COST-EFFECTIVENESS OF UNIVERSAL HEPATITIS C VIRUS SCREENING OF PREGNANT WOMEN IN THE UNITED STATES

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Background: The prevalence of chronic Hepatitis C Virus (HCV) infection among pregnant women in the U.S. doubled nationally from 2009-2014 (~0.7%), due in part to the ongoing opioid crisis, yet many remain undiagnosed. For many women, pregnancy is one of the few points of health care access and insurance coverage. Screening pregnant women is not recommended by the Society of Maternal-Fetal Medicine or the Centers for Disease Control, despite new AASLD/IDSA guidelines recommending screening this group. We assessed the cost-effectiveness of HCV screening for pregnant women in the U.S.

Methods: An HCV natural history Markov model was used to evaluate the cost-effectiveness of universal HCV screening of pregnant women followed by treatment after pregnancy compared to background risk-based screening from a health care payer perspective. We assumed 0.73% HCV chronic prevalence among pregnant women based on recent national data. We assessed cost (in USD$) and health outcomes (in quality-adjusted life years, QALYs) over a lifetime horizon, using new HCV drug costs of $25,000/treatment. We assess mean incremental cost-effectiveness ratios (ICERs) under a willingness-to-pay threshold of $50,000/QALY gained. We additionally evaluate population impact on detection and treatment among pregnant women.

Results: Universal antenatal screening was cost-effective (mean ICER <$3,000/QALY gained). Screening remained cost-effective at 0.07% prevalence (**Figure 1**), the lowest estimated prevalence state in the U.S.(Hawaii). Screening the ~5.04 million pregnant women in 2018 could result in detection and treatment of 33,000 women, and an incremental detection and treatment of ~7,000 women.

Conclusions: Universal screening for HCV among pregnant women in the U.S. is cost-effective and should be recommended nationally. As some women may remain at risk of transmission after pregnancy, screening may have additional prevention benefits not accounted for in our analysis.

FIGURE 1. Impact of HCV chronic prevalence on cost-effectiveness of universal screening pregnant woman in the U.S.