	Switzerland (N=2420)
	N	Deaths	aHR [95%CI]	aHR [95%CI]	aHR [95%CI]	aHR [95%CI]	aHR [95%CI]
HIV/HCV transmission mode # period							
MSM # Post-DAA‡	3096	80	0.70 [0.31-1.59]	**0.44 [0.19-1.00]**	**0.47 [0.24-0.92]**	0.31 [0.07-1.32]	0.49 [0.21-1.14]
PWID # Post-DAA‡	4059	473	**1.73 [1.15-2.61]**	0.81 [0.50-1.32]	0.88 [0.45-1.73]	0.94 [0.52-1.71]	0.87 [0.46-1.65]
Other # Post-DAA‡	1746	116	1.29 [0.66-2.53]	**0.40 [0.19-0.84]**	0.81 [0.36-1.86]	0.62 [0.29-1.33]	0.87 [0.40-1.89]

* Adjusted for sex, age, HIV/HCV transmission mode, advanced fibrosis/cirrhosis, and an interaction between HIV/HCV transmission mode # pre/post DAA availability. Abbreviations: PWID: People who inject drugs; MSM: Men who have sex with men; aHR: adjusted hazard-ratio.

References

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