EPI-LOG

**Communicable Disease and Epidemiology News**
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## Partners in Disease Control and Prevention

Public Health investigates over 4,500 reports of communicable disease in King County residents each year. Health care provider reporting of notifiable diseases is the foundation of public health surveillance and disease control activities. Most health care providers should be familiar with the Washington Administrative Code (WAC) that describes the disease reporting roles and responsibilities for health care providers and laboratories, but did you know that the law also requires healthcare facilities to "provide adequate and understandable instruction in disease control measures to each patient diagnosed with a case of a communicable disease, *and to contacts who may have been exposed to the disease*"? (Chapter 246-101-305 WAC).

Consider the following scenario:
A 25-year-old woman presents at a King County emergency department complaining of fever, malaise, nausea, and jaundice lasting one week. She reports that she had been on a two-week trip to Mexico a little over a month ago. The provider immediately suspects acute hepatitis A (an immediately notifiable condition), orders appropriate testing (including a hepatitis A IgM, necessary for diagnosis of acute hepatitis A),and the patient is discharged to home. One week later, Public Health receives the positive hepatic A IgM report from the lab. Upon investigation, we learn that the patient works as a food handler at a busy, local restaurant, and worked while infectious. She also cooks regularly for several housemates. The clinician who saw the patient did not ask about her occupation, nor was she informed about precautions to prevent transmission to others, such as not preparing food for others while potentially contagious.

This example illustrates missed opportunities for clinicians to optimally manage common communicable diseases of public health significance. **It is important to obtain a thorough travel, work, and social history from cases with communicable diseases of public health significance, to identify contacts at high risk for infection, as well as possible causal exposures.** Whenever possible, as described in the WAC, health care providers should identify at-risk contacts of their patients diagnosed with notifiable diseases and provide counseling and post-exposure prophylaxis (PEP) when indicated. This is best done when the contacts are on-site, as referring patients that are already at one facility to other health care providers or facilities for PEP can result in poor compliance and lost follow-up. If at-risk contacts are not immediately available, recording their names and contact information and reporting this information to Public Health will help facilitate the investigation and follow-up.

For a list of notifiable conditions and information on how to report, please see:
www.metrokc.gov/health/providers/epidemiology/reporting.htm
For more information on the Washington Administrative Code, please see:
www.apps.leg.wa.gov/WAC/default.aspx?cite=246

## A Missed Opportunity to Prevent Perinatal Hepatitis B Infection

The following is a case study of an infant who failed to receive appropriate treatment at birth, and was infected with hepatitis B virus (HBV). This case illustrates the importance of establishing polices and procedures for the prevention of HBV infection among infants in King County.

Case study:
The infant's mother was known to have a chronic hepatitis B infection (HBsAg positive, HBeAg status unknown) before delivery. She received little or no prenatal care, and delivered her infant 6 weeks prematurely at a King County hospital. The child was transferred to the NICU, and required immediate surgery. Public Health's Perinatal Hepatitis B Prevention Program (PHBPP) learned of the case approximately 6 weeks later during a routine call to the hospital around the time of the expected date of delivery to assure that PEP had been given (Hepatitis B surface antigen-positive pregnant women are reportable within 3 work days to Public Health, and we routinely follow-up on the infants of HBV-infected mothers).

During a chart review it was discovered that there were standing orders to administer PEP at birth for infants born to HBV-positive mothers, but for this patient the orders were not transferred to the NICU, and were ***not*** carried out. Upon realizing the error when the PHBPP program called, the infant was promptly given the first dose of hepatitis B vaccine. This was 6 weeks after birth.

Hepatitis B Immune Globulin (HBIG) administration is also recommended as soon as possible after birth to an infected mother, but has no benefit if not given within 7 days after birth. The infant received the second and third doses of the HBV vaccine series on time. However, post-vaccination testing at age 9 months showed that that the infant was HBsAg positive. The baby was referred to a pediatric gastroenterologist for evaluation of hepatitis B infection.

Further follow-up with the hospital revealed that the hospital had no policy or audit procedure to assure that the written and/or standing orders were carried out on infants who are admitted to the NICU directly after delivery. To address this gap, a hospital team was put in place to develop procedures to assure standing orders are followed in these instances.

For infants and children, the primary sources of HBV infection are perinatal transmission from infected mothers and horizontal transmission from infected household contacts. For a newborn infant whose mother is positive for both HBsAg and HBeAg, the risk for chronic HBV infection by age 6 months is 70% - 90% in the absence of PEP. For infants of women who are HBsAg positive but HBeAg negative, the risk for chronic infection is <10% in the absence of PEP. Hepatitis B vaccine and HBIG administered 12 - 24 hours after birth, followed by completion of a 3-dose vaccine series, has been demonstrated to be 85% - 95% effective in preventing acute and chronic HBV infection in infants born to women who are positive for both HBsAg and HBeAg.

Children who are not infected at birth remain at long-term risk for horizontal transmission from their infected mothers (and possibly other family members). In one study, 38% of infants who were born to HBsAg-positive mothers and who were not infected perinatally, became infected by age 4 years. In addition, children living with any chronically infected persons are at risk for becoming infected through percutaneous or mucosal exposures to blood or infectious body fluids (e.g., sharing a toothbrush, contact with exudates from dermatologic lesions, contact with HBsAg-contaminated surfaces). HBV transmission rates to susceptible household contacts of chronically infected persons have varied (range: 14% - 60%).

