

IMPACT OF SCALING-UP HCV PREVENTION AND TREATMENT INTERVENTIONS AMONG PEOPLE WHO INJECT DRUGS IN SAN FRANCISCO VS PERRY COUNTY KENTUCKY

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Background:

Transmission of hepatitis C virus (HCV) infection is increasing among people who inject drugs (PWID) in the US. Availability of harm reduction interventions such as medication-assisted treatment (MAT) and syringe service programs (SSP) varies widely across the US; we investigate the impact of scaling-up these interventions with new direct-acting-antiviral HCV-treatment.

Methods:

We calibrated two HCV-transmission models among PWID to data from Perry County (PC) and San Francisco (SF). Both settings have >50% HCV seroprevalence among PWID, but compared to PC, SF has a greater proportion with recent (last 3-6 months) access to MAT (6%vs12%) or SSP (0%vs85%). We assume MAT and SSP alone or combined reduce HCV transmission risk (by 50%, 44%, or 71%, respectively) based on a recent Cochrane review. Additionally, PC is rural with a young expanding PWID population, while urban SF has an aging population. We estimate the proportion of HCV-infected PWID needing HCV-treatment annually to reduce HCV prevalence and incidence by 90% by 2030, with and without MAT and SSP scale-up to 50% coverage amongst PWID (unless existing coverage higher in SF).

Results:

With no intervention scale-up, HCV prevalence and incidence will increase in PC over 2017-2030 (52.4% to 59.9% and 17.1 to 19.4 per 100pyrs, respectively), while they will decrease in SF (73.7% to 68.1% and 10.9 to 9.7 per 100pyrs). With concurrent scale-up of MAT and SSP, 8% of HCV-infected PWID need treatment annually in PC to reduce prevalence and incidence by 90% by 2030; 13% if MAT and SSP are not scaled-up. In SF, due to high existing SSP coverage, the proportion needing treatment annually is similar (8-9%) irrespective of MAT scale-up.

Conclusions:

Achievable scale-up of HCV-treatment, alongside MAT and SSP scale-up in PC could substantially reduce prevalence and incidence of HCV. Similar interventions may benefit other areas of the US.

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