Overview

- Epidemiology of hepatitis A
- Hepatitis A vaccine recommendations
- DOH Hepatitis A Workgroup
- Vaccine availability

National Association of County and City Health Officials recorded webinar
Background

• Hepatitis A virus infection is a notifiable condition in Washington

• Local health jurisdictions interview cases to:
  • Determine risk factors for exposure due to reduced hygiene: travel (food, water), childcare, food handler, oral-anal sex, homelessness, drug use, shellfish exposed to sewage
  • Identify and protect exposed contacts: household, sexual, food handling
National Perspective
WA Perspective

- Decrease since peak of 3,273 cases in 1989
  - Childcare outbreaks, periodic restaurant exposures during peak years
- Recently ~30-50 cases and 0-1 deaths yearly
- International travel remains a major risk
- 31 cases reported in 2016, 23 cases in 2017
  - None associated with homelessness or with known outbreaks
Outbreaks Starting 2016

- Increased cases in California, Colorado, Kentucky, Michigan, New York City, Utah
- Different virus strains in Southwest and Michigan
- Populations involved in outbreaks:
  - Homeless persons (CA, KY, MI, UT)
  - Persons who use illegal drugs (CA, KY, MI, UT)
  - Persons co-infected with hepatitis B or hepatitis C (UT)
  - Men who have sex with men (CO, MI, NYC)
  - Sex trade (MI)
  - Close contacts of cases (all)
- Affected food handlers in restaurants
## Outbreaks Starting 2016

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>Hospitalized</th>
<th>Deaths</th>
<th>WA equivalent* cases/deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego</td>
<td>577</td>
<td>396</td>
<td>20</td>
<td>3028 cases, 104 deaths</td>
</tr>
<tr>
<td>Santa Cruz County</td>
<td>76</td>
<td>33</td>
<td>1</td>
<td>2052 cases, 27 deaths</td>
</tr>
<tr>
<td>Utah</td>
<td>124</td>
<td>68</td>
<td>0</td>
<td>295 cases, 0 deaths</td>
</tr>
<tr>
<td>Michigan</td>
<td>658</td>
<td>539</td>
<td>22</td>
<td>493 cases, 16 deaths</td>
</tr>
</tbody>
</table>

* Cases as of 1/8/2018; rates in initial location extrapolated to Washington’s population
Outbreak Response 2016

• Expand vaccination outreach including teams vaccinating on site (sidewalks) and mass clinics
• Expand hepatitis A vaccination to homeless and those providing them services (sanitation, public safety, shelters, healthcare)
• Expand hepatitis B vaccination of persons who inject drugs to reduce severe disease
• Wash fecally-contaminated sites with bleach
• Expand toilet and hand wash station access
• Provide education and sanitary kits
• Extend hospitalizations to prevent transmission
• Identify contacts for prophylaxis
ACIP Hepatitis A Vaccine Recommendations*

- All children
- Travelers to countries with high rates of hepatitis A
- Family members or caregivers of recent adoptees from countries where hepatitis A is common
- Men who have sexual contact with other men
- People using illicit drugs (injection, non-injection)
- People with chronic liver diseases, such as chronic hepatitis B or hepatitis C infection
- People being treated with clotting-factor concentrates
- People who do research with hepatitis A virus
- Any person wishing to be immune

*People living homeless not currently recommended for routine hepatitis A vaccine
CDC Interim Outbreak Hep A Vaccine Guidance

• Provide hep A vaccine to people who are homeless, use illegal drugs, and others with risk factors who are not yet immunized
• Consider hep A vaccination for anyone with ongoing, close contact with people who are homeless or who use illegal drugs
• Post exposure prophylaxis (PEP)
  • Recommended for unvaccinated people exposed to hep A virus in last 2 weeks
  • Hepatitis A vaccine for healthy people 12 months-40 years
  • IG (hep A immunoglobulin) for healthy people >40 years
  • IG for children <12 months, immunocompromised, chronic liver disease, and people for whom vaccine is contraindicated
  • If IG not available, use hep A vaccine
  • Those with evidence of previous vaccination do not require PEP

