Outbreak of Hepatitis B Virus Associated with a Hematology/Oncology Practice,
Ocean County, 2009
Summary of Interim Report

This is a summary of the interim report on the 2009 investigation into acute hepatitis B virus (HBV) cases associated with a hematology/oncology practice located in Ocean County, New Jersey. Hepatitis B is a viral infection transmitted through contact with blood and body fluids of an infected individual. All suspected and confirmed cases of HBV infection must be reported within 24 hours of diagnosis to the local health department with jurisdiction over the municipality in which the patient resides.

On February 24, 2009, a gastroenterology practice reported two cases of laboratory-confirmed HBV infection to the Ocean County Health Department (OCHD). Investigation of these cases revealed that the patients did not have known risk factors for HBV infection but both had invasive procedures at the same hematology/oncology practice in Ocean County. A multidisciplinary team comprised of medical and public health professionals representing OCHD, NJDHSS and the New Jersey State Board of Medical Examiners (BME) was assembled to perform an office inspection and environmental assessment, interview staff, and review records and documents pertinent to the epidemiologic investigation. Based on the case investigations and the assessment by the multidisciplinary team and in consultation with the Centers for Disease Control and Prevention (CDC), it was determined that breaches in infection control at this practice may have placed patients at risk for transmission of bloodborne pathogens. Additionally, five cases of HBV were identified associated with the practice with no known risk factors for HBV.

On March 16, 2009, during the course of the epidemiological investigation, the investigation team became aware that the Occupational Safety and Health Administration (OSHA) had cited this practice for violations of the OSHA Bloodborne Pathogens Standard during 2002 – 2008. Invasive procedures were last performed at the offices on March 3, 2009.

On March 28, 2009, more than 2800 individuals who received care at this practice from 2006 – 2009 received notification informing them of a potential exposure to bloodborne pathogens and recommending testing for hepatitis B, hepatitis C and human immunodeficiency virus (HIV). On April 3, 2009, the matter was heard before a Committee of the BME resulting in an order temporarily suspending the license of the physician to practice medicine.

A total of 1,394 patients who received notification were tested for bloodborne pathogens. One-hundred eight (108) individuals, including the five originally-identified patients, tested positive for hepatitis B virus or antibodies in their blood. Of these 108 individuals, 19 were determined to be acute cases (recent infection) and 10 were found to be chronic (ongoing infection); these 29 cases all had invasive procedures at the practice and no other known risk factors for HBV infection. Therefore, these 29 individuals meet the outbreak case definition for confirmed (19) and probable (10) cases. Sixty-eight (68) of the 108 individuals had evidence of prior exposure to HBV and are considered possible cases since further investigation has not been completed to date. In addition, 16 patients tested positive for hepatitis C virus antibodies; a separate investigation is underway. No cases of HIV were identified.

The CDC performed DNA testing on eight patients' blood specimens to determine how similar the viruses are genetically. The analysis revealed that seven of the eight specimens have 99.9% - 100% identical genetic material; the other one sample had genetic similarities. The laboratory data suggest that these viruses share a common origin and that these cases are linked. The laboratory results support the findings of the epidemiologic investigation. The CDC was unable to perform testing on all of the patients with markers for HBV infection. The DNA testing could not be performed if blood was not forwarded from the laboratory performing the initial tests, if there was not enough blood left to test or if the virus had cleared from the blood at the time the blood was drawn from the patient.

Data obtained during this epidemiologic investigation support the conclusion that breaches in infection control lead to the ongoing patient-to-patient transmission of HBV infection among patients undergoing invasive procedures at this hematology/oncology practice. While it is not clear when the breached in infection control first occurred at his practice, citations for violations by OSHA dating back to 2002 suggest that the breaches may be long-standing. Therefore, patients who had invasive procedures performed at the practice from 2002 – 2009 are encouraged to be tested for bloodborne pathogens. Additional notification letters are being mailed.