A modelling study of the impact of scaling up of HCV case finding and treatment for people who inject drugs in English region of Bristol and Severn

Authors:
Ward Z[1], Fraser H[1], Trickey A[1], Kesten J[1], Gibson A[2], Reid L[3], Gordon F[4], Miners A[5], Williams J[5], Hickman M[1], Foster G[6], Desai M[7], Mandal S[7], Coughlan L[7], Simmons R[7], Harris R[7], Vickerman P[1]

[1]University of Bristol, [2] University of West of England, [3] The Hepatitis C Trust, [4]University Hospitals Bristol, [5]London School of Hygiene and Tropical Medicine, [6]NHS England, [7]UK Health Security Agency

Background: People who inject drugs (PWID) are heavily affected by Hepatitis C (HCV) in the UK. England aims to eliminate HCV as a public health threat by 2025, before the WHO target of 2030. This entails decreasing the incidence of HCV among PWID by 80% from 2015 levels or to <2 per 100 person-years (py). We assess whether existing strategies will achieve these elimination goals.

Methods: A dynamic HCV transmission model among PWID, including prison and drug treatment centres (DTC), was used to project the impact of existing HCV testing and treatment services in the Bristol and Severn region. The model includes the pathway from testing to treatment in prison, DTC and other settings. Detailed data on testing and treatment and yearly bio-behavioural surveys among PWID were used to parameterise and calibrate the model in a Bayesian framework. Model projections were used to determine whether the region will reach the elimination goals by 2025 or 2030.

Results: Data suggests that 178, 72 and 270 treatments were undertaken in DTC, prison and other settings over 2015-2019 in Bristol and Severn, with the time from diagnosis to treatment decreasing from >1 year to <3 months in all settings. This treatment scale-up is projected to decrease chronic prevalence by median 51% (95% credibility interval 47.9–58.6%) and incidence by 48.4% (44.6–56.2%) by 2020. Assuming continuation from 2020, then chronic prevalence will decrease by 84.1% (79.8-91.1%) by 2030 and incidence by 83.1% (78.1–90.6%) to 1.5 per 100py (0.8–2.3). In total, 2083 (1882–2217) treatments would be used over 2015-2030. By 2025, incidence will decrease by 70.9% (65.9-79.9%) to 2.7 per 100py (1.8–3.6).

Conclusion: Our modelling suggests the scale-up of HCV treatment among PWID in Bristol and Severn will reach the WHO targets for HCV elimination between 2025 and 2030.

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