MODELLING THE IMPACT OF SCALING UP OF HCV CASE FINDING AND TREATMENT FOR PEOPLE WHO INJECT DRUGS IN ENGLAND

Authors:
Ward Z[1], Fraser H[1], Trickey A[1], Kesten J[1], Gibson A[2], Reid L[3], Gordon FH[4], McPherson S[5], Ryder S[6], Ustianowski A[7]. Miners A[8], Williams J[8], , Foster G[9], Desai M[10], Mandal S[10], Coughlan L[10], Simmons R[10], Heinsbroek E[10], Croxford S[10], Harris R[10], Hickman M[1], Vickerman P[1]

[1]University of Bristol, [2]University of West of England, [3]The Hepatitis C Trust, [4]University Hospitals Bristol NHS Trust, Bristol, [5]Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle, [6]Nottingham University Hospitals NHS Trust, Nottingham,[7]Pennine Acute Hospitals NHS Trust, Salford, [8]London School of Hygiene and Tropical Medicine, London, [9]Queen Mary University of London, London [10]UK Health Security Agency

Background:
People who inject drugs (PWID) in the UK are disproportionately affected by Hepatitis C (HCV). England aims to eliminate HCV as a public health threat by 2030, through decreasing chronic HCV among PWID by 80% from 2015 baseline or to incidence <2 per 100 person-years. We assess whether existing strategies will achieve these elimination goals in England.

Methods:
A dynamic HCV transmission model among PWID, including prison and drug treatment centres (DTCs), was used to project the impact of existing HCV testing and treatment services in four England regions: Bristol and Severn; Nottingham; Greater Manchester and Eastern Cheshire; and Northeast and North Cumbria. The model includes the pathway from testing to treatment in prison, DTCs, and other settings. Data on testing and treatment and yearly bio-behavioural surveys among PWID was used to parameterise and calibrate the model. Model projections were used to determine whether each region will reach the WHO elimination targets by 2030.

Results:
Data suggest that 1041, 1004, and 1426 treatments (694 per year among an estimated 35900 PWID) were undertaken in prisons, DTC, and other settings respectively, between 2015-2019 across these four regions. The time from diagnosis to treatment decreased from >1 year to <3 months in all settings and regions. This treatment scale-up is projected to have decreased chronic prevalence across these regions by 30-43% and incidence by 28-42% over 2015-2020 (range of medians). Assuming continuation of these treatment rates from 2020, chronic prevalence will decrease by 61-84% by 2030 and incidence by 59-84% to 1.5-4.7 per 100 person-years (range of medians). Credibility intervals around these projections suggest the WHO targets may be reached in three regions.

Conclusion:
Our modelling suggests that levels of HCV treatment among PWID in England may be sufficient to reach the WHO elimination targets by 2030, but further scale-up may be needed.

Disclosure of Interest Statement:
No conflicts of interest.