Testing All Baby Boomers for Hep C Would Find 86% of Infections, Say Researchers

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Testing all U.S. baby boomers—individuals born between 1945 and 1965—for hepatitis C virus (HCV) infection would help identify more than 800,000 people living with the virus, or roughly 86 percent of those who are infected and at risk for potentially fatal liver disease but don't yet know it. This idea is based on data reported at the 62nd annual meeting of the American Association for the Study of Liver Diseases (AASLD) in San Francisco and published online ahead of print by Annals of Internal Medicine. Primary author David Rein, PhD, of RTI International in Atlanta says the crucial suggestion for testing all boomers is a cost-effective first step in the prevention of serious HCV-related disease.

About 4 million U.S. residents are chronically infected with HCV. The often progressive liver disease is most prevalent among people born between 1945 and 1965, yet roughly two thirds remain unaware they are living with the virus.

This is a problem because HCV progresses slowly, and the risk of serious complications increases as time passes. In 2007, more than 15,000 HCV-related deaths were reported to the National Center for Health Statistics—higher than the number of HIV-related deaths reported in the same year—and without changes to current diagnosis and treatment methods, deaths from HCV are projected to increase to 35,000 a year by 2030.

Currently, the Centers for Disease Control and Prevention (CDC) recommends antibody screening only of individuals with health or lifestyle indicators suggesting potential infection. These indicators include a history of injecting drugs, having a blood transfusion before 1992 or being a chronic hemodialysis patient. Unfortunately, many people living with hepatitis C continue to fall through the cracks, given that they may be uncomfortable disclosing risks—or may have forgotten about high-risk behaviors decades earlier—or have health care providers who lack the time and resources to conduct risk assessments.

Rein and his colleagues thus set out to determine if proactively screening all baby boomers—a "birth cohort" of people born from 1945 through 1965—for HCV would be cost effective in the primary care setting. They developed a computer model, incorporating HCV prevalence estimates from the National Health and Nutrition Examination Survey, to analyze the cost effectiveness of

four scenarios: (1) no screening or treatment; (2) risk-based screening and standard treatment of pegylated interferon and ribavirin; (3) birth cohort screening with standard treatment; (4) birth cohort screening with standard treatment for patients identified with hepatitis C genotype 2 or 3, and standard treatment plus a direct acting antiviral drug (DAA) for patients with the most prevalent and hardest-to-treat form of the virus, genotype 1.

Based on published studies, Rein's group estimated that about 18 percent of people currently in primary care haven been screened. By testing all people in the birth cohort, his team said it was possible to increase this rate to 91 percent. Compared to the current strategy of risk-based screening, universally screening all baby boomers would identify 808,580 new HCV cases—85.9 percent of all undiagnosed cases in the birth cohort—compared with 21 percent under risk-based screening.

His group also documented that the strategy would significantly reduce the number of premature deaths and is at least as cost-effective as many routinely administered preventive practices, such as breast cancer screening or colorectal screening. Universal testing, followed by standard treatment for those found to be chronically infected and at risk for serious liver disease, reduced deaths by 82,300 at a cost of $15,700 "per quality adjusted life-year (QALY) gained," which is a measure of disease burden, including both the quality and the quantity of life lived. Incorporating DAA treatment, such as the protease inhibitors Incivek (telaprevir) or Victrelis (boceprevir), to standard therapy when indicated would prevent about 121,000 deaths compared to risk-based screening at a cost of $35,000 per QALY gained.

Rein concedes that universal screening of baby boomers—about 8 million U.S. residents—is more costly than screening based on past or present behaviors or another identification characteristics: People with chronically elevated liver enzyme levels.

However, according to another report at AASLD by Bryce Smith, MD, and his colleagues at the CDC in Atlanta, limiting HCV screening to baby boomers with elevated liver enzymes would result in less than 40 percent of those living with hepatitis C being diagnosed—half the amount that would be identified using the proposed universal screening approach.
