

COST-EFFECTIVENESS OF SCALING-UP SYRINGE SERVICE PROVISION AMONG PEOPLE WHO INJECT DRUGS IN PERRY COUNTY, KENTUCKY

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Background:

Perry County (PC), Kentucky, has a high burden of nonmedical use of prescription opioids, high and increasing incidence of hepatitis C virus (HCV), and negligible harm reduction interventions, typifying many other rural U.S. settings. Interventions are urgently needed to control the opioid epidemic and associated HCV epidemic in these settings. We undertake a cost-effectiveness analysis of scaling-up syringe service programs (SSP) in PC.

Approach:

We calibrated an HCV-transmission and disease progression model among people who inject drugs (PWID) and ex-injectors to data from Perry County, including on-going increases in injecting drug use and negligible harm reduction coverage. Consistent with a recent Cochrane review, we assumed SSP reduces HCV-transmission by 56%, and costs \$375-\$865 per PWID per year based on recent U.S. estimates. 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 scaling-up SSP coverage to reach 50% of PWID, with PC having an estimated 700 PWID in 2009. We modelled the intervention over 10-years, tracking benefits for a further 50-years assuming a 3% annual discount rate.

Results:

Compared to no SSP, scaling-up SSP to 50% coverage would cost an additional \$837,000, gaining 321 QALYs for an ICER of \$2,610 per QALY. 99% of model runs were cost-effective at a willingness to pay (WTP) threshold of \$25,000 per QALY (/QALY). The ICER increased to \$10,498/QALY for a time horizon of 35 years, with 88% of model runs cost-effective at a \$10,000/QALY WTP threshold. Assuming no discounting makes the intervention cost-saving (mean ICER -\$1,492/QALY) with 99% of model runs cost-effective at a \$10,000/QALY WTP threshold and 66% of model runs cost-saving.

Conclusion:

The scale-up of SSPs for PWID in rural settings with increasing HCV epidemics in the U.S. is likely to be very cost-effective or cost-saving.

Disclosure of Interest Statement:

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