

## **COST-EFFECTIVENESS OF HEPATITIS C VIRUS SCREENING AND TREATMENT WITH DIRECT-ACTING ANTIVIRALS IN PEOPLE WHO INJECT DRUGS IN NAIROBI, KENYA**

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**Background:** People who inject drugs (PWID) have a high risk of hepatitis C virus (HCV) infection. HCV treatment is essential for eliminating HCV but has limited coverage in resource-limited countries. For the first time in Sub-Saharan Africa, we evaluated the cost-effectiveness of a pilot HCV screening and direct acting antiviral (DAA)-based HCV treatment intervention among PWID in Nairobi, Kenya.

**Methods:** We utilised a previously developed and calibrated dynamic compartmental model of HIV and HCV transmission amongst current and former PWID in Nairobi to estimate the cost-effectiveness of the treatment intervention including prevention benefits. The effectiveness (SVR) of treatment and costs for testing and treatment were estimated from intervention data, while other model parameters were derived from literature. The incremental cost-effectiveness ratio (ICER) was estimated in terms of cost per disability adjusted life year (DALY) averted over a lifetime horizon from the provider's perspective. One-way and probabilistic sensitivity analyses (PSA) were performed.

**Results:** During the intervention, 81 individuals were treated with 73 (90.1%) confirmed to have achieved a SVR at 12 weeks. The ICER for the intervention was US\$805/DALY averted, with 99.5% of PSA runs below the World Health Organization threshold for cost-effective interventions for Kenya (US\$1,509). Sensitivity analyses showed the intervention became not cost-effective if we assumed a shorter time horizon (25 years, US\$2,742/DALY) or higher discount rate (5% instead of 3%, US\$1,551/DALY), but became more cost-effective with a reduction in the price paid for DAAs from \$728 to \$160 per course of treatment (US\$661/DALY) or if the costs associated with undertaking directly observed treatment (DOT) were removed US\$543/DALY).

**Conclusion:** The current strategy of screening and treatment for HCV among PWID in Nairobi is likely to be cost-effective but could be made much cheaper through not using DOT and negotiating a cheaper price for DAAs, as achieved elsewhere.

**Conflicts of Interest:** Dr Stone has received non-financial support from Gilead Sciences.