

# Is hepatitis C elimination sustainable in populations with ongoing transmission risk?

Modelling post-elimination epidemics among people who inject drugs

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# Background

## **International hepatitis C elimination targets:**

- Reducing HCV incidence (80%) & mortality (65%) rates compared to 2015

## **Tools to reach elimination are at hand:**

- Screening; treatment (direct-acting antivirals - DAA); and harm reduction (e.g., opioid agonist therapy - OAT & needle and syringe programs - NSP);

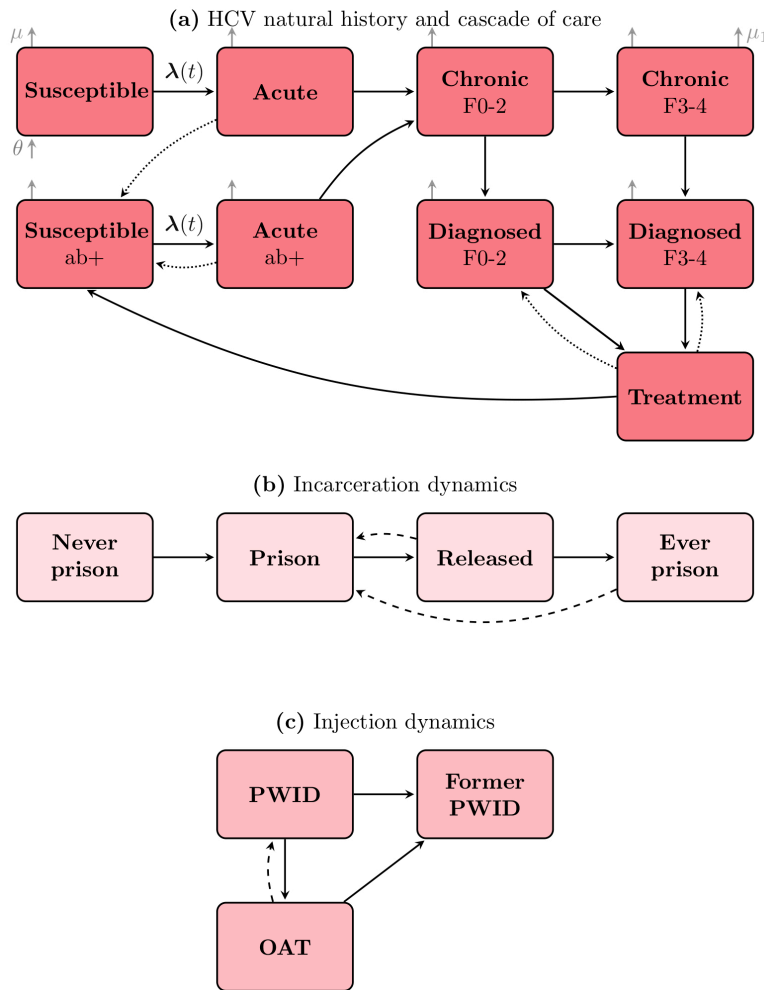
## **Little is known about the **post-elimination period:****

- Will incidence rebound if interventions are relaxed ?
- What level of screening and treatment is needed to maintain elimination ?

## **Aim of this study:**

- Investigate transmission dynamics post-elimination among a population with ongoing transmission (people who inject drugs - PWID)

# Method



## Optimized HCV transmission model

- Testing and treatment to reach elimination

## Post-elimination period scenarios (2030-)

- 1) ↓ Testing (1/3Y) & treatment (10/1,000 PY\*)
- 2) 1) + ↑ OAT (60%) & NSP (95%) coverage
- 3) Optimize Testing and treatment to maintain elimination post-2030

