

A THRESHOLD ANALYSIS OF THE COST-EFFECTIVENESS OF HEPATITIS C TESTING IN EMERGENCY DEPARTMENTS IN THE UK

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Background:

The prevalence of blood borne viruses is higher in emergency department (ED) attendees compared to the general population, due to higher attendance of marginalised populations, such as people who inject drugs (PWIDs) and homeless populations. Studies have found prevalence up to 3% for hepatitis C (HCV) in EDs in England. HIV testing in EDs in the UK is recommended in high prevalence areas ($\geq 0.2\%$), but there is no defined threshold for HCV testing.

Methods:

A Markov model was developed to analyse the impact of opt-out HCV testing in EDs in the UK. The model used data from studies of ED testing in the UK to parameterise test costs and intervention effects (contact rates and linkage to care). We used an antibody test cost of £3.64 and RNA test cost of £68.38, and assumed a direct acting antiviral (DAA) treatment cost of £10,000. An estimated 61.5% of positive tests were PWIDs. We considered what prevalence of HCV RNA would be required to make ED testing cost-effective at a threshold of £20,000 willingness to pay (WTP) per quality adjusted life year (QALY) gained.

Results:

The prevalence required for ED testing to be cost-effective was 0.26% HCV RNA prevalence under the base case parameters. In probabilistic analyses, at a HCV RNA prevalence of 0.5%, testing was 97% likely to be cost-effective. The results were sensitive to the cost of the diagnostic tests and the linkage to care achieved (proportion of patients contacted, attending referral, and receiving treatment), the proportion of PWIDs, and DAA treatment costs.

Conclusion:

Early evidence suggests that ED testing and ED based linkage to care for HCV is likely to be cost-effective in many geographical areas across the UK. Additional studies are required to evaluate ED testing across regions, and this can inform HCV testing guidelines in the UK.

Disclosure of Interest Statement:

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