Sex, Drugs and Rock ‘n Roll

Hepatitis B

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Objectives

1. Describe the epidemiology of hepatitis B in West Virginia

2. Review hepatitis B investigation and reporting in the state

3. Describe prevention and control efforts
Question?
Where did West Virginia rank in 2012 for the incidence of acute hepatitis B in the United States?

a. #10
b. #15
c. #7
d. #1

Burden of Hepatitis B Virus (HBV) Worldwide

- 2 billion people worldwide have been infected with the HBV
- 350 million people living with lifelong, chronic infection
- HBV causes 80% of hepatocellular carcinomas
Burden of HBV in the U.S.

- 800,000 to 1.4 million people living chronic hepatitis B

- 3,000 liver disease deaths associated with viral hepatitis each year
Burden of Acute Hepatitis B in West Virginia

• From 1997 to 2012 there has been a 700% increase in acute hepatitis B cases

• 8 times the national incidence
Hepatitis B Virus

• A partially double stranded DNA virus that lives in the liver cells and causes inflammation
• Highly infectious
  • 100x more infectious than HIV
  • 10x more infectious than hepatitis C
• Environmentally stable
  • Viable up to 7 days on a surface at room temperature
Hepatitis B Epidemiology

• **Reservoir:** Humans

• **Transmission:** Blood & body fluids

• **Communicability:**
  – 1-2 months before and after onset
  – chronic carriers - indefinitely
Clinical Features

• **Incubation Period:** 45 days to 180 days
  – Average 90 days

• **50%** of adults with acute infection are asymptomatic

• **Symptoms:** malaise, anorexia, nausea, vomiting, right upper quadrant pain, fever, headache, myalgia, dark urine, jaundice
How is HBV Transmitted?

- Percutaneous or mucosal contact, including
  - Unprotected sex
  - Sharing drug paraphernalia
  - Birth to an infected mother
  - Living in a household with an infected person
    - Sharing items such as toothbrushes or razors with an infected person
  - Unsterilized needles, including tattoo or piercing needles
Estimates of HBV Infectivity

- CSF
- Urine
- Breast Milk
- Saliva
- Semen
- Vaginal Secretions
- Blood

Infectivity:

Lowest ➔ Infectivity ➔ Highest
Reporting & Investigation
WV Reportable Disease Rule

• Hepatitis B is in category II under the WV Reportable Disease Rule (64 CSR-7)

• All acute or chronic cases must be reported to the local health department within 24 hours
Investigation

• Who?
• What?
• Why?
• How?
Number of Acute Hepatitis B Cases by Year of Onset — West Virginia, 2007-2012 (N=581)
Percent of Acute Hepatitis B Cases by Gender — West Virginia, 2007-2012 (N=581)

- Male: 60%
- Female: 40%
Incidence* of Acute Hepatitis B Cases by Age Group — West Virginia, 2007-2012 (N=581)

*U.S. Census 2010 data used for calculations: http://quickfacts.census.gov/qfd/states/54000.html

**There were no reported cases of acute hepatitis B in WV, younger than age 15, between 2007-2012.
Question?

What is the most common risk factor/exposure reported by people with acute hepatitis B infection in West Virginia?

a. Incarcerated > 24 hours
b. Used street drugs
c. Multiple sexual partners
d. Injection drug use
Top 6 Risk Factors* Reported Among Acute Hepatitis B Cases — West Virginia, 2007-2012 (N=581)

*Patient can report more than one risk factor.
Drug Overdose Mortality in WV

• 2010, Drug Overdose Mortality:
  
  – Highest mortality rate in the United States
  
  – Rate increased 605% from 4.1 per 100,000 in 1999 to 28.9 in 2010

Source: http://healthyamericans.org/reports/drugabuse2013/
Incidence of Acute Hepatitis B, Selected Counties — West Virginia, 2007-2012 (n=76)
Incidence of Acute Hepatitis B — West Virginia, 2012

Harrison: 15.9
Mason: 32.9
Mingo: 59.6
Wyoming: 22.6
McDowell: 16.8

Rate per 100,000

Rates Legend:
- 0.0 - 5.1
- 5.2 - 8.1
- 8.2 - 10.9
- 11.0 - 17.2
- 17.3 - 42.8
Challenges to Conducting an Investigation

• Passive surveillance
• Patients can be difficult to locate
• Sensitive information
• Limited public health resources
• Cooperation of providers
Preventing Perinatal Transmission
Risk of Chronic HBV Infection by Age of Infection

Preventing Perinatal HBV Transmission

• Universal screening of pregnant women
• Case management of HBsAg positive mothers and their infants
• Post exposure prophylaxis for infants born to infected mothers
• Routine vaccination of all infants with the Hepatitis B vaccine series
Prevention & Control Efforts
Resources Available through the State Health Department

• Hepatitis B Epidemiologist
• Free hepatitis testing through OLS for contacts of cases
• Post exposure prophylaxis and vaccine for contacts
• Hepatitis B Perinatal Coordinator
• Disease Intervention Specialists
• Hepatitis Prevention Coordinator
Incidence of Acute Hepatitis B, Mercer County — West Virginia, 2007-2012 (n=77)
Hepatitis B Pilot Project

• Two year project that began in 2012
• Currently in 14 counties with a high incidence of acute hepatitis B
• Is being expanded to 3 additional counties
• Provides hepatitis B vaccine to adults who are considered to be high risk
• Local health departments are working through
  – Correctional facilities
  – Substance abuse treatment facilities
Key Messages

• Hepatitis B is a reportable condition

• West Virginia continually ranks #1 for the highest rate of hepatitis B in the nation

• Hepatitis B is a vaccine preventable disease

• Prevention and control efforts are a joint effort