Virtual Exhibit Hall: Dynavax

April 24, 2023

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This webinar is being recorded and will be posted to the AIM website.
Agenda

- 2:00 - 2:02 ET: Welcome and Technology Overview (Monica)
- 2:02 – 2:25 ET: Dynavax Presentation
- 2:25- 2:30: Q&A and Closing
About AIM

• The Association of Immunization Managers (AIM) represents the 64 immunization programs that receive funding from CDC’s National Center for Immunization and Respiratory Diseases (NCIRD)
• In 50 states, 5 major cities + D.C., the territories, and Pacific Islands
• Programs are tasked with COVID-19 vaccine planning: distribution, administration, and tracking
Catching Up Adults on Hepatitis B Vaccination

Stephanie Campbell, PhD
April 24, 2023
Goals & Objectives

- Discuss hepatitis B elimination efforts and review ACIP hepatitis B vaccination recommendations for adults
- Highlight key considerations for successful hepatitis B vaccine implementation
- Explain the critical role of public health stakeholders in getting adults vaccinated for hepatitis B
Majority of US Adults Are Missing Routine Vaccinations

Only up to 32% of general internists and family physicians reported assessing vaccination status at every visit according to a recent survey. 

At least 3 out of every 4 adults are missing one or more routinely recommended vaccines, a rate made worse by the COVID-19 pandemic.

Million doses of recommended vaccines missed by adolescents and adults in one analysis from January 2020–July 2021, during the COVID-19 pandemic.

Adult Hepatitis B Vaccination Coverage Rates Are Low

Approximately 30% of adults aged 19 and older have received a hepatitis B vaccine series

Hep B vaccination coverage among adults, by age (≥3 doses), 2018*

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccine Coverage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-49 years</td>
<td>40.3%</td>
</tr>
<tr>
<td>≥50 years</td>
<td>19.1%</td>
</tr>
<tr>
<td>≥19 years</td>
<td>30%</td>
</tr>
</tbody>
</table>

Hep B vaccination coverage among persons at increased risk, by risk factor (≥3 doses), 2018*

- Adults with Diabetes, age 19-59 years: 33%
- Chronic Liver Disease: 33%
- Travelers to HBV endemic settings: 38.9%
- Health Care Personnel: 67.2%

*Hepatitis B vaccine coverage rates among US adults were estimated based on the results of the 2018 National Health Interview Survey that sampled 25,207 adults.

GLOBAL GOAL: Elimination of Viral Hepatitis by 2030

Viral Hepatitis National Strategic Plan: Roadmap to Elimination¹

Goal 1: Prevent New Viral Hepatitis Infections

Goal 2: Improve Viral Hepatitis–Related Health Outcomes of People with Viral Hepatitis

Goal 3: Reduce Viral Hepatitis–Related Disparities and Health Inequities

Goal 4: Improve Viral Hepatitis Surveillance and Data Usage

Goal 5: Achieve Integrated, Coordinated Efforts That Address the Viral Hepatitis Epidemics among All Partners and Stakeholders

Hepatitis B is a vaccine preventable disease²

“The best way to prevent hepatitis B is to get vaccinated.” – CDC³

## History of Progress Against Vaccine-Preventable Diseases in the United States

<table>
<thead>
<tr>
<th>Pathogen</th>
<th>CASES(^1) (prevaccine* to postvaccine(^1))</th>
<th>DEATHS(^1) (prevaccine* to postvaccine(^1))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria</td>
<td>100% reduction (21,053 to 0)</td>
<td>100% reduction (1822 to 0)</td>
</tr>
<tr>
<td>Measles</td>
<td>99.99% reduction (530,217 to 55)</td>
<td>100% reduction (440 to 0)</td>
</tr>
<tr>
<td>Smallpox</td>
<td>100% reduction (29,005 to 0)</td>
<td>100% reduction (337 to 0)</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>87% reduction (117,333 to 15,298)</td>
<td>86.9% reduction (137 to 18)</td>
</tr>
<tr>
<td>Invasive Pneumococcal Disease</td>
<td>34.1% reduction (63,067 to 41,550)</td>
<td>25.4% reduction (6500 to 4850)</td>
</tr>
</tbody>
</table>

*Vaccines are among the most beneficial and cost-effective health interventions available.\(^2\)*

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\(^1\)Prevaccine dates vary among diseases.

\(^2\)Cut-off date for postvaccine cases is from 2006, except for invasive pneumococcal disease (2005).

\(^3\)Cut-off dates for postvaccine deaths are from 2004 (diphtheria, measles, and smallpox), 2005 (invasive pneumococcal disease), and 2006 (hepatitis A).

Pathogen images are from the Centers for Disease Control and Prevention (CDC) website.

