Presentation Layout

- Purpose of VH Surveillance in the US
- Surveillance Systems used to Conduct Viral Hepatitis Surveillance
- Est Prevalence of Chronic HBV among Asian Americans
- Select CDC-DVH and Grantee Publications and Reports
Viral Hepatitis Surveillance in the United States

OJECTIVE:

- Monitor incidence and prevalence infection rates
- Estimate burden of disease
- Identify outbreaks for investigation
- Assess sources of infection & monitor changes in transmission patterns
- Evaluate and guide prevention programs and policies
Surveillance Systems for Viral Hepatitis in the United States

- National Notifiable Diseases Surveillance System (NNDSS)
- Enhanced Hepatitis Surveillance
- National Vital Statistics – Cause of Death Files
- National Health and Nutrition Examination Survey (NHANES)
Viral hepatitis among > 70 conditions currently notifiable

- Acute hepatitis A, B and C
- Perinatal hepatitis B infection (1995)
- Chronic hepatitis B and Past or Present C (January 2003)

- HBV and HCV - 43 states and District of Columbia
NNDSS Data Model

Hospital, Commercial Clinical Laboratories

Health Care Providers

Local Health Departments

State Health Department

CDC
Enhanced Surveillance Data Model

Hospital, Commercial Clinical Laboratories

Health Care Providers

Local Health Departments

State Health Department

CDC

CDC
Enhanced Vital Hepatitis Surveillance

- November 2012, CDC funded seven health departments
  - Florida, Massachusetts, Michigan, New York, Washington
  - Philadelphia, San Francisco
- Vision for enhanced surveillance sites
  - Increase capacity to conduct surveillance
  - Improve data quality, completeness, and timeliness
  - Lay ground work for a national viral hepatitis registry
  - Utilize entire CDC case report form to collect enhanced data: demographic, risk factor, serologic testing, immunization status, and possible modes of infection
NHANES Data Collection

- Operated by CDC/NCHS
- Multi-stage probability sample
- Sample size ~ 5,000 to 7,000 per year
- Mobile examination centers
- Oversample of select populations
### Age-adjusted Prevalence of Chronic, 1988-2012

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample Size</td>
<td>Sample Size</td>
<td>Sample Size</td>
<td>Pvalue&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Pvalue&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
<tr>
<td>Overall</td>
<td>21,260 0.4</td>
<td>29,828 0.3</td>
<td>22,358 0.3</td>
<td>0.1753</td>
<td>0.2390</td>
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<tr>
<td>Age, years</td>
<td></td>
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<tr>
<td>6–19</td>
<td>5,679 0.2</td>
<td>12,004 0.05</td>
<td>6,344 0.03</td>
<td>0.0565</td>
<td>0.1582</td>
</tr>
<tr>
<td>20–49</td>
<td>8,857 0.4</td>
<td>9,465 0.3</td>
<td>8,118 0.4</td>
<td>0.7942</td>
<td>0.2372</td>
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<tr>
<td>≥ 50</td>
<td>6,724 0.4</td>
<td>8,359 0.4</td>
<td>7,896 0.3</td>
<td>0.4862</td>
<td>0.9564</td>
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<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian American*</td>
<td></td>
<td></td>
<td>929 3.2</td>
<td></td>
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</tbody>
</table>
## Prevalence of Chronic HBV in US Households

### Overall and Age Specific Prevalence of HVC Vaccine Immunity by selected characteristics: NHANES 1988 - 2012

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Sample Size</th>
<th>Prevalence, % (95% CI)</th>
<th>Sample Size</th>
<th>Prevalence, % (95% CI)</th>
<th>Prevalence Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>29,828</td>
<td>21.9 (21.0, 22.8)</td>
<td>22,359</td>
<td>25.2 (24.2, 26.3)</td>
<td>1.15 (1.09, 1.22)</td>
</tr>
<tr>
<td>Race and ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Asian American*</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6–19</td>
<td></td>
<td></td>
<td>929</td>
<td>35.6 (31.5, 39.9)</td>
<td></td>
</tr>
<tr>
<td>20–49</td>
<td></td>
<td></td>
<td>237</td>
<td>42.8 (36.1, 49.7)</td>
<td></td>
</tr>
<tr>
<td>? 50</td>
<td></td>
<td></td>
<td>421</td>
<td>40.3 (34.3, 46.6)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>271</td>
<td>22.6 (18.7, 27.1)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Roberts et al. HEPATOLOGY e-Published August 2015
# Reported Cases of Chronic HBV

## Table 3.4. Reported cases of chronic hepatitis B, by demographic characteristics and laboratory tests

<table>
<thead>
<tr>
<th>Category</th>
<th>Massachusetts No. (%)</th>
<th>Massachusetts No. (%)</th>
<th>Michigan No. (%)</th>
<th>New York State† No. (%)</th>
<th>Philadelphia No. (%)</th>
<th>San Francisco No. (%)</th>
<th>Washington§ No. (%)</th>
<th>Total No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no. cases</td>
<td>456</td>
<td>471</td>
<td>647</td>
<td>280</td>
<td>732</td>
<td>170</td>
<td></td>
<td>2,756</td>
</tr>
<tr>
<td>Race/ethnicity</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Asian/Pacific</td>
<td>177</td>
<td>114</td>
<td>176</td>
<td>98</td>
<td>364</td>
<td>48</td>
<td>977</td>
<td></td>
</tr>
<tr>
<td>Islander, NH</td>
<td>80</td>
<td>98</td>
<td>83</td>
<td>52</td>
<td>9</td>
<td>5</td>
<td>327</td>
<td></td>
</tr>
<tr>
<td>Black, NH</td>
<td>46</td>
<td>124</td>
<td>99</td>
<td>14</td>
<td>16</td>
<td>30</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>White, NH</td>
<td>30</td>
<td>7</td>
<td>29</td>
<td>12</td>
<td>0</td>
<td>5</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>6.6%</td>
<td>1.5%</td>
<td>4.5%</td>
<td>4.3%</td>
<td>0.0%</td>
<td>2.9%</td>
<td>3.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2013 CDC Viral Hepatitis Surveillance Summary
Select CDC VH Surveillance Publications

• Annual surveillance summaries

• Prevalence of Chronic Hepatitis B in US Households, 1988 - 2012

• Epidemiology of Acute Hepatitis B in the United States from Population-Based Surveillance, 2006-2011

• Causes of Death and Characteristics of Decedents with Viral Hepatitis, United States, 2010
The City of Philadelphia Health Department also published a report ‘Building a Plan to end Hepatitis C in Pennsylvania’. It was noted that Pennsylvania has the opportunity to make public health history by developing the first state plan to end hepatitis C in the nation.

The Division of Disease Control, Hepatitis Epidemiology Program published the ‘Hepatitis Newsletter’ which indicated that there were two major populations of Hepatitis C in Philadelphia, i.e. ‘baby boomers’ (born 1945-1965) and persons aged 19-35 years old.

In 2015, the Michigan Department of Health and Human Services (MDHHS) published 'Michigan Hepatitis C Fact Sheet'. It includes the number of substance abuse treatment admissions and the number of drug overdose deaths due to heroin, 2000-2013.

Contact Information

- Thank you for inviting me to speak with you today.
- If you need more information about viral hepatitis surveillance at the state level, please contact your state health department.
- If you desire more information about viral hepatitis surveillance at the national level, please send inquiries to:

  http://www.cdc.gov/cdc-info/requestform.html

  or to Dr. Henry Roberts at hroberts@cdc.gov