




State-Level Implementation of the Birth Cohort Hepatitis C Testing Recommendations

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In August 2012, CDC released [recommendations](#) for the one-time hepatitis C (HCV) testing of baby boomers, persons born during 1945 and 1965. The following year, the United States Preventive Services Task Force updated its recommendations, aligning with CDC's testing recommendations and eliminating many of the cost barriers for baby boomers seeking testing. CDC estimates that baby boomers, who represent about 27 percent of the population, account for three-fourths of all chronic HCV infections in the United States.¹ Although this birth cohort accounts for a disproportionate number of HCV infections, most are unaware of their infection status. The baby boomer testing strategy, if fully implemented, could identify over 800,000 previously undiagnosed cases and avert 120,000 deaths nationwide.²

State health departments are uniquely positioned to help call attention to the testing recommendations and broker relationships with providers to drive implementation. In February 2013, ASTHO and CDC convened a [public health panel](#) to develop examples and tips for implementing these recommendations. The panel discussed four key elements of the public health implementation strategy: testing, education, surveillance, and collaborations in care. To build on ASTHO's complementary initiatives on public health and healthcare integration and the development of viral hepatitis epidemiologic profiles, ASTHO collected specific state experiences in two of the four key elements: **collaborations in care** and **surveillance**. ASTHO conducted site visits to two state health departments: Arkansas and Wisconsin; the purpose of the site visits was to:

- Discuss barriers and facilitators in supporting the birth cohort-based testing recommendations.
- Identify tools needed to support implementation of the recommendations.
- Collect state stories and best practices from health department viral hepatitis programs.

The following sections showcase the states' successes and innovative approaches in collaborations in care and surveillance, and provide insights into the challenges and barriers faced during implementation.

Collaborations in Care

Providers play an important role in detection and confirmation of infection, counseling on behavior change (e.g., transmission, alcohol use) and referral to treatment. Healthcare professionals are faced with many competing priorities when providing care to their patients; thus, developing strategic messaging for CDC's baby boomer recommendations is critical.

The following examples highlight the goal of the [ASTHO-Supported Primary Care and Public Health Collaborative](#) to work in partnership to improve population health.

Provider Education

Arkansas and Wisconsin have each engaged in provider education efforts to raise awareness of and support implementation of the testing recommendations. Wisconsin leverages existing provider training infrastructure to raise awareness of the testing recommendations, and partners with training centers and academia to meet this goal. In each of these education efforts, providing local area context is key as rural practices face very different challenges than those located in urban settings.



Leadership Engagement

Public health leadership can help expand the reach of messaging through targeted presentations to provider groups and article placement in medical journals. For example, Arkansas State Health Officer Nathaniel Smith presented on CDC's recommendations to the board of health and county health officers, and at a symposium where Arkansas's state health department provided continuing medical education (CME) credits to providers. Smith also authored an [article](#) in the Healthcare Journal of Little Rock, where he called attention to the high burden of disease amongst baby boomers and imperative need to test. Engagement through these two channels afforded the state health department an opportunity to share testing messages widely among providers.

Linkage to Care

As the baby boomer testing recommendations are implemented, it will be critical to link individuals to care who have been diagnosed with HCV. The states identified the capacity of providers to manage the newly identified cases of HCV as a challenge. In Arkansas, many rural areas of the state struggle to maintain full-time physicians, and specialized providers such as hepatologists can be located hours away from clients seeking care. The Project ECHO model may prove instrumental in bridging this gap as it allows specialists to consult with and train local physicians via telemedicine. However, Arkansas notes that in order for this model to be sustainable on a wide scale, the ability to bill third party payers for telemedicine needs to be resolved.


In an effort to leverage existing, though limited, provider capacity within their jurisdictions, states are engaging in activities to characterize their HCV provider networks (**see text box**). In Arkansas, these efforts will help develop a clearer understanding of which provider groups (e.g., infectious disease, gastroenterologists, or hepatologists) are responsible for care and treatment of newly identified cases.

