Elimination of Perinatal Hepatitis B Transmission & the National Viral Hepatitis Action Plan

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The findings and conclusions expressed in this presentation are those of the author and do not necessarily represent the views of the Department of Health and Human Services.
Overview

We have the tools to eliminate perinatal hepatitis B transmission in the United States!

• National Viral Hepatitis Action Plan
• Moving toward viral hepatitis elimination
• Current HBV epidemiologic trends
• Perinatal HBV Expert Consultation Report
• Recommendations for the elimination of perinatal hepatitis B in the United States
The Evolution of Our National Response

2010

Hepatitis and Liver Cancer
A National Strategy for Prevention and Control of Hepatitis B and C

2011

Combating the Silent Epidemic of Viral Hepatitis
Action Plan for the Prevention, Care & Treatment of Viral Hepatitis

2014

Updated
2014-2016

Action Plan for the Prevention, Care, & Treatment of Viral Hepatitis

Office of HIV/AIDS and Infectious Disease Policy
Office of the Assistant Secretary for Health
National Viral Hepatitis Action Plan

Road map for our nation’s response to viral hepatitis

- Promotes action, transparency, and accountability
- Sets goals, priorities, and measurable targets
- Actions to be taken by federal government
- Current plan ends this year—currently being updated to 2020
If fully implemented, the Action Plan will:

- Increase the proportion of persons who are aware of their HBV infection from 33% to 66%
- Increase the proportion of persons who are aware of their HCV infection from 45% to 66%
- Reduce the number of new HCV infections by 25%
- Eliminate mother-to-child HBV transmission
Global Support for Hepatitis Elimination

- World Health Organization supports hepatitis B elimination
- Countries have begun drafting elimination plans
- In the U.S., communities and health systems are putting hepatitis elimination plans to work
National Academies of Sciences, Engineering and Medicine (formerly IOM)

- Released report on April 11, 2016
- Committee determined that:
  - Both hepatitis B and C could be rare diseases in the US
  - But there are substantial obstacles to meeting this goal
- Follow-up report in early 2017 will address what needs to be done

Available at: nas.edu/hepatitiselimination
Current Trends in Acute Hepatitis B Infection
In the United States
First Increase in Reported Acute Hepatitis B in 20 Years

5.4% increase (2012-13)

Source: CDC, National Notifiable Diseases Surveillance System
State Acute HBV Overview 2010 - 2014

Among the 48 states reporting rates of acute HBV during 2010-2014 (2 states and DC did not report):

- **23 states remain unchanged** (within 0.3 from 2010-2014, FL rates remain higher than all other unchanged states)

- **15 states decreased by ≥0.3**
  - **2 states decreased sharply**: AR ≥1.0, OK ≥2.0

- **10 states increased by ≥0.3**:
  - **6 states increased by ≥0.3**: IN, KY, LA, MA, MS, OH
  - **4 states increased by >1.0**: AL >1.0, TN >2.0, WI >2.0, WV >5.0
Very Rapid Increase in Some States

FIGURE 1. Incidence of acute hepatitis B virus infection, by year—United States and Kentucky, Tennessee, and West Virginia, 2006–2013

Incidence of Acute Hepatitis B by Age Group 2000–2014
Perinatal Hepatitis B in the U.S.

- CDC estimates that there are **25,600** births to HBsAg (+) mothers every year in the U.S.
- HBV exposed infants have up to 90% risk of infection
- An estimated **952** perinatal HBV infections occur each year in the U.S.
- Perinatally infected infants have a **90%** risk of chronic infection. **25%** of chronically infected infants are at risk for premature death due to liver cancer or liver failure

VHAP Goal: Eliminate mother to child transmission of hepatitis B

Perinatal HBV Prevention Recommendations

CDC and USPSTF recommend:

- Screening all pregnant women for HBsAg at the first prenatal visit
- Administering post exposure prophylaxis within 12 hours of birth for infants born to mothers who are chronically infected, i.e., HBsAg (+)
- Referring to case management (e.g., CDC’s Perinatal Hepatitis B Prevention Program), counseling and medical management, and providing information about HBV for pregnant women with HBV

ACIP recommends:

- Universal HBV vaccination of all infants beginning at birth
“Timely immunoprophylaxis and completion of the ACIP recommended 3 dose Hep B vaccine series is the cornerstone of perinatal hepatitis B prevention.”

