

n: Successful ESTIMATING THE HCV TREATMENT REACH IN PEOPLE WHO INJECT DRUGS (PWID) NEEDED TO MEET 2030 WHO ELIMINATION TARGETS

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Background:

The World Health Organization (WHO) has called for eliminating hepatitis C virus (HCV) as a global public health threat by 2030. To meet the elimination targets, PWID as a high-risk subgroup require prioritization for treatment especially given the impact of COVID-19; however, governments would need to rely on population level models that include PWID to assess levels of transmission and evaluate elimination strategies. Our model estimates treatment levels in PWID that would enable the United States (US) to reach its targets for 2030.

Methods:

We developed a deterministic compartmental model of HCV transmission to estimate the treatment reach needed in specific sub-populations that drive the epidemic to achieve elimination targets. The population is divided into three risk groups: general population, PWID in the community, and a prison population. Pathways allow groups to be modelled as current and former, and treatment pathways are tracked for all groups. People in the model move between compartments due to cessation or relapse from injection drug use and/or incarceration or release from prison.

Results:

The model suggests that there are several potential solutions to achieve the 2030 incidence elimination target, depending on whether the limiting factor is number of treatments, net cost, overall health gain or the relative cost-effectiveness of the policy. For example, a 75/33 (per 1000 PWID) split in treatment reach between incarcerated and community PWID from 2022-2030 would achieve the WHO target with about 6 million treatments, generating approximately 11.5 million quality-adjusted life-years (QALYs) at an estimated cost of \$6,000 per QALY gained.

Conclusion:

WHO elimination targets can only be reached in the US if treatment is quickly scaled up in high-risk populations such as community-based and incarcerated PWID. Our model allows for policy makers to investigate a range of treatment allocation strategies based on essential limits, goals, and constraints.

Disclosure of Interest Statement:

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Marx SE, Jiao S, Collins MA, and Kaur J are full-time employees of AbbVie and may hold AbbVie stock and/or stock options.