

COST-EFFECTIVENESS OF SCALING UP HCV PREVENTION, TESTING AND TREATMENT INTERVENTIONS AMONG PEOPLE WHO INJECT DRUGS IN THE US

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Background:

HCV prevention and treatment interventions need scaling-up among people who inject drugs (PWID) to tackle the increasing HCV epidemic in the US; we undertake the first cost-effectiveness of this strategy.

Methods:

We calibrated two HCV-transmission and disease progression models among PWID and ex-PWID to data from rural Perry County, Kentucky (PC) and urban San Francisco (SF). Compared to PC, SF has a greater proportion with recent (last 3-6 months) access to MAT (6%vs12%) or SSP (0%vs85%); both are assumed to reduce HCV-transmission risk by about 50%, and 70% combined. HCV-treatment of PWID is currently negligible in both settings. Intervention scenarios considered: (HR) Scale-up of SSP and MAT to 50% coverage (SSP coverage at baseline is high in SF) with no HCV-treatment scale-up; and HR (50% coverage for both) plus 90% of PWID HCV-screened annually and 90% of HCV-infected PWID treated annually. Using a health-care perspective and measuring benefits in terms of quality adjusted life years (QALYs), we determined the incremental cost-effectiveness ratio (ICER) of each intervention compared to existing baseline.

Results:

In PC, intervention HR cost \$14 million, gained 752 QALYs, for an ICER of \$18,277 per QALY gained, whereas HR+PWID HCV-treatment cost \$32 million, gained 3,143 QALYs, for an ICER of \$10,157 per QALY gained. Conversely, the interventions were less cost-effective in SF; HR cost \$367 million, gained 7,695 QALYs, for an ICER of \$47,638 per QALY gained, whereas HR+PWID HCV-treatment cost \$1,449 million, gained 71,441 QALYs, for an ICER of \$20,288 per QALY gained. Assuming a \$50,000 willingness to pay threshold, both interventions are cost-effective in 100% of simulations for PC, but in SF, only for 72% of simulations for HR and 100% for HR+PWID HCV-treatment.

Conclusion:

The scale-up of HCV prevention, screening and treatment interventions for PWID could be cost-effective in rural and urban US settings.

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