References
• CDC Hepatitis A IG Recommendations
• WA Hepatitis A Reporting and Surveillance Guidelines
Hepatitis A Workgroup

• Goal
  • Establish a coordinated effort to address informational and educational needs of local and tribal health, healthcare providers, social service providers, food service establishments, and others

• Cross agency workgroup established, including representatives from:
  • Communicable Disease Epidemiology
  • Infectious Disease
  • Immunization and Child Profile
  • Environmental Public Health
  • Communications
Workgroup Accomplishments

• LHJ Assessment Survey
• Questions included:
  • Jurisdiction
  • Name and Role
  • Specific concerns for potential hepatitis A infections in your jurisdiction
  • Actions planned to prevent the spread of hepatitis A in your jurisdiction
  • Support or resources from the Department of Health
  • Do you have information on insurance status for people living homeless, or other high-risk populations in your jurisdiction
  • If we can provide hepatitis A vaccine, and/or Twinrix (combination hepatitis A and B vaccine) for preventive vaccination efforts during the next three months:
    • How many doses do you estimate needing?
    • How would you distribute these doses?
    • What populations would you target?
Workgroup Accomplishments

- Outreach
  - Food safety
  - Needle exchange programs
- Materials
  - Fact sheets
  - Hepatitis A guidelines

Hepatitis A
HEALTH WARNING FOR PEOPLE LIVING HOMELESS

WHAT IS HEPATITIS A?
Hepatitis A (Hep A) is a virus that spreads easily. Many people don’t know that they have Hep A so they spread it without knowing. It can cause severe liver disease that can last for months. Sometimes people die from Hep A, Hep A has been spreading in people living homeless in the U.S.

HOW DOES IT SPREAD?
Hep A is in the poop of someone with Hep A. If they haven’t washed their hands after using the toilet, tiny bits of poop can get on things they touch. Hep A spreads from:

- Touching objects or eating food that someone with Hep A handled
- Having sex with someone who has Hep A
- Sharing needles, pipes, or other items to take drugs

HOW CAN YOU PREVENT HEP A?

Wash your hands with soap and water after using the toilet, and before you cook or eat! Soap and water work best, but if they aren’t available, use alcohol-based hand gel.

- Don’t share food, drinks, needles, or smokes with other people.
- Don’t have sex with someone who has Hep A.
- Use your own towels, toothbrush and utensils.
- Get 2 shots of Hep A vaccine.
State Supplied Adult Vaccine

• ~$1.2M from CDC to purchase vaccine for uninsured/underinsured adults and/or outbreak response

• Federal fiscal year runs October – September.
  • Prioritize funding for vaccine outbreak response
  • Use remaining available for adult vaccine program purchase by September

• Current FFY 2018 Vaccine Budget specific for uninsured adults & outbreaks is $1.26M
CDC Communication

- Adult hepatitis A vaccine purchased through CDC contracts is limited.
- Allocation is due to limited amount of hepatitis A vaccine on the CDC adult vaccine contract.
- These constraints do not apply to the pediatric Hepatitis A vaccine supply in the US.
- More vaccine can be requested if we have an outbreak.
CDC Communication

- US-licensed manufacturers of adult Hepatitis A vaccine are exploring options to increase domestic supply and are working collaboratively with CDC to monitor and manage vaccine orders to make the best use of supplies of adult Hepatitis A vaccine during this period of unexpected increased demand.

