Cost effectiveness of simplified HCV screening-and-treatment interventions for people who inject drugs in Dar-es-Salaam, Tanzania

Abstract

Background

Compared to other countries in sub-Saharan Africa, Tanzania has a relatively progressive illicit drug harm reduction (HR) policy, through a predominantly opioid substitution therapy-based programme. However, access to hepatitis C virus (HCV) diagnosis and curative direct acting antiviral therapy remains elusive. We developed a cost-effectiveness model to evaluate a simplified HCV screening-and-treatment intervention amongst PWID in Dar-es-Salaam, Tanzania.

Methods

A decision tree and Markov state transition model compared existing practice (no access to HCV viral confirmation and treatment) with the integration of point-of-care HCV screening and treatment within (1) existing HR services and (2) expansion to include PWID not currently engaged in HR. Outcome measures were screening, treatment, HR and disease-related costs per PWID, quality-adjusted life years (QALY) and disability adjusted life years (DALY). Cost-effectiveness was evaluated from a healthcare payer's perspective over a 30-year time horizon over a range of willingness-to-pay thresholds (USD$273 to USD$1,050). Both deterministic and probabilistic sensitivity analyses have been conducted.

Results

Assuming a chronic HCV prevalence of 18.8%, screening-and-treatment in existing HR settings resulted in an ICER per QALY-gained and DALY averted of USD$633 and USD$1,161, respectively. Expanding to include an outreach programme for unengaged PWID yielded an ICER per QALY-gained and DALY-averted of USD$4,091 and USD$10,288. Factors affecting the sensitivity of the ICER value included the cost of HR and the health utility of non-cirrhotic disease states.

Conclusion

Simplified HCV screening and treatment of PWID has the potential to be cost-effective in Dar-es-Salaam, Tanzania. In practice, synergism of human and financial resources with established health programmes may offer a pragmatic solution to minimise operational costs.

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