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ACIP Recommendations Have Led to a Decrease in Acute Hepatitis B Cases, but Numbers Have Plateaued

Hepatitis B Vaccine Recommendations,
Estimated Acute Hepatitis B Cases in the US, 1980-2019\(^1\)

- Previous age-based universal vaccination strategies have led to lower rates of hepatitis B infection among children and adolescents of all races and ethnicities\(^2\)
- Case numbers have since plateaued, despite risk-based recommendations for adults

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**Hepatitis B Vaccine Recommendations**

- Infants born to HBsAg positive women: 1984
- Vaccine for groups at increased risk*: 1982
- All U.S. infants: 1991
- Age 0-18 years: 1999
- Birth dose: 2005
- Adults ≤59 yrs with Diabetes: 2011

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*Health care providers, men who have sex with men, injection-drug users, hemodialysis patients, household & sexual partners of persons with chronic hepatitis B, persons in certain institutional settings, e.g., inmates of long-term correctional facilities.

ACIP, Advisory Committee on Immunization Practices.
Universal Hepatitis B Vaccination Recommended in Adults

Updated policy simplifies hepatitis B vaccine recommendations in adults\textsuperscript{1,2}

- All adults aged 19–59 years \textbf{should} receive hepatitis B vaccination
- Adults aged ≥60 years with risk factors for hepatitis B \textbf{should} receive hepatitis B vaccination
- Adults aged ≥60 years without known risk factors for hepatitis B \textbf{may} receive hepatitis B vaccination

“Removing the risk factor assessment previously recommended to determine vaccine eligibility in this adult age group could increase vaccination coverage and decrease hepatitis B cases.”\textsuperscript{2}

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ACIP HepB Recommendation: Adults ≥60 with Risk Factors

Persons at risk for infection by sexual exposure

- Sex partners of persons testing positive for HBsAg
- Sexually active persons who are not in a long-term, mutually monogamous relationship
- Persons seeking evaluation or treatment for a sexually transmitted infection
- Men who have sex with men

Persons at risk for infection by percutaneous or mucosal exposure to blood

- Persons with current or recent injection drug use
- Household contacts of persons testing positive for HBsAg
- Residents and staff members of facilities for persons with developmental disabilities
- Health care and public safety personnel with reasonably anticipated risk for exposure to blood or blood-contaminated body fluids
- Persons on maintenance peritoneal or hemodialysis, and persons who are predialysis
- Persons with diabetes at the discretion of the treating clinician

Others

- International travelers to countries with high or intermediate levels of endemic hepatitis B virus infection (HBsAg prevalence of ≥2%)
- Persons with hepatitis C virus infection
- Persons with chronic liver disease
- Persons with HIV infection
- Persons who are incarcerated

ACIP, Advisory Committee on Immunization Practices

Clinical Guidance

- The ACIP recommendations are intended to prompt all providers to recommend HBV vaccination to adults, including offering vaccine to patients aged 60 years and older
  - In previous HBV vaccine recommendations, providers were advised to administer HBV vaccine to all patients with risk factors and those who requested it
  - The updated recommendations shift the responsibility of initiating vaccine recommendation from the patient to the provider

- Immunocompetent persons who have completed an HBV vaccine series at any point or who have a history of HBV infection should not receive HBV vaccination
  - Providers should only accept dated records as evidence of HBV vaccination
    - Electronic medical records
    - Immunization information systems (registries)
    - School records

HBV, hepatitis B virus

## Current US Licensed Hepatitis B Vaccines for Adults

**Recommended doses and schedules of hepatitis B vaccines for adults aged > 18 years, by vaccine type and age group**

<table>
<thead>
<tr>
<th>HepB vaccine/Age group, years</th>
<th>Dose (μg)</th>
<th>Volume (mL)</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recombivax HB</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–19</td>
<td>5</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>≥20</td>
<td>10</td>
<td>1</td>
<td>3 doses at 0, 1, and 6 months</td>
</tr>
<tr>
<td>Adults on hemodialysis and other immunocompromised adults aged ≥20</td>
<td>40</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Engerix-B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–19</td>
<td>10</td>
<td>0.5</td>
<td>3 doses at 0, 1, and 6 months</td>
</tr>
<tr>
<td>≥20</td>
<td>20</td>
<td>1</td>
<td>4 doses at 0, 1, 2, and 6 months</td>
</tr>
<tr>
<td>Adults on hemodialysis and other immunocompromised adults aged ≥20</td>
<td>40</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>HEPLISAV-B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥18</td>
<td>20</td>
<td>0.5</td>
<td>2 doses at 0 and 1 months</td>
</tr>
<tr>
<td><strong>Twinrix (HepA-HepB combination vaccine)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥18</td>
<td>20</td>
<td>1</td>
<td>3 doses at 0, 1, and 6 months (standard) or 4 doses at day 0, 7, 21–30, and 12 months (accelerated)</td>
</tr>
<tr>
<td><strong>PreHevbrio</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥18</td>
<td>10</td>
<td>1</td>
<td>3 doses at 0, 1, and 6 months</td>
</tr>
</tbody>
</table>