- Twinrix is available.
Hepatitis A Vaccine Options

- Hepatitis A (on allocation)
  - VAQTA and Havrix
- Hepatitis A and B (available and not on allocation)
  - Twinrix

<table>
<thead>
<tr>
<th>Brand</th>
<th>NDC</th>
<th>NDC Description</th>
<th>Total Allocated Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAQTA</td>
<td>00006-4096-02</td>
<td>HEP A (ADULT); SYR; 10-pack</td>
<td>0</td>
</tr>
<tr>
<td>VAQTA</td>
<td>00006-4841-41</td>
<td>HEP A (ADULT); SDV; 10-pack</td>
<td>0</td>
</tr>
<tr>
<td>HAV...</td>
<td>58160-0826-11</td>
<td>HEP A (ADULT); SDV; 10-pack</td>
<td>0</td>
</tr>
<tr>
<td>HAV...</td>
<td>58160-0826-52</td>
<td>HEP A (ADULT); SYR; 10-pack</td>
<td>40</td>
</tr>
</tbody>
</table>
Hepatitis A vs. Hep A+B

- Hep A vaccine (Havrix and VAQTA)
  - 2 dose series
  - For adults
    - more than 95% seroconvert after one dose
    - nearly 100% seroconvert after two doses

- Combination Hep A and B vaccine (Twinrix)
  - 3 dose series
    - Hepatitis A component = pediatric dose
    - Hepatitis B component = adult dose
14.1 Immunogenicity: Standard 0-, 1-, and 6-Month Dosing Schedule

In 11 clinical trials, sera from 1,551 healthy adults aged 17 to 70 years, including 555 male subjects and 996 female subjects, were analyzed following administration of 3 doses of TWINRIX on a 0-, 1-, and 6-month schedule. Seroconversion (defined as equal to or greater than assay cut-off depending on assay used) for antibodies against HAV was elicited in 99.9% of vaccinees, and protective antibodies (defined as ≥10 mIU/mL) against HBV surface antigen were detected in 98.5% of vaccinees, 1 month after completion of the 3-dose series (Table 2).

Table 2. Seroconversion and Seroprotection Rates in Worldwide Clinical Trials

<table>
<thead>
<tr>
<th>Dose of TWINRIX</th>
<th>n</th>
<th>% Seroconversion for Hepatitis A&lt;sup&gt;a&lt;/sup&gt;</th>
<th>% Seroprotection for Hepatitis B&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,587</td>
<td>93.8</td>
<td>30.8</td>
</tr>
<tr>
<td>2</td>
<td>1,571</td>
<td>98.8</td>
<td>78.2</td>
</tr>
<tr>
<td>3</td>
<td>1,551</td>
<td>99.9</td>
<td>98.5</td>
</tr>
</tbody>
</table>

<sup>a</sup> Anti-HAV titer ≥assay cut-off: 20 mIU/mL (HAVAB Test) or 33 mIU/mL (ENZYMUN-TEST<sup>®</sup>).

<sup>b</sup> Anti-HBsAg titer ≥10 mIU/mL (AUSAB<sup>®</sup> Test).

www.gsksource.com/pharma/content/dam/GlaxoSmithKline/US/en/Prescribing_Information/Twinrix/pdf/TWINRIX.PDF
## Hep A vs. Hep A+B

<table>
<thead>
<tr>
<th>Hepatitis A only vaccine</th>
<th>Hepatitis A + B vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 dose series</td>
<td>3 dose series</td>
</tr>
<tr>
<td>~$28.46 per dose</td>
<td>~$55.90 per dose</td>
</tr>
<tr>
<td>Adults: more than 95% seroconvert after one dose</td>
<td>Adults: Hep A component - 93.8% seroconvert after one dose</td>
</tr>
</tbody>
</table>
Next Steps

- Assess LHJ and Tribal need for adult hepatitis A vaccine for prevention efforts. Survey question:
  - If we can provide Twinrix (combination hepatitis A and B vaccine) for preventive vaccination efforts during the next three months:
    - How many doses do you estimate needing?
    - How would you distribute these doses?
    - What populations would you target?

- Briefing Paper
- Explore options for purchasing hepatitis A vaccine in private market, if funding available
Discussion Questions

• Is there still a high sense of concern or urgency in your jurisdiction in regards to hepatitis A vaccine limitations.