Integration

In Arkansas, where the disease burden for HCV is substantially higher than HIV, the existing HIV referral networks are not sufficient to deal with the number of patients that might be identified with HCV through implementation of the testing recommendations. Although existing HIV infrastructure may not meet all HCV capacity needs, integrating with HIV activities can nevertheless present state health departments with valuable opportunities to maximize provider training and testing efforts. For example, the Wisconsin Department of Public Health, in collaboration with the University of Wisconsin, educates community partners about HCV through the state's HIV training system. The Midwest AIDS Training and

Identifying Hepatitis C Provider Networks

- **Arkansas** conducted a physician survey to identify providers accepting referrals, and maintains an updated list of providers that treat HCV.
- **Wisconsin** partnered with the University of Wisconsin School of Medicine and Public Health to support an MD/MPH student conducting a provider survey to assess attitude and practices regarding baby boomer testing, and capacity to manage chronic HCV.



Education Center has also been a valuable partner to the Wisconsin Department of Public Health, supporting uptake of the testing recommendations through grand rounds and outreach with tribal clinics and community health centers.

Future Opportunities

The states identified the following strategies as potential opportunities to leverage collaborations in care to increase uptake of the baby boomer testing recommendations:

- ✓ Incorporate CDC testing recommendations into all viral hepatitis resources and presentations offered by health departments.
- ✓ Maximize existing resources by developing an inventory of provider education tools.
- ✓ Collaborate with primary care associations to promote the recommendations among members.
- ✓ Expand HCV referral networks by recruiting physician extenders (e.g., nurse practitioners, physician assistants).
- ✓ Formalize pre-existing consultation pathways in large healthcare systems and university hospitals to strengthen HCV referral networks.
- ✓ Work with electronic medical record vendors to facilitate use of clinical decision support tools in provider settings so that baby boomers are flagged and recommendations are incorporated into standard protocol.
- ✓ Build the case to providers about the importance of implementing the recommendations through anecdotes that highlight cases identified through testing.

State-by-State Snapshots

The following table summarizes barriers, facilitators, and tools identified by the states for utilizing collaborations in care to promote implementation of the testing recommendations:

COLLABORATIONS IN CARE

	Barriers	Facilitators	Tools
Arkansas	<ul style="list-style-type: none"> • Insufficient provider availability, particularly in rural areas; existing referral networks were built for HIV. • Providers might have competing priorities and not immediately think to test baby boomers. • Many education tools need to be adapted to a rural context; the wide array of available tools make it difficult for providers to keep up. • There is no clear agreement on which provider groups are responsible for care and treatment. 	<ul style="list-style-type: none"> • Leadership engagement allows for use of the “bully pulpit” to communicate widely with providers. • Presentations offer opportunities to educate providers about the recommendations. 	<ul style="list-style-type: none"> • The state health officer column in the Healthcare Journal of Little Rock helped promote the recommendations. • The recommendations were included in a presentation offering CMEs to providers. • A physician survey identified providers accepting HCV referrals. • The health department maintains an updated list of providers that treat HCV.
Wisconsin	<ul style="list-style-type: none"> • Insufficient provider capacity creates challenges for linkage to care. • Implementation of the testing recommendations is only one of many competing priorities for physicians. 	<ul style="list-style-type: none"> • Partnerships with training centers and academia provide opportunities to promote awareness of the recommendations. 	<ul style="list-style-type: none"> • Implementation of a physician and physician assistant survey will characterize practices and attitudes towards testing implementation and capacity to provide care for patients with chronic HCV.



Surveillance

Surveillance is a critical tool for documenting the burden of disease within a state and can inform decisionmaking for prevention, care, and planning. State health agencies can use HCV surveillance data to identify populations at most immediate risk for disease progression (e.g., the baby boomer cohort), and target interventions accordingly.

Limited Resources

Most states have limited or non-existent resources available for HCV surveillance. Arkansas has addressed this issue by using CDC national prevalence estimates to approximate the burden of disease in the state. Arkansas also joined in on an existing state-wide survey, Arkansas Cardiovascular Health Examination Survey (ARCHES), to gather state-specific information. A \$15,000 grant from Blue Cross Blue Shield and the state immunology lab allowed the health department to perform HCV assays on the ARCHES samples. Additionally, Arkansas utilizes Preventive Services Block Grant funding to support HCV testing and surveillance.

