UPSCALING PREVENTION, TESTING AND TREATMENT TO CONTROL HEPATITIS C AS A PUBLIC HEALTH THREAT IN DAR ES SALAAM, TANZANIA

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Background: Hepatitis C (HCV) elimination strategies are required for low and middle-income countries (LMICs), because although treatment access is currently limited, this is unlikely to remain the case forever. We estimate and compare the impact of a variety of prevent, test and treat strategies for HCV in Dar es Salaam, Tanzania.

Methods: A mathematical model was used to estimate the impact of needle and syringe programs (NSPs) and opioid substitution therapy (OST) on HCV infection, alone and in combination with test and treat programs among people who inject drugs (PWID) using standard antibody/RNA or HCV core antigen (HCVcAg) testing.

Results: Maintaining existing harm reduction coverage (4% NSP, 42% OST) was estimated to prevent 27% of injecting drug use (IDU)-acquired HCV infections between 2018 and 2030 compared to a zero coverage scenario. Expanding both of these services to reach 50% of PWID prevented an additional 34% of IDU-acquired infections. In the model, an antibody/RNA test and treat program among PWID reduced HCV prevalence among PWID from 26% to 8% by 2030, and total population (PWID+non-PWID) HCV incidence by 25%. This increased to a 33% incidence reduction when dry blood spot HCVcAg tests were modelled instead of laboratory-based tests, due to improved testing coverage, even despite low test sensitivity.

Conclusion: Primary prevention among PWID can provide important reductions in HCV transmission in the absence of treatment availability. For regular testing among PWID, the additional coverage benefits of dry blood spot HCVcAg tests in LMICs may outweigh their reduced sensitivity.

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