• Assuming we use the limited 317 funds to purchase vaccine for prevention efforts now, what priority should we place on preserving funds for other vaccine needs?
Contact Information

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- SheAnne Allen
  - Sheanne.Allen@doh.wa.gov
- Marcia Goldoft
  - Marcia.Goldoft@doh.wa.gov
Hepatitis A Efforts in Pierce County:
Preparing, Planning, and Outreach

Immunization Action Coalition of Washington
January 17, 2018
Kayla Scrivner
Tacoma-Pierce County Health Department
Preparing for Hepatitis A

Key Strategies

1. Partnerships
2. Communications Planning
3. Outreach
4. Timing
Key Partner: Medical Reserve Corps

Long history of service to homeless

- Trusted provider
- Mobile vaccines at shelters, foodbanks, events
- Activated for homeless response
- Can mobilize quickly
Public Health Partnerships

Epidemiology
  • Relationships with medical providers, IPs

Public Health Consultant Program
  • Relationships with medical providers, shelters, coalitions, community-based organizations

Environmental health
  • Food workers, sanitation
Communication Strategies

Formal Communication Plan

• Key messages for medical providers, general public, food workers vulnerable populations
• Health Advisory alerted providers
• Website material for providers and public
• Fact sheet for service providers and food workers, posters for shelters
• Blog, social media posts, news release ready
Messaging

Public health shifting toward using more graphics and plain talk

Hep A is spreading in people living homeless in the U.S.

How it spreads:
Hep A is in the poop of someone with Hep A. If they haven't washed their hands after using the toilet, the germs can spread on things they touch.

Germs from poop.
Sharing contaminated food.
Touching contaminated objects.
Sex with someone who has hep A.
Sharing drug items.

What is it?
Hep A:
- Is a virus.
- Can spread easily.
- Can cause severe liver disease.

Symptoms of Hep A:
Fatigue, fever.
Nausea, stomach pain, vomiting, no appetite, dark pee, pale poop, & diarrhea.
Jaundice (yellow skin & eyes).

Hepatitis A is more serious for people with hepatitis B, C, or HIV.
Outreach to Target Population

Persons living homeless

• Info session with stability site council leadership
• Posters and flyers

Service Providers

• Health advisory and health alert issued
• Presentation at Homeless Coalition
• Provider resource site webpage
• Public health consultant visits to all shelters
Questions
HEPATITIS A

• Serious liver disease caused by hepatitis A virus (HAV)
• Spread from person to person through contact with feces (e.g., food, water or objects contaminated with HAV)
• Symptoms:
  • fever, fatigue, loss of appetite, nausea, vomiting, joint pain
  • severe stomach pains and diarrhea
  • jaundice
• Symptoms appear 2-6 weeks after exposure and usually last <2 months
• An infected person can spread HAV without having symptoms
• Can cause liver failure and death (rare)
HEPATITIS A RISK FACTORS

- International travel
- Food/waterborne outbreak
- Men who have sex with men
- Injection drug use
- Sexual/household contact with hepatitis A-infected person
- Child/employee in a daycare center
- Contact with a daycare child or employee
- Other contact with hepatitis A patient
HEPATITIS A VACCINES

- Inactivated
- Administered on a 2-dose (monovalent) or 3-4 dose (in combination with HBV) schedule
- Universal childhood vaccination - 2006
- Vaccination recommended for certain groups:
  - All children at age 1 year
  - Travelers to countries where Hepatitis A is common
  - Family and caregivers of adoptees from countries where Hepatitis A is common
  - Men who have sexual encounters with other men
  - Users of recreational drugs
  - People with chronic or long-term liver disease
  - People with clotting-factor disorders
HEPATITIS A OUTBREAKS, 2017-18

HOMELESSNESS IN KING COUNTY

Over 11,600 people living as homeless
- Sanctioned encampments
- Unsheltered in cars, street or unsanctioned encampments
- Shelters or housing run by non-profits
HOMELESSNESS IN KING COUNTY

FIGURE 1. TOTAL NUMBER OF INDIVIDUALS EXPERIENCING HOMELESSNESS

<table>
<thead>
<tr>
<th>Sheltered</th>
<th>Unsheltered</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,158</td>
<td>5,485</td>
</tr>
<tr>
<td>(53%)</td>
<td>(47%)</td>
</tr>
</tbody>
</table>