Staff Capacity


States identified skilled staff as an important facilitator for HCV surveillance activities (e.g., data entry, analysis, SAS expertise). For states with little or no dedicated funding for HCV staff, integrating with HIV programs may be an option to increase staff numbers. For example, Wisconsin funds an epidemiologist dedicated to hepatitis through its HIV prevention grant. Partnerships with academic organizations and fellowship programs can also help states address inadequate staff capacity. Through a partnership with the University of Arkansas for Medical Sciences College of Public Health, the Arkansas Department of Health has been able to acquire interns to assist with HCV data entry and cleaning. The Council of State and Territorial Epidemiologists (CSTE) fellowship program also provided Arkansas with staff support and technical assistance for the development of its chronic HCV registry.

Strategies for Increasing Staff Capacity

- **Arkansas** partners with academia and CSTE on internship and fellowship programs.
- **Wisconsin** integrates with the HIV program to fund a hepatitis epidemiologist.

Surveillance Platform

Challenges with HCV surveillance platforms further complicate questions of surveillance capacity. Arkansas noted that the National Electronic Disease Surveillance System (NEDSS) is not an optimal platform for tracking chronic infections, which are of particular importance when looking at HCV in the baby boomer birth cohort. NEDSS is more appropriate to use as a repository of acute short-term infections, a limitation that makes it difficult for public health to distinguish old from new HCV data. Furthermore, some of the features available to modernize NEDSS are not available to Arkansas due to limitations in their current information technology system (i.e., the health department works with 32 bit computers, whereas higher processing capabilities are required for NEDSS updates).



There were also challenges around applying the previous, complex case definition for chronic HCV. Refined guidance on the case definition for chronic HCV will help states maintain better HCV surveillance data in their baby boomer population.


Epidemiologic Profiles

In the absence of robust HCV surveillance, states can use data sources in novel ways to develop a sharper snapshot of HCV within their jurisdictions. In 2013, Arkansas and Wisconsin were funded by ASTHO and CDC to build capacity in the development and use of viral hepatitis epidemiologic profiles. The profiles were modeled after the HIV/AIDS profiles developed by CDC in the 1990s, and are an important tool in documenting, interpreting, and framing the dimensions and burden of viral hepatitis in local terms. Engagement of stakeholder groups (e.g., end users, target audiences) helped states prioritize data analysis needs, interpret results, and identify presentation formats by which the data could be communicated to others. In developing their profiles, Arkansas and Wisconsin analyzed several non-traditional data sources to supplement surveillance data. The following data sources were used to generate the epidemiologic profiles:

- Surveillance data
- Hospital discharge data
- State vital records
- State cancer registry
- Enhanced HIV/AIDS Reporting System (eHARS)
- Organ transplant registry
- SAMHSA Treatment Episode Data Set (TEDS)
- American Community Survey (ACS)
- HCV protease inhibitor prescriber data (IMS Health)
- State specific data sources (i.e., ARCHES, Wisconsin Interactive Statistics on Health)

These viral hepatitis epidemiologic profiles can be used by states to heighten awareness and elevate the need for implementing the testing recommendations. For example, [Wisconsin's HCV epidemiologic profile](#) highlights baby boomers as one of the two populations most affected by HCV in Wisconsin; the other population most affected is young persons who inject drugs. The [Hepatitis C in Wisconsin: Focus on Baby Boomers](#) fact sheet was developed to complement the epidemiologic profile, and visually highlights the disproportionate number of hospitalizations and deaths in baby boomers due to HCV, which can be used to educate decision-makers.

States can also leverage viral hepatitis epidemiologic profiles to identify opportunities for public health action and determine how to best allocate limited resources. Arkansas is using the geographic information system maps that were generated for their [Arkansas HCV epidemiologic profile](#) to target its selection of local health units for participation in HCV pilot testing projects. These pilot sites will be instrumental in establishing HCV testing protocols, working through logistical challenges associated with confirmatory testing and identifying referral procedures.



For states that lack the resources to develop epidemiologic profiles, nesting viral hepatitis surveillance data into existing HIV reports may provide an alternative. For example, Florida incorporates HCV data into the HIV/AIDS monthly surveillance report.

Leadership Support

Arkansas and Wisconsin noted that leadership buy-in and institutional support were key to success in developing and implementing the viral hepatitis epidemiologic profiles. During a state webcast in June 2014, Wisconsin State Health Officer Karen McKeown presented data from the state profile, including a section on baby boomers. This bi-monthly webcast reaches over 90 local health departments in the state, and the data presented helps inform local health priorities around HCV testing and care. In Arkansas, Smith participated in stakeholder meetings, which guided the direction and development of the state profile, and recorded an interview on HCV in Arkansas, which will be posted to the health department website. This interview demonstrates the importance of putting surveillance data in context through stories and anecdotes.

