Hepatitis A Outbreak Southeast Missouri 2017-2018

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Hepatitis – inflammation of the liver

- Heavy alcohol use
- Toxins, medications, certain medical conditions
- Viruses – Hepatitis A, B, and C

Although similar symptoms, different modes of transmission and can affect the liver differently
Hepatitis A - Disease

- A discrete onset of symptoms
  - Dark “tea colored” urine
  - Clay-colored stools
  - Jaundice (yellowing of skin or eyes)
- Illness typically lasts less than two months
- Hospitalizations are common
- Rarely causes liver failure and death
  - Over 50 years of age
  - Other liver diseases

Images courtesy the CDC Image Library
Figure 2.1. Reported number of hepatitis A cases—United States, 2000–2015

Source: CDC, National Notifiable Diseases Surveillance System (NNDSS)
Reported Number of Hepatitis A Cases - Missouri, 1997-2018*

* Cases reported as of May 4, 2018
Hepatitis A – Transmission

- Person to person
  - Fecal-oral
  - Food and water
  - Bloodborne and percutaneous

- United States
  - International travel
  - Close personal contact with infected person
  - Sex among men who have sex with men
  - Behaviors associated with injection drug use
Communicable: Two weeks before through two weeks after onset of symptoms

Incubation Period: 15 – 50 days following exposure

Children less than five will not have symptoms, but still infectious
Hepatitis A - Vaccine

- Hepatitis A vaccination available in 1996
- Over 95% effective with single dose
- 100% effective with second dose

Hepatitis A Cases in U.S. 1966 – 2010*

# Hepatitis A - Vaccine

## Recommended for:
- All children at age one year
- Persons who are at increased risk for infection
- Persons who are at increased risk for complications
- Any person wishing to obtain immunity (protection)

## Persons at increased risk:
- Travelers to countries with high rates of hepatitis A
- Family members and caregivers of recent adoptees from countries where hepatitis A is common
- Men who have sex with men
- People who use injection and non-injection drugs
- People with chronic liver diseases
- People who are treated with clotting-factor concentrates
- People who work with hepatitis A infected animals or in a hepatitis A research laboratory
Hepatitis A – Post Exposure Prophylaxis*

- Must be given within two weeks after exposure
- Single-antigen Hepatitis A Vaccine*
  - Healthy persons aged 12 months – 40 years
- Immune globulin (IG)
  - Children aged <12 months,
  - Immunocompromised
  - Chronic liver disease
  - Allergic to the vaccine or a vaccine component

* Changes have been approved by the Advisory Committee for Immunization Practices (ACIP).
Hepatitis A Outbreaks United States

- Outbreak in several states beginning in 2016
- Primarily among persons who are homeless, persons who use injection and non-injection drugs, and their close direct contacts
- Several comorbidities
- Increase hospitalizations
- Increase in deaths
<table>
<thead>
<tr>
<th>State</th>
<th>Cases</th>
<th>Hospitalized</th>
<th>Deaths</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>828</td>
<td>665</td>
<td>26</td>
<td>August 2016</td>
</tr>
<tr>
<td>California</td>
<td>704</td>
<td>461</td>
<td>21</td>
<td>November 2016</td>
</tr>
<tr>
<td>Kentucky</td>
<td>448</td>
<td>315</td>
<td>4</td>
<td>August 2017</td>
</tr>
<tr>
<td>Utah</td>
<td>235</td>
<td>125</td>
<td>2</td>
<td>January 2017</td>
</tr>
<tr>
<td>Missouri</td>
<td>104</td>
<td>47</td>
<td>0</td>
<td>September 2017</td>
</tr>
<tr>
<td>Indiana</td>
<td>91</td>
<td>44</td>
<td>0</td>
<td>November 2017</td>
</tr>
<tr>
<td>West Virginia</td>
<td>54</td>
<td>37</td>
<td>0</td>
<td>March 2018</td>
</tr>
</tbody>
</table>
Hepatitis A Outbreak Southeast Missouri*

- 104 cases reported since September 2017
- Eight counties in Southeast Missouri
- Median age 37 years, range (14 – 68 years)
- 45% hospitalized
- 22% reported comorbidities
- 63% report using or tested positive for illicit drugs

* Data as of May 4, 2018.
Hepatitis A Outbreak-Associated Cases by County of Residence in Missouri, 2017-2018*

<table>
<thead>
<tr>
<th>County</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUTLER</td>
<td>79</td>
</tr>
<tr>
<td>STODDARD</td>
<td>15</td>
</tr>
<tr>
<td>RIPLEY</td>
<td>3</td>
</tr>
<tr>
<td>DUNKLIN</td>
<td>2</td>
</tr>
<tr>
<td>SCOTT</td>
<td>2</td>
</tr>
<tr>
<td>NEW MADRID</td>
<td>1</td>
</tr>
<tr>
<td>SHANNON</td>
<td>1</td>
</tr>
<tr>
<td>WAYNE</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>104</strong></td>
</tr>
</tbody>
</table>

* Cases reported as of May 4, 2018.
Outbreak cases (last six months) are more than reported statewide in prior six years combined

Most cases reported in single year since 2000

If the outbreak continues at current pace or expands, cases could exceed those observed in the mid-1990’s prior to the availability of vaccine
Public Health Challenges

- Confirm the case
  - Symptoms and symptom onset dates
  - Laboratory results (serology – IgM)

- Prompt interview of case
  - Identify close contacts
  - Identify high risk settings
  - Recommend prevention (good handwashing, etc.)

- Prophylaxis of close contacts
  - Hepatitis A vaccine
  - IG

- Public Messaging
Hepatitis A Case in a Food Handler

- Prompt investigation
- Collaboration of disease investigators and/or nursing, and environmental public health specialists
- Vaccinate all co-workers at food establishment
- Determine the risk to the public
- Public announcement and vaccine clinic
  - Symptoms of case
  - Foods handled and prevention measures
  - Timing of the report
“An observation: anything that can go wrong will go wrong” - Merriam-Webster Dictionary
Thank You!

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