Take home messages:
Health care facilities with obstetrical and labor and delivery services should review their policies and procedures regarding the prevention of perinatal hepatitis B infection to ensure:

- Timely testing and reporting of HBsAg-positive mothers
- Standing orders for the administration of post-exposure prophylaxis to infants delivered to HBsAg-positive mothers
- Administration of the birth dose of hepatitis B vaccine to all newborns before discharge

For additional information on the prevention of perinatal hepatitis B infection and the management of pregnant women, please see:
www.cdc.gov/mmwr/preview/mmwrhtml/rr5416a1.htm?s_cid=rr5416a1_e

## West Nile Virus Monthly Update

As of August 28, 2007, there have been no human cases of West Nile Virus (WNV) in Washington State, however, four horses have tested positive in Yakima County, while no birds or mosquito pools have tested positive. Elsewhere in the U.S. there have been 741 human WNV cases reported, including cases from California (147) and Idaho (24). In Oregon, WNV has been identified in 11 humans, 33 birds, 5 horses, 1 dog, and 28 mosquito pools. For more information on WNV activity in the U.S., please see:

www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm

Clinicians should consider WNV in the differential diagnosis of all patients with meningitis and/or encephalitis of unknown etiology during mosquito season, particularly in elderly patients presenting with weakness or acute flaccid paralysis or presumed Guillain-Barré syndrome.

For more WNV information on diagnosis and testing, and other resources, please see:
www.metrokc.gov/health/providers/wnv-clinicians.htm

**Disease Reporting**

AIDS/HIV ..... (206) 296-4645
STDs..... (206) 744-3954
TB ..... (206) 744-4579
All Other Notifiable Communicable Diseases (24 hours a day)..... ..... (206) 296-4774
Automated reporting line for conditions not immediately notifiable ..... (206) 296-4782

**Hotlines**

Communicable Disease..... (206) 296-4949
HIV/STD ..... (206) 205-STDS

**Public Health-Seattle & King County**

**Online Resources**

**Home Page:** www.metrokc.gov/health/
**The *EPI-LOG***: www.metrokc.gov/health/providers
**Communicable Disease listserv (PHSKC INFO-X) at:**
mailman.u.washington.edu/mailman/listinfo/phskc-info-x

**West Nile Virus Updates and Current Testing Guidelines:**
www.metrokc.gov/health/westnile/advisories.htm

**Reported Cases of Selected Diseases, Seattle & King County 2007**

| | Cases Reported in July | | Cases Reported Through July | |
|---|---|---|---|---|
| | 2007 | 2006 | 2007 | 2006 |
| **Campylobacteriosis** | 26 | 31 | 124 | 1503 |
| **Cryptosporidiosis** | 3 | 5 | 17 | 20 |
| **Chlamydial infections** | 448 | 325 | 3154 | 2950 |
| **Enterohemorrhagic *E. coli* (non-O157)** | 1 | 1 | 3 | 2 |
| ***E. coli* O157: H7** | 3 | 13 | 11 | 23 |
| **Giardiasis** | 14 | 9 | 83 | 65 |
| **Gonorrhea** | 114 | 136 | 884 | 1133 |
| ***Haemophilus influenzae* (cases <6 years of age)** | 0 | 0 | 2 | 2 |
| **Hepatitis A** | 2 | 1 | 7 | 9 |
| **Hepatitis B (acute)** | 1 | 1 | 15 | 9 |
| **Hepatitis B (chronic)** | 66 | 71 | 479 | 478 |
| **Hepatitis C (acute)** | 0 | 1 | 4 | 5 |
| **Hepatitis C (chronic, confirmed/probable)** | 101 | 122 | 772 | 875 |
| **Hepatitis C (chronic, possible)** | 18 | 20 | 193 | 166 |
| **Herpes, genital (primary)** | 42 | 51 | 385 | 459 |
| **HIV and AIDS (including simultaneous diagnoses with AIDS)** | 6 | 41 | 194 | 127 |
| **Measles** | 0 | 0 | 1 | 0 |
| **Meningococcal Disease** | 0 | 0 | 4 | 5 |
| **Mumps** | 0 | 0 | 4 | 2 |
| **Pertussis** | 8 | 8 | 43 | 73 |
| **Rubella** | 0 | 0 | 0 | 0 |
| **Rubella, congenital** | 0 | 0 | 0 | 0 |
| **Salmonellosis** | 30 | 16 | 151 | 100 |
| **Shigellosis** | 6 | 5 | 33 | 23 |
| **Syphilis** | 14 | 18 | 85 | 135 |
| **Syphilis, congenital** | 0 | 0 | 0 | 0 |
| **Syphilis, late** | 5 | 7 | 39 | 43 |
| **Tuberculosis** | 13 | 12 | 84 | 69 |

**Due to reporting and counting delays, the number of cases listed may not reflect actual case burden during the month.

The *EPI-LOG* is available in alternate formats upon request.