- **Emergency Shelter**: 3,491 (30%)
- **Transitional Housing or Safe Haven**: 2,667 (23%)
- **On the Street**: 1,486 (13%)
- **Abandoned Buildings**: 138 (1%)
- **Vans/ Cars/ RVs**: 2,314 (20%)
- **Tents**: 1,547 (13%)

Source: Applied Survey Research. (2017). Seattle/King County Count Us In. Includes data collected from the following count components: General Street Count, Youth and Young Adult Count, Count Us In Survey, Sheltered Count. For more information on the methodology, please see Appendix 1.
SANCTIONED ENCAMPMENTS

6 sanctioned encampments
• Othello Village
• Interbay – Tent City 5
• Camp Second Chance
• Tent City 3
• Licton Springs Village
• Ballard Nickelsville

http://homelessness.seattle.gov/
HEPATITIS A ACTION PLAN

OBJECTIVES

• Monitor disease surveillance and assess impacts to community, healthcare system, and at-risk populations
• Develop and distribute public, provider and partner messaging to prevent the spread of disease
• Increase immunization rates in at-risk populations
• Improve environmental conditions at sanctioned encampments

Public Health
Seattle & King County
DISEASE SURVEILLANCE

- Conduct surveillance to investigate and identify suspect cases
- Respond to questions from health care providers and the public
- Provide technical assistance to homeless service providers and shelters
- Messaging and call triage algorithm for Washington Poison Center
HEP A RESOURCES

Hepatitis A
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HOW DOES IT SPREAD?
Hep A is in the poop of someone with Hep A. If they haven’t washed their hands after using the toilet, tiny bits of poop can get on things they touch. Hep A spreads from touching objects or eating food that someone with Hep A handled.

HOW CAN YOU PREVENT HEP A?

- Wash your hands with soap and water after using the toilet, and before you cook or eat. Scap and water work best, but if they aren’t available...
- Don’t share food, drinks, needles, or smokes with other people.
- Don’t have sex with someone who has Hep A.
- Sharing needles, pipes, or other items to take drugs.
- Having sex with someone who has Hep A.
- Touching objects or eating food that someone with Hep A handled.

KEEP ENCAMPMENTS SAFE & CLEAN

Encampment Operators must provide adequate sanitation and hygiene facilities:
- Make handwashing accessible and easy to food prep areas and toilets.
- Always stock handwashing stations with soap and water. Soap and water work best, but if not available, provide 70% alcohol hand gel.
- Encourage handwashing among residents, especially before eating and after using the toilet.
- Clean toilet bowls multiple times a week.
- Stock trash, paper, and cleaning supplies (gloves, bleach or bleach wipes, garbage bags) for cleaning toilets. Ensure trash containers are available.
- Anyone with Hep A should NOT prepare or serve food.

www.kingcounty.gov/hch
HEP A RESOURCES

Communicable Disease Epidemiology
and Immunization section
415 15th Ave. SE, Suite 1700
Seattle, WA 98102
206-296-4774 Fax 206-296-4813
177 Valley St. 711
www.kingcounty.gov/hch

Health Advisory: Hepatitis A Outbreak Primarily Among Homeless Persons, San Diego, CA - 14 SEP 2017

Actions requested:

- Be aware that there is a large outbreak of hepatitis A primarily among homeless persons in San Diego, CA, and that hepatitis A outbreaks may occur among populations with close interpersonal contact including in institutional settings, in persons using illicit drugs (injection and non-injection), and MSM. Poor hygiene is also a risk factor for hepatitis A infection.
- Offer hepatitis A vaccine to persons at increased risk for infection, including people with the following risk factors:
  - Men who have sex with men
  - Travel to or residence in countries where hepatitis A is common
  - Family members or caregivers of a recent adoptee from countries where hepatitis A is common
  - People who live with someone who has hepatitis A
  - clotting-factor disorders, such as hemophilia
  - Sexual contact with someone who has hepatitis A
  - Persons with chronic liver disease
- CDC does not currently recommend routine hepatitis A vaccination for healthy persons, however, hepatitis A vaccine should be offered to anyone who wishes to reduce their risk of infection.
- Report suspected cases of hepatitis A infection to Public Health at 206-296-4774.

