A Tool to Measure the Impact of Inaction Towards Elimination of Hepatitis C Virus: A Case Study in Germany

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BACKGROUND

• Chronic hepatitis and hepatitis C virus (HCV) and its sequelae presents a significant source of human, clinical, economic, and societal burden
• New therapies for HCV are unique with cure rates greater than 90% of elimination of HCV is attainable provided planning and action is taken to screen and diagnose patients, ensure linkage to care, and provide access to HCV treatment
• The World Health Organization (WHO) has given an elimination target of 2030 for HCV. Therefore, it is important to provide policymakers with data comparing the clinical and economic impact of inaction vs. the immediate implementation of screening and linkage to care actions vs delaying such interventions.

OBJECTIVE

• To develop a predictive model scalable at national, regional, or local levels to assess the clinical and economic impact of implementing screening and linkage to care vs delaying such interventions.

METHODS

MARKOV MODEL OF HCV DISEASE PROGRESSION (FIGURE 1)

• Markov disease progression model calibrated to match the size of overall population, prevalence of HCV, and diagnosis coverage.
• Future diagnosis and treatment interventions were specified as policy scenarios.

RESULTS

• Impact of Inaction Tool: Inputs
• MARKOV MODEL OF HCV DISEASE PROGRESSION (FIGURE 1)
• Impact of Inaction Tool: Outputs

DISCUSSION

• Model inputs: Annual population and all-cause mortality rate by sex, and age group
• Model outputs: Annual future incident and prevalent cases of HCV by disease stage, sex, and age and number of newly diagnosed patients, annual deaths among HCV-infected population by disease stage, sex, and age; Outputs from the tool are shown in Figure 2

CONCLUSIONS

• This tool can inform physicians, payers, and policy-makers on the impact of screening and treatment interventions, and assess whether countries, regions, and cities are on track to achieve WHO targets for HCV elimination.
• The impact of inaction tool is a simple and customizable tool for national, regional, and local use, down to the level of individual clinicians and other settings.

REFERENCES


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