RECOMMENDATIONS FOR HEPATITIS C VIRUS TESTING AMONG PEOPLE WHO INJECT DRUGS IN AUSTRALIA

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Background: Modelling suggests that additional hepatitis C (HCV) testing of people who inject drugs (PWID) will be required to achieve the WHO HCV elimination target of an 80% reduction in incidence by 2030. We determine the frequency (six-monthly, yearly, two-yearly) and type of testing (HCV antibody/RNA and either lab-based or point-of-care [POC]) required among PWID to achieve the HCV incidence reduction target in Australia. We calculate the basic reproduction number to assess whether maintaining this policy would minimise the risk of future outbreaks occurring once the elimination target has been achieved.

Methods: Mathematical modelling of HCV transmission among PWID, capturing key steps in the care cascade including prevention, testing, and treatment.

Results: Using current estimated rates of loss to follow-up from care, the model suggests that annual POC RNA testing of PWID would be required to reach the HCV incidence reduction target. Both a testing frequency of once-yearly (annual) and a POC RNA test were necessary, since current rates of loss to follow-up prevented high-frequency antibody testing generating enough treatment demand for treatment-as-prevention to be effective, and two-yearly POC RNA testing was not frequent enough to detect new infections before onward transmission could occur. If combined with access to harm reduction services and ongoing access to treatment for all PWID, introducing annual POC RNA testing for PWID entering or engaged in drug treatment was estimated to achieve sufficient testing coverage to reach the incidence reduction target, and minimise the likelihood of future outbreaks of HCV occurring.

Conclusion: Increasing the engagement of PWID in care with annual POC RNA testing is required to achieve the WHO HCV incidence reduction target. Combining annual POC RNA testing of PWID with access to harm reduction services and ongoing access to treatment would make future outbreaks of HCV unlikely to occur.

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