Background: As of 11 Sep 2017, 421 confirmed or probable HAV cases have been reported in an ongoing local outbreak in San Diego County. The cases had symptom onset between 22 Nov 2016 and 8 Sep 2017. A total of 292 (69%) of the cases have been hospitalized, and 16 patients (4%) have died. As many as 148 (36%) of the HAV cases are homeless and reported injection or non-injection illicit drug use, 71 (17%) were homeless only, 52 (12%) were illicit drug users only, 96 (23%) were neither homeless nor drug users, and 54 (13%) had an unknown status for homelessness and drug use. Of the 323 cases with test results available for review, 94 (29%) have chronic hepatitis C infection, and 17 (5%) have chronic hepatitis B infection. Despite the fact that the majority of the cases in this outbreak have had a known indication for HAV immunization, none had been fully vaccinated prior to becoming ill.

There are several clusters of epidemiologically associated cases, although no specific common food, beverage, or drug sources have been identified. Case clusters have been reported in individuals who have used the same homeless services providers and in the following locations with shared restrooms: jails, single room occupancy hotels, residential treatment facilities, group homes, and assisted living facilities. A total of 4 healthcare workers have contracted HAV in this outbreak, as have 6 food handlers, although no 20 cases have resulted from the individuals working in these sensitive occupations.

RESOURCES

Public Health nurses offer staff training, health education, and consultation to shelters, day centers, transitional housing programs, and other homeless-serving programs in King County. To request any of these services, contact Health Care for the Homeless Network at 206-263-8422.

Get assistance from Health Care for the Homeless Network staff:

- Presentation on Hep A: Covers Hep A basics, prevention, vaccination and treatment. Intended for providers who work with people who are living homeless.
- Reducing the Risk of Communicable Diseases in Settings that Serve Homeless People: Learn about Hepatitis A, B, and C; lice and scabies control; bed bugs; cold & flu season; standard (universal) precautions; skin and wound infections; food borne illness prevention; tuberculosis treatment and prevention.
VACCINATION STRATEGY

DOSES ADMINISTERED OCT – DEC 2017

- Mobile Medical Van & HCHN – 296
- Seattle/King County Clinic – 157
- Hepatitis Education Project – 71
- STD Clinic – 51
- Needle Exchange – 17
- Jail Health – 3

595 total doses administered
VACCINATION

Vaccine Inventory By Source

- State supplied
- Purchased
- Donated

- Hep A
- Hep A/B
ENVIRONMENTAL HEALTH

- Planning and management guidelines
  - Food handling
  - Garbage management
  - Rodent & pest prevention
  - Pet management
  - Sharps collection & disposal
  - General safety
  - Health & hygiene
SUCCESSES

• Early planning and preventive measures
• Strong partnerships across PHSKC teams and with City of Seattle
  HSD → coordinated response
• Ongoing communication, engagement, and commitment to mission
• Development of guidelines and resources for multiple stakeholders
CHALLENGES

- Resource constraints at all levels
- Limited Hep A vaccine supply
- Fragmented & uncoordinated outreach efforts
- Many unknowns (e.g. census information, migration patterns)
- Difficulty reaching people living in unsanctioned encampments
**NEXT STEPS**

- Coordinate with City of Seattle HSD to develop a budget proposal
- Add appendices to Environmental Health Planning & Management Guidelines for sanctioned encampments
- Explore leverage points with service providers (e.g. Seattle Public Utilities) to vaccinate people living in illegal encampments
- Create a resource (flyer) that provides guidance on caring for ill patients at shelters
QUESTIONS???

libby.page@kingcounty.gov

(206) 263-8164