HEPATITIS B

Clinical Features: Acute hepatitis B is an acute illness characterized by anorexia, abdominal discomfort, nausea and vomiting. Jaundice is present in <10% of children and <50% of adults. A low-grade fever, rash, and joint pain may also be present. Chronic hepatitis B illness may or may not demonstrate symptoms of hepatic inflammation. Only about one third of patients have elevated aminotransferase levels, which may fluctuate with intermittent exacerbations of hepatic inflammation. Chronic cases may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer.

Causative Agent: Hepatitis B virus

Mode of Transmission: Transmission occurs via percutaneous or permucaosal exposure: i.e. (1) infected blood or body fluids introduced at birth, (2) through sexual contact, or (3) by contaminated needles. Blood (and serum-derived fluids), saliva, semen, and vaginal fluids have been shown to be infectious. The likelihood of transmission is greater if the *e* antigen or viral DNA is present in an individual's blood.

Incubation Period: 45 to 180 days (average 60 to 90 days)

Period of Communicability: All persons who are hepatits B surface antigen (HbsAg) positive are potentially infectious; some individuals may clear the surface antigen from their blood, while others may not.

Public Health Significance: According to CDC, both acute and chronic hepatitis B cases are major causes of morbidity and mortality in the US. However, transmission of hepatitis B can be interrupted by vaccination and early identification of cases and their contacts. Timely identification of susceptible contacts of hepatitis B cases allows for effective post-exposure prophylaxis. Timely post-exposure prophylaxis is highly effective in preventing hepatitis B transmission from mother to infant. For this reason, all pregnant mothers are required to be tested for hepatitis B during pregnancy.

Routine hepatitis B vaccine is recommended for all children at birth, 1-2 and 6-18 months of age or, if not previously received, at 11-12 years of age. Hepatitis B vaccine is also recommended for persons in the following high risk groups: persons with occupational risk, clients and staff of institutions for the developmentally disabled; hemodialysis patients; recipients of certain blood products; household and sexual partners of HBsAg carriers; international travelers visiting high prevalence areas; injecting drug users; sexually active persons with multiple partners; and inmates of long-term facilities.

Reportable Disease in Kansas Since: 1982

ACUTE HEPATITIS B

Clinical Criteria

- An acute illness with a) discrete onset of symptoms and b) jaundice or elevated serum aminotransferase levels

Laboratory Criteria for Surveillance Purposes

- IgM antibody to hepatitis B core antigen (anti-HBc) positive or hepatitis B surface antigen (HBsAg) positive, ***AND***
- IgM anti-HAV negative (if done)

Surveillance Case Definitions

- *Confirmed:* a case that meets the clinical case definition and is laboratory confirmed

Epidemiology and Trends

2005 Kansas Count: 32

	Rate per 100,000	*95% CI*
Kansas Rate	1.2	(0.8 – 1.6)
U.S. Rate (2004)	2.1	*NA*

In 2005, 32 acute cases of hepatitis B were reported in Kansas, an increase of 14 cases compared to the previous year. The three-year median for 2002-2004 was 18 cases.

Cases ranged from 17 to 74 years of age; the median age was 37.5 years. The majority of cases (n=22, 69%) were residents of urban counties. Race was recorded for 26 (81%) of the cases: 23 (88%) were White, two (8%) were African-American, and one (4%) was Asian. Ethnicity was recorded for 22 (69%) of the cases: 20 (91%) were non-Hispanic and two (9%) were Hispanic.

The use of injected street drugs, a risk factor for hepatitis B, was reported by 13 (41%) of the confirmed cases.

CHRONIC HEPATITIS B

Laboratory Criteria for Surveillance Purposes

- Hepatitis B surface antigen (HBsAg) positive, total anti-HBc positive (if done) and IgM anti-HBc negative, ***OR***
- HBsAg positive two times at least 6 months apart

Surveillance Case Definitions

- *Confirmed:* A case that is laboratory confirmed

Epidemiology and Trends

2005 Kansas Count: 33

	Rate per 100,000	*95% CI*
Kansas Rate	1.2	(0.8 – 1.6)
U.S. Rate (2004)	*NA*	*NA*

Prior to 2005, prevalent cases of hepatitis B were defined as individuals that tested positive for HBsAg, HBeAg, or hepatitis B virus DNA by Positive Polymerase Chain Reaction (PCR). This was amended to reflect the 2003 CDC case definition, which states that an individual must test positive for HBsAg twice, with a minimum of six months between the tests, to be considered a confirmed case. HBeAg and PCR tests are now classified as non-confirmed cases.

In 2004, 502 prevalent cases were reported. As a result of the change in case definition, only 33 chronic cases of hepatitis B were reported during 2005.

The cases ranged from 14 to 78 years of age; the median age was 45 years. The majority of cases (n=26, 79%) were reported among residents of urban counties. Race was reported for 26 (79%) of the chronic cases: 12 (46%) were Asian, 10 (38%) were White, and four (15%) were African-American.

Hepatitis B prevalence is highly endemic in Southeast Asia, China, and the Pacific Islands (except Australia, Japan, and New Zealand). In these countries, more than 8% of the population has chronic hepatitis B. This may explain the high proportion of reported chronic hepatitis B within Asian and Pacific Islanders compared to other racial groups.