

COST AND COST-EFFECTIVENESS OF HEPATITIS C VIRUS SELF-TESTING IN FOUR SETTINGS

Walker JG¹, Ivanova E³, Jamil MS², Ong JJ⁴, Easterbrook P², Fajardo E², Johnson CC², Luhmann N², Terris-Prestholt F⁵, Vickerman P¹, Shilton S³

¹Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK, ²Global HIV, Hepatitis and STI Programmes, World Health Organization, Geneva, Switzerland, ³FIND, Geneva, Switzerland, ⁴London School of Hygiene & Tropical Medicine, London, UK, ⁵Joint UN Programme on HIV and AIDS, Geneva, Switzerland

Background:

Only 20% of 58 million people with chronic hepatitis C virus (HCV) have been diagnosed. HCV self-testing (HCVST) could reach those who have never been tested and increase access and uptake of HCV testing. We compared cost/HCV diagnosis or cure for HCVST versus facility-based HCV testing.

Methods:

We used a decision analysis model (time horizon one year) to examine drivers of cost/viremic diagnosis or cure of HCVST in China (men who have sex with men), Georgia (men 40-49 years), Viet Nam (people who inject drugs, PWID), Kenya (PWID). HCV antibody (HCVAb) prevalence ranged from 1%-60%. Parameters were informed by HCV testing and treatment programs, HIV self-testing programs, and expert opinion. We assume reactive HCVST is followed by facility-based rapid diagnostic test (fRDT) and then nucleic acid testing (NAT). We assumed HCVST costs of \$5.63/unit (\$0.87-\$21.43 for fRDT), 62% increase in testing, 65% linkage to care, and 10% replacement of fRDT with HCVST, with variation in sensitivity analysis. Outcomes are incremental cost/patient diagnosed or cured (2019 USD\$).

Results:

Cost/HCV diagnosis without HCVST ranged from \$35 (Viet Nam) to \$361 (Kenya). Incremental cost/person diagnosed was \$104 in Viet Nam, \$163 in Georgia, \$587 in Kenya, and \$2,647 in China. Differences were driven by HCVAb prevalence. In sensitivity analyses, reducing the cost of HCVST, increasing uptake of HCVST and linkage rate to facility-based care and NAT testing, or proceeding directly to NAT testing following a positive HCVST, reduced the overall cost per person diagnosed. The incremental cost/cure was lowest in Georgia (\$1,418), with similar outcomes in Viet Nam (\$2,033), and Kenya (\$2,566), and the highest cost in China (\$4,956), driven by differences in DAA treatment costs.

Conclusion:

HCVST increased the number of people tested, diagnosed, and cured, at higher cost. Introducing HCVST is more cost-effective in populations with high prevalence.

Disclosure of Interest Statement:

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