

THE POTENTIAL IMPACT OF A HEPATITIS C VACCINE FOR PEOPLE WHO INJECT DRUGS: IS A VACCINE NEEDED IN THE AGE OF DIRECT-ACTING ANTIVIRALS?

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Introduction: The advent of highly effective hepatitis C (HCV) treatments has questioned the need for a vaccine to control HCV amongst people who inject drugs (PWID). However, high treatment costs and ongoing reinfection risk suggest it could still play a role. We compared the impact of HCV vaccination amongst PWID against providing HCV treatment.

Methods: Two dynamic HCV vaccination or treatment models among PWID were used to determine the vaccination and treatment rates required to reduce chronic HCV prevalence in the UK over 20 and 40 years. Projections considered a low (50% protection for 5 years), moderate (70% protection for 10 years) or high (90% protection for 20 years) efficacy vaccine. Sensitivities to various parameters were examined.

Results: To halve chronic HCV prevalence over 40 years, the low, moderate and high efficacy vaccines required annual vaccination rates (coverage after 20 years) of 162 (72%), 77 (56%) and 44 (38%) per 1000 PWID, respectively. These vaccination rates were 16, 7.6 and 4.4 times greater than corresponding treatment rates. To halve prevalence over 20 years nearly doubled these vaccination rates (moderate/high efficacy vaccine only) and the vaccination-to-treatment ratio increased by 20%. Baseline HCV prevalence and injecting duration had little effect on the vaccine's impact, but substantially affected the vaccination-to-treatment ratio. Behavioural risk heterogeneity only had an effect if we assumed no transitions between high/low risk states and vaccinations were targeted.

Conclusion: Achievable coverage levels of a low efficacy HCV vaccine could greatly reduce HCV transmission amongst PWID. Current high treatment costs ensure vaccination could still be an important intervention option.

Disclosure of Interest Statement: Nothing to declare