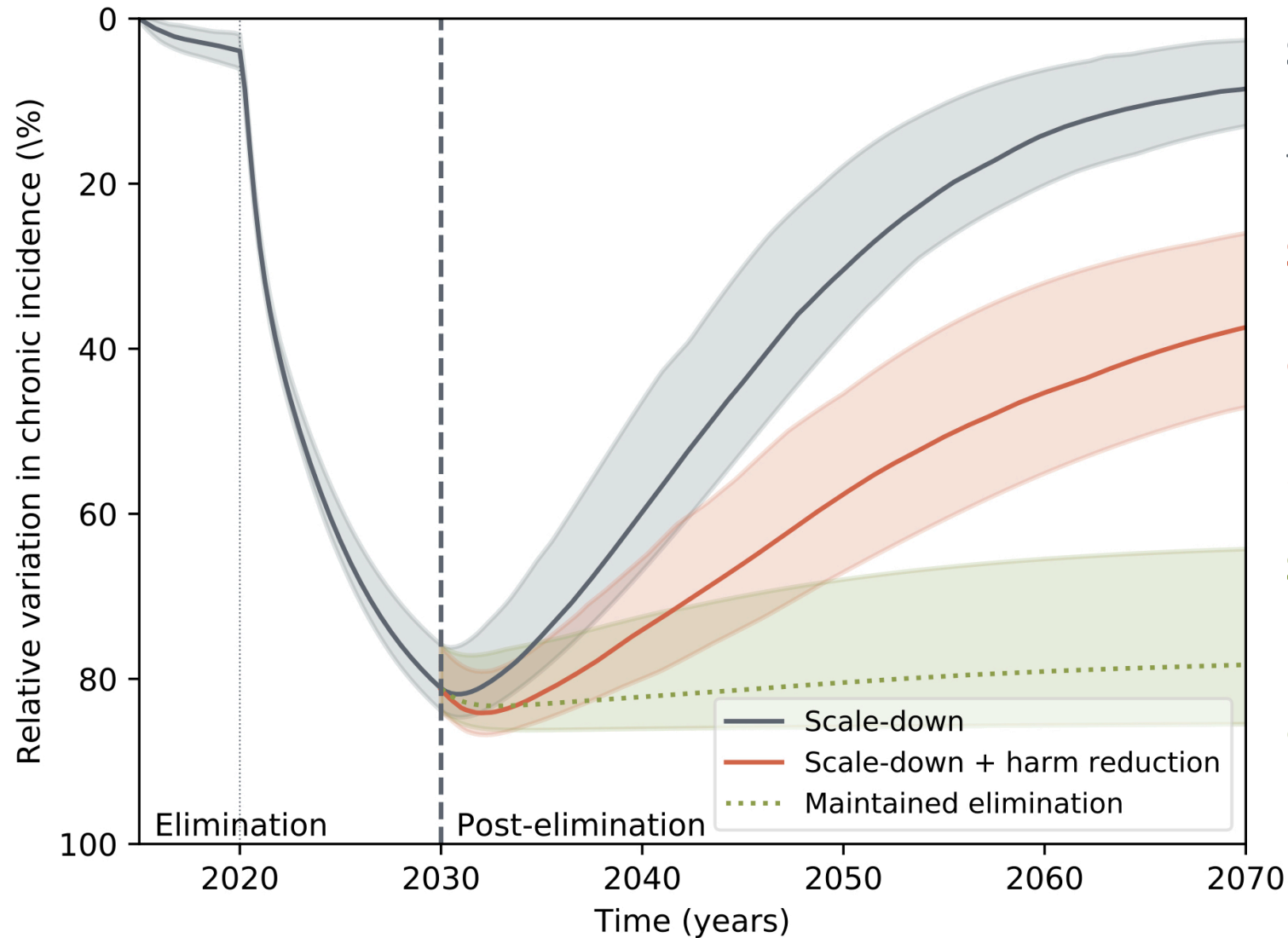
## Outcomes

- Time to incidence rate rebound (90% of 2015)
- Comparison of the efforts to reach and the effort to maintain elimination

\*person-years

# Results

Fig.1 Relative variation in HCV incidence over 2015-2070 for three scenarios



## Scenario 1) (Scale down)

36 years (95%CrI\* 25-51) to 90% of 2015

## Scenario 2) (OAT & NSP)

Never rebounds to 90% of 2015. Takes 25 years (95%CrI: 16-36) to reach 50% of 2015

## Scenario 3) (Maintained)

17% of the treatment needed to reach elimination

\*CrI: Bayesian 95% credible interval

# Discussion

## Even with transmission risk:

- Incidence rebounds slowly; slower when ↑ OAT and NSP
- Lower effort required to sustain than to achieve elimination

## Strength

- Peer-reviewed and calibrated HCV model

## Limitations

- Only testing and treatment rates scaled-up to reach elimination
- Co-infection with HIV not accounted for (for mortality outcome)

**Important efforts to reach elimination, which could be sustained with limited testing and treatment among PWID**

## Funding:

