Time to Eliminate Hepatitis B

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National Viral Hepatitis Goals of the HHS National Viral Hepatitis Action Plan, 2017-2020

**GOAL 1**
Prevent New Viral Hepatitis Infections

**GOAL 2**
Reduce Deaths and Improve the Health of People Living with Viral Hepatitis

**GOAL 3**
Reduce Viral Hepatitis Health Disparities

**GOAL 4**
Coordinate, Monitor, and Report on Implementation of Viral Hepatitis Actions
### Three Strategic Imperatives of CDC’s Viral Hepatitis Strategic Plan 2016–2020

<table>
<thead>
<tr>
<th>Strategic Imperatives</th>
<th>I. Assure vulnerable populations are vaccinated to prevent viral hepatitis</th>
<th>II. Assure early detection and response to stop transmission of hepatitis B virus (HBV) and hepatitis C virus (HCV)</th>
<th>III. Assure persons living with HBV and HCV are identified and linked to recommended care and treatment services</th>
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<tbody>
<tr>
<td>Objectives</td>
<td>• Optimize vaccination strategies among vulnerable populations</td>
<td>• Reduce transmission associated with drug use</td>
<td>• Increase testing by raising healthcare-provider and public awareness</td>
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<td>• Promote development and implementation of new or improved vaccines</td>
<td>• Protect healthcare workers and patients from infections</td>
<td>• Increase access to testing, care, and treatment</td>
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<td>• Improve detection and reporting of new infections including the use of novel virologic technologies and studies to investigate transmission</td>
<td>• Implement strategies for preventing perinatal transmission</td>
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The U.S. Relies on an Immunization Strategy to Eliminate Hepatitis B Transmission

- Screen all pregnant women
  - Prophylaxis (HepB vaccine and HBIG) within 12 hours of birth for all infants born to infected women
- Universal vaccination of all infants beginning at birth (before hospital discharge) as a safety net
- Routine vaccination of previously unvaccinated children and adolescents aged <19 years
- Vaccination of adults at risk
Prevention of Hepatitis B Transmission

“States should expand access to adult hepatitis B vaccination, removing barriers to free immunization in pharmacies and other easily accessible settings.”

- Low adult vaccination coverage
- ACIP has requested CDC develop new vaccination strategies (in progress)

MMWR 2015 / 64(04);95-102;  MMWR August 29, 2014 / 63(34);741-748  cdc.gov/vaccines
Hepatitis B is an Important but Underappreciated Disease

<table>
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<tr>
<th>Mode of transmission</th>
<th>Blood, sex, mother-to-child</th>
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<tbody>
<tr>
<td>Number acute (new) infections</td>
<td>3,370</td>
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<tr>
<td>Number chronic (lifelong) infections</td>
<td>850,000</td>
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<tr>
<td>Annual U.S. deaths reported</td>
<td>1,715</td>
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<tr>
<td>Health outcomes</td>
<td>Acute failure, cirrhosis, liver cancer 25%-40% mortality risk</td>
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<tr>
<td>Vaccine</td>
<td>Yes</td>
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<tr>
<td>Other modes of prevention</td>
<td>Universal precautions, blood screening, safer sex, safe injection</td>
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<tr>
<td>Unaware of infection</td>
<td>33%</td>
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<tr>
<td>Curative treatment</td>
<td>No</td>
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In 2015, 21,900 cases, a 21% increase was reported.
HBV Transmission Among People Who Inject Drugs

- **Transmission risks**
  - Injection duration
  - Frequency of injecting
  - Equipment sharing, not just sharing needles

- **Incidence declines following successful hepatitis B vaccination in appropriate settings (e.g., drug treatment, corrections)**

  - 12 states reported increases in Hepatitis B (2015)
  - Injection drug use is most common reported behavioral risk
  - Hepatitis B vaccination of persons who inject drugs is cost saving

CDC Is Strengthening Core Surveillance in States with High Rates of New Cases of Hepatitis B and C

- 20% increase in new HBV infections (2015)
- Funds will enable jurisdictions to improve reporting from clinicians, and laboratories

Viral hepatitis surveillance data will be used to:
- Detect new infections and identify outbreaks
- Monitor disease burden
- Identify transmission networks at risk of transmitting and/or acquiring the infections
- Support implementation and evaluation of prevention services including testing, linkage to care, and treatment

The funded states represent 76% of the acute HBV cases reported in 2014
Hepatitis B is the Source of a Major Health Disparity for Asian Americans and Pacific Islanders (A/PI)

- 40% of chronic HBV cases (5% of U.S. pop.)
- 60% of HBsAg+ mothers/exposed infants
- Double the rate of liver cancer
- Six times the rate of HBV-related mortality
- CDC recommends HBV testing of A/PI born outside the U.S.
- 50% decline in liver cancer risk with HBV testing and therapy

NHIS 2014
CDC is Increasing Public and Provider Education, and Testing and Linkage to Care Through Partnerships

- Conducting competent outreach
- Enhancing CDC’s national campaign
- Developing resources for health professionals

Hepatitis B Case Studies

Hepatitis B Web Study
Featuring interactive, case-based modules with free CE credits

What’s New
May 16th 2016 - CNE credits are now available!
Testing and Linkage to Care Is Critical

- HBV treatment as recommended
- Clinical surveillance of liver cancer
- Education to slow disease progression (alcohol intake)
- Anti-viral prophylaxis before immunosuppression therapy
- Vaccination of household contacts of HBV patients
- Education to reduce transmission

Moorman et al. CID 2012; IOM report 2010
Community Projects Can Successfully Test and Link HBV Infected Persons to Care

Nine Community Sites, 2012–2014
- 23,144 tested
- 1,317 (5.7%) HBsAg-positive
Feasible Strategies Improve HBV Testing and Linkage to Care

Implementation Strategies

- Educational curricula
- Training protocols
- Patient navigation services
- Community outreach
- Screening events
- Testing voucher coupons
- Electronic medical record alert tool

Community-Based Strategies, Three Sites, 2014-2016

- 5,940 tested
- 419 (7.1%) HBsAg-positive

N=419 for each bar
*Attended ≥ medical visit
†HBeAg, HBV DNA, ALT all done
‡Antiviral treatment given

Harris A, et al. AASLD 2016
CDC Priorities for Placing the Nation on the Path Toward Elimination

• Strengthen detection, investigation and response to new infections

• Accelerate adoption of testing and treatment throughout the U.S. health care system

• Develop model projects to eliminate transmission and deaths
Hepatitis B Can Be Eliminated as a Public Health Threat in the U.S.; a Cure Would Save Even More Lives

<table>
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<th>U.S. 2030 Targets</th>
<th>Performance Measures</th>
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<td>50% reduction HBV mortality</td>
<td>Diagnose and link to care:</td>
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<td>(2015 baseline 1,715 deaths)</td>
<td>– 90% of chronic hepatitis B cases diagnosed</td>
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<tr>
<td>Reduce toward zero HBV incidence in children &lt; 5 yrs</td>
<td>– 90% of those diagnosed brought to care</td>
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<td>(2015: 800 children)</td>
<td>Treat: 80% for whom treatment is indicated</td>
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<td>85% - HepB birth dose coverage</td>
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<td>75% - Perinatal case management</td>
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“Most of the barriers to preventing and treating viral hepatitis could be seen as consequences of another, more basic problem: viral hepatitis is not a public priority in the United States. The time is right for this to change… the committee hopes [this report] will be a vehicle for such change…”

--The National Academies

Thank You