Future Opportunities

The states identified the following activities as potential opportunities to further utilize surveillance data to support implementation of the testing recommendations:

- ✓ Leverage partnerships with local schools of public health to assign interns data analysis projects to characterize HCV morbidity and mortality in baby boomers.
- ✓ Strengthen surveillance with data from commercial labs (e.g., CDC pilot projects with Quest and LabCorps).
- ✓ Maximize limited resources by integrating HCV surveillance data into existing STD/HIV epidemiologic profiles.
- ✓ Develop infographics to translate surveillance data into an engaging and accessible format.
- ✓ Increase access and use of electronic lab reports to decrease burden of manual data entry.

State-by-State Snapshots

The following table summarizes barriers, facilitators, and tools identified by the states for leveraging surveillance to support implementation of the testing recommendations:

SURVEILLANCE

	Barriers	Facilitators	Tools
Arkansas	<ul style="list-style-type: none"> • Insufficient resources, including limited staff capacity and lack of funding for surveillance activities. • The NEDSS platform is not an adequate repository for data on chronic infection. • More guidance is needed on applying surveillance case definitions for chronic HCV. 	<ul style="list-style-type: none"> • CDC national prevalence estimates and data gathered from state-wide surveys can help approximate burden of disease. • Partnerships with academic organizations and fellowship programs can bolster staff capacity. • Dedicated funding (ASTHO/CDC grant), CDC technical assistance, and analysis of novel data sources were instrumental in developing the HCV epidemiologic profile. • Leadership engagement guided the direction and development of the HCV epidemiologic profile. 	<ul style="list-style-type: none"> • HCV assays performed on ARCHES samples provided state seroprevalence data. • Preventive Services Block Grant funds are used to support HCV surveillance. • Internship program with College of Public Health, and CSTE fellowship program. • The Arkansas HCV epidemiologic profile can be used to inform public health action. • Surveillance data is reinforced with personal stories through recorded interviews with the state health officer and a consumer.
Wisconsin	<ul style="list-style-type: none"> • Limited resources to support staff dedicated to hepatitis. 	<ul style="list-style-type: none"> • Identifying alternative funding sources and integrating with the HIV program can help support skilled staff maintain HCV surveillance activities. • The ASTHO/CDC epidemiologic profile grant allowed the health department to characterize the burden of HCV in an array of communication formats. • Leadership buy-in and institutional support were key to developing and implementing the HCV epidemiologic profile. 	<ul style="list-style-type: none"> • The HIV prevention grant currently funds an epidemiologist dedicated to hepatitis; an ASTHO/CDC epidemiologic profile grant supported a data analyst position. • The Wisconsin HCV epidemiologic profile includes information on the burden of HCV on baby boomers. • A fact sheet on baby boomers highlights surveillance data on this population. • The state health officer webcast provided a venue to feature surveillance data on HCV in baby boomers.



Conclusion

More than 75 percent of adults infected with HCV are baby boomers, and most are unaware that they are infected. It is important for public health leadership to address this issue before individuals in this birth cohort experience serious health problems associated with disease progression, including liver damage, cirrhosis, and liver cancer. Implementing CDC's baby boomer testing recommendations is the first step in identifying individuals living with HCV and directing them to care.

In an environment where resources for HCV prevention and care are limited, the examples from Arkansas and Wisconsin showcase innovative approaches state health departments are taking to promote implementation of the testing recommendations. As demonstrated by the state examples, public health leadership can support a comprehensive approach to implementation by brokering relationships with provider groups and leveraging surveillance to inform planning. Health officials are well-positioned to drive collaborations in care and creative strategies to ensure good surveillance, and in doing so, can promote a testing strategy that can save thousands of lives.

¹ Smith B, Morgan R, Beckett G, *et al.* "Recommendations for the Identification for Chronic Hepatitis C Virus Infection Among Persons Born During 1945-1965." *MMWR*. Aug. 17, 2012. 61 (RR04):1-18. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6104a1.htm>. Accessed 12-11-2014.

² CDC. "CDC Now Recommends All Baby Boomers Receive One-Time Hepatitis C Test." Available at <http://www.cdc.gov/nchstp/newsroom/2012/hcv-testing-recs-pressrelease.html>. Accessed 12-11-2014.