ACIP, Advisory Committee on Immunization Practices; HepA, hepatitis A; HepB, hepatitis B
Screening and Testing for Hepatitis B Virus Infection
2023 CDC Recommendations

**Universal hepatitis B virus (HBV) screening**

- HBV screening at least once during a lifetime for adults aged ≥18 years (new recommendation)
- During screening, test for hepatitis B surface antigen (HBsAg), antibody to HBsAg, and total antibody to HBcAg (total anti-HBc) (new recommendation)

**Screening pregnant persons**

- HBV screening for all pregnant persons during each pregnancy, preferably in the first trimester, regardless of vaccination status or history of testing
- Pregnant persons with a history of appropriately timed triple panel screening and without subsequent risk for exposure to HBV (i.e., no new HBV exposures since triple panel screening) only need HBsAg screening

**Risk-based testing**

- Testing for all persons with a history of increased risk for HBV infection, regardless of age, if they might have been susceptible during the period of increased risk*
- Periodic testing for susceptible persons, regardless of age, with ongoing risk for exposures, while risk for exposures persists*

*Susceptible persons include those who have never been infected with HBV and either did not complete a hepatitis B vaccine series per Advisory Committee on Immunization Practice recommendations or who are known to be vaccine nonresponders.

HBsAg, hepatitis B surface antigen; HBcAg (hepatitis B core antigen); HBV, hepatitis B virus.

Hepatitis B Screening & Vaccination Considerations for Implementing CDC Recommendations

- After the collection of blood for serologic testing, persons who have not completed a hepatitis B vaccine series should be offered vaccination per ACIP recommendations at the same visit or at an associated provider visit.
  - Blood collection before vaccination is recommended because transient HBsAg positivity has been reported for up to 18 days after vaccination.
  - Providers do not need to wait for the serologic testing results to administer the first or next dose of vaccine.

- Screening should not be a barrier to hepatitis B vaccination, especially in populations that have decreased engagement with or access to health care.
  - In settings where testing is not feasible or the patient refuses, vaccination of persons should continue according to ACIP recommendations. Serologic testing should continue to be offered at future visits.

ACIP, Advisory Committee on Immunization Practices; HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus.

What role can you play in progressing the United States toward the elimination of hepatitis B?
Your Role in Adult Hepatitis B Vaccination is Critical

**Educate**
- Ensure providers are informed about the ACIP’s adult vaccine recommendations & national elimination goals
- Increase provider awareness about removal of previous barriers such as risk assessments and patient co-pays
- Educate adult patients about the need to receive hepatitis B vaccination

**Engage stakeholders**
- Ensure IIS are up-to-date with hepatitis B vaccine forecasting and are interoperable with EHRs
- Encourage use of standing orders to streamline vaccination workflows
- Leverage the “immunization neighborhood” including immunization coalitions, pharmacies, and community partner organizations

**Track progress**
- Measure hepatitis B vaccine coverage rates in adults to establish your baseline (leverage registries, EHRs, or other sources)
- Track improvements in vaccine coverage over time
- Monitor both uptake of first dose and completion of vaccine series

ACIP, Advisory Committee on Immunization Practices; EHR, electronic health record; IIS, immunization information system.
The updated ACIP recommendations provide the unique opportunity for providers to get adults vaccinated as we continue to drive toward the goal of hepatitis B elimination.

**Summary**

- Adults are behind on routine immunizations, including hepatitis B
- The ACIP now recommends that all adults aged 19-59 receive a hepatitis B vaccine series
- Prevention is a key component of the national strategic plan to eliminate viral hepatitis by 2030
- Public health stakeholders have a critical role to play in getting adults caught up on hepatitis B vaccination

ACIP, Advisory Committee on Immunization Practices

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Questions & Answers
Upcoming Virtual Exhibit Hall Webinars

- Wednesday, April 26 at 2:00-2:30 PM ET | Novavax
- Wednesday, April 26 at 3:30-4:00 PM ET | Strategic Solutions Group
- Wednesday, May 10 at 1:00-1:30 PM ET | LogTag Recorders
- Wednesday, May 10 at 3:00-3:30 PM ET | Pfizer
- Thursday, May 11 at 1:30-2:00 PM ET | SensoScientific
- Wednesday, June 28 at 1:00-1:30 PM ET | Bavarian Nordic
Closing

• Still have questions? Submit your questions to monica_mayer@outlook.com and AIM will facilitate a response.

• Take the event evaluation that we will send at the end of the webinars. Your feedback will help us improve!

• The event recording and Vendor FAQs will be available on the AIM website

https://www.immunizationmanagers.org/corporate-alliance/virtual-exhibit-hall/