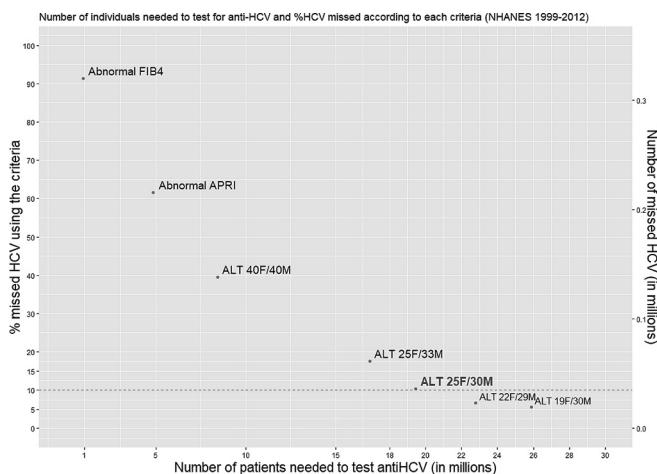


diagnostic performances including sensitivity, specificity, and positive and negative predictive values (PPV and NPV). In the testing set, we calculate the potential impact of employing the screening strategies in post-BBBC Americans, including those unaware of their HCV status. **Results:** In the training data set, 11,880 examinees met the inclusion criteria for post-BBBC subjects, in comparison to 11,864 belonging in BBC. The HCV prevalence were 2.2% in BBC and 0.5% in post-BBBC ( $p < 0.001$ ). The AUROCs in the training set were 0.78 and 0.86 for APRI, 0.66 and 0.74 for FIB4, and 0.92 and 0.97 for ALT in men and women, respectively ( $p < 0.05$ ). The optimal ALT thresholds based on Youden's index were  $>30$  U/L for men and  $>25$  U/L in women, which yielded 89.7% sensitivity, 74% specificity, 99.93% NPV and 1.63% PPV. In the Figure, using the ALT thresholds (25F/30M) may achieve an optimal balance between the number of subjects to be screened (19.5 million) and those with HCV infection that will be missed (10%,  $n = 36,369$ ). The most liberal strategy would screen all (74.1 million) and the most conservative strategy using FIB4 would only test 0.95 million but miss >90% of HCV infection. In the testing set, the ALT 25F/30M strategy would have 100% sensitivity, 73% specificity, 100% NPV and 1.83% PPV. Among the 58.2% of post-BBBC subjects unaware of their HCV status, all (100%) with HCV would be captured by the strategy. **Conclusion:** Given the lower prevalence of HCV infection in the post-BBBC generation in comparison to BBC, an evidence-based screening strategy may be justified. This analysis suggests that simply using ALT with the threshold of 25 U/L for women and 30 U/L for men may achieve the best balance between feasibility and sensitivity.



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The following people have nothing to disclose: Pimsiri Sripongpun, Prowpanga Udompap, Allison J. Kwong

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## FEASIBILITY AND COST OF HEPATITIS C ELIMINATION IN CHINA

**Jag Chhatwal**<sup>1,2</sup>, **Yueran Zhuo**<sup>1,2</sup>, **Qiushi Chen**<sup>3</sup>, **Tiannan Zhan**<sup>2</sup>, **Wanyi Chen**<sup>1,2</sup>, **Turgay Ayer**<sup>4</sup>, **Chizoba Nwankwo**<sup>5</sup> and **Amy Puenpatom**<sup>5</sup>, (1)Harvard Medical School, (2)Massachusetts General Hospital Institute for Technology Assessment, (3) Harold and Inge Marcus Department of Industrial Engineering and Manufacturing Engineering, Penn State University, (4)H. Milton Stewart School of Industrial and System Engineering, Georgia Institute of Technology, (5)Center for Observational and Real-World Evidence, Merck & Co. Inc.

**Background:** The World Health Assembly recently pledged to eliminate hepatitis C virus (HCV) by 2030. China has the highest disease burden of HCV worldwide, but direct-acting antivirals (DAAs) offer an opportunity to eliminate HCV. Our objective was to investigate if and under what conditions HCV elimination is feasible in China and to estimate the cost of HCV elimination. **Methods:** We developed a dynamic microsimulation (HEP-SIM) model to simulate the landscape of HCV in China. We simulated the clinical management of HCV in China by incorporating HCV natural history, transmission rate, diagnosis rate, access to antivirals therapies, and cost of antiviral and disease management. We parameterized the HEP-SIM model using China-specific inputs and used the model to project temporal trends in HCV disease and cost burden under different scenarios that can lead to HCV elimination by 2030. **Results:** In 2019, around 9 million people have chronic HCV infection in China. To achieve HCV elimination, annual HCV screening rate would need to be scaled-up to at least 9% to diagnose 600,000 people per year, and treatment rate would need to be scaled-up to 45-80% of the eligible HCV individuals. This scenario would decrease annual HCV incidence from 273,000 in 2015 to 27,000 in 2030 (90% reduction), liver-related deaths from 105,000 in 2015 to 33,000 in 2030 (68% reduction), and HCC incidence from 32,000 to 16,000 (51% reduction). At the average DAAs list price – 20% discount of \$5,981, HCV elimination scenarios would cost \$94.7 billion from 2020 to 2030; 61% of those will be spent on treatment, 28% on screening and remaining on disease management. **Conclusion:** Our results serve as important guideposts to determine the feasibility and progress towards achieving the overall goal of HCV elimination in China by 2030. While HCV elimination sounds ambitious and incur high cost, the reduction in liver-related deaths, HCC, and health care resource utilization may significantly lower overall health care spending. Strategic planning and strong support from the government can make elimination a reality.

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