- 47% of the estimated 25,600 births to HBsAg (+) women were identified by the CDC’s PHBPP in 2009
- 95% of identified births were case-managed
- 95% of case managed infants received HBIG and HBV vaccine at birth
- 77% of case managed infants received 3 doses of HBV vaccine by 12 mo of age
- 55% of case managed infants had post vaccination testing

Technical Consultation on the Elimination of Perinatal Hepatitis B in the United States
Expert Consultation on Perinatal HBV Elimination

Problem: The annual number of infants born to hepatitis B-infected mothers who become perinatally infected has remained stubbornly constant at approximately 1,000 per year over the last decade.

- One-day technical consultation convened by the U.S. Department of Health and Human Services (HHS) Office of HIV/AIDS and Infectious Disease Policy (OHAIDP)

- Strategic discussions included:
  - Improve public health, prevention and surveillance efforts for perinatal hepatitis B,
  - Routinize birth dose hepatitis B vaccination and post-exposure prophylaxis (PEP), and
  - Improve identification and management of mothers at high risk of transmitting hepatitis B.
Perinatal Hepatitis B Prevention Pathways

Maternal Pathway
- Prenatal Hepatitis B Screening
- Health Information Transfer to Birthing Facility
- Referral to Perinatal Hepatitis B Prevention Program
- Hepatitis B Evaluation & Possible Treatment (lifelong)

Infant Pathway
- Post Exposure Prophylaxis
- Health Information Transfer to Pediatrician

Prenatal Period:
- 1 month
- 6 months
- 8 months

Perinatal Period:
- Within 12 hours of birth

Postnatal Period:
- 1 month
- 6 months
- 9 months
- 12 months

Vaccination Completion
Post-Vaccination Serologic Testing
The recommendations made by consultation participants fall into three broad categories:

- Engaging patients and communities disproportionately impacted by hepatitis B,
- Strengthening systems to enhance prevention efforts, and
- Expanding and refining research efforts.
Engaging Patients and Communities Disproportionately Impacted by Hepatitis B

- Increase awareness of the importance of HBV prenatal screening and infant vaccination among women and families from communities with high rates of chronic HBV infection

- Most effective when done collaboratively with trusted community partners, health systems, government

- Anticipated outcomes:
  - Improved testing and vaccination acceptance
  - Facilitated PEP administration
  - Increased maternal HBV linkage to care
Strengthening Systems to Enhance Prevention Efforts

- Create incentives for providers, institutions, and health care systems to implement recommendations for HBV vaccination and/or PEP for infants
- Provide educational support for clinician understanding and interpretation of HBV-related test results for both maternal screening & infant post-vaccination serologic testing
- Use electronic prompts in electronic health records (EHRs) to optimize HBV testing & pregnancy status reporting
- Increase awareness of the CDC’s Perinatal Hepatitis B Prevention Program (PHBPP)
- Develop & disseminate recommendations for HBV treatment of high-risk expectant women
Expanding and Refining Research Efforts

- Understand the true burden of hepatitis B disease
- Understand the reasons for parental refusal of hepatitis B vaccination and PEP
- Identify barriers to PHBPP referral

Infants Born to Hepatitis B (HBV)-Positive Women in the United States, 2008

- Expected Births to HBV-Positive Women: n = 25,600
- Reported Births to Local PHBPP: n = 12,260 (47% of expected births were reported to the PHBPP)
- Reported Infants Case Managed: n = 12,033 (98% of reported births were case managed)
Perinatal HBV Prevention is Effective

Hepatitis B (HBV) Service Utilization and Outcomes Among 12,033 PHBPP Case-Managed Infants, 2008

- HBIG & HepB within 1 day of birth: 95%
- 3 vaccine doses by 6-8 months: 70%
- 3 vaccine doses by 12 months: 77%
- Post-vaccination testing: 55%
- HBV positive: 0.8% (n = 56)
- Lost to follow-up: 13%
Local Actions ➔ National Improvement

What steps can you take?

- Understand what’s happening in perinatal HBV prevention in your system
- Identify strategies to improve identification and management
  - Staff training, expanded use of EHR, administrator buy-in, identify new patient education strategies
- Collaborate with community partners
Thank you!

» Read the report Technical Consultation on the Elimination of Perinatal HBV in the U.S. [link]

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