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Perinatal Hepatitis B Prevention

Overview

Based on the success of past endeavors of hepatitis B disease reduction among both children and adults (new hepatitis B infections have declined from approximately 260,000 in the 1980s to an estimated 60,000 new infections in 2004), the Centers for Disease Control and Prevention (CDC) seeks to eliminate hepatitis B virus (HBV) transmission in the United States. However, this goal cannot be reached without assistance from the immunization grantees, especially the perinatal hepatitis B prevention coordinators.

The perinatal hepatitis B prevention program began in 1990 as part of the Vaccine and Immunization Amendments (P.L. 101-502), because Congress recognized the need to foster efforts to prevent perinatal HBV transmission and made resources available to develop and implement programs. The CDC has annually awarded funds to support perinatal hepatitis B prevention programs among the 64 immunization grantees. These programs have made great strides in the prevention of hepatitis B transmission from mothers to infants, but gaps remain in the identification of hepatitis B surface antigen (HBsAg)-positive pregnant women and their infants and in the case management of the infants and household and sexual contacts.

Several sources of data should be used to evaluate the progress of perinatal hepatitis B prevention programs, such as the CDC's expected births to HBsAg-positive women, the NIS birth dose coverage data, and grantee specific perinatal hepatitis B program data. The identification of areas for improvement in perinatal hepatitis B prevention programs will help us reach the Healthy People 2010 goal: to reduce the estimated number of perinatal infections by 76% from 1,682 to 400.

Managing a Hepatitis B Prevention Program: A Guide to Life as a Program Coordinator is a guide that has been developed and updated by the CDC. Additional guidance on how to run an effective perinatal hepatitis B prevention program can be found in this guide.

References

- CDC. [A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United State: recommendations of the Advisory Committee on Immunization Practices \(ACIP\)](#), Part 1: Immunization of Infants, Children, and Adolescents, MMWR 2005; 54(RR-16).
- Managing a Hepatitis B Prevention Program: A Guide to Life as a Program Coordinator <http://www.cdc.gov/ncidod/diseases/hepatitis/resource/perinatalhepB.htm>
- Immunization Action Coalition's Hepatitis B Birth Dose Website: <http://www.immunize.org/birthdose/>
- NIS birth dose data, <http://www.cdc.gov/nip/coverage/default.htm#chart>
- Division of Viral Hepatitis' Perinatal Hepatitis B Coordinator webpage <http://www.cdc.gov/ncidod/diseases/hepatitis/resource/perinatalhepB.htm>
- 2007 Vaccines for Children Program Operations Guide: <http://www.cdc.gov/nip/home-partners.htm#progmgrs>

- 2008-2012 Immunization Program Operations Manual (IPOM) Chapters 1, 3, 4, 8, and 9

Program Requirements

5.1 Establish a mechanism to identify all HBsAg-positive pregnant women.

Required activities

5.1a. Maintain a protocol for perinatal hepatitis B prevention based on the recommendations in the 2005 Advisory Committee on Immunization Practices (ACIP) hepatitis B statement, which includes information about the perinatal hepatitis B prevention program, the procedures for reporting HBsAg-positive pregnant women and their infants to the health department, and a description of how the health department will provide support for the management of infants born to HBsAg-positive women.

5.1b. Disseminate the protocol to local health departments, prenatal care providers, obstetrical care providers, neonatal care providers, pediatric care providers, family practitioners, delivery hospitals, and laboratories annually through some media (mailing, information in health department newsletter, inclusion on health department website, etc.).

5.1c. Educate prenatal care providers to routinely screen pregnant women for HBsAg status during each pregnancy, implement procedures for documenting HBsAg screening results in prenatal care records, and forward original laboratory results to the delivery hospital.

Performance measure: Educate prenatal care providers on the new ACIP childhood hepatitis B recommendations related to perinatal hepatitis B prevention through visits or media

Target: To be set by program, but educate all prenatal care providers on new recommendations by 2009

5.1d. Educate delivery hospitals to verify prenatal HBsAg test results of pregnant women (as indicated in ACIP statement) on admission for delivery, and test women with unknown HBsAg status and those with high risk behaviors.

Performance measure: Educate all delivery hospitals on the new ACIP childhood hepatitis B recommendations related to perinatal hepatitis B prevention

Target: To be set by program, but educate all delivery hospitals on new recommendations by 2013

5.1e. Assure delivery hospitals adopt a) written policies and procedures, and b) written standing orders for maternal HBsAg verification and testing (when appropriate) on admission for delivery.

Performance measure: Percentage of delivery hospitals with a) written policies and procedures, and b) written standing orders for maternal HBsAg verification and testing (when appropriate) on admission for delivery

Target: 100%

Recommended activities

- 5.1f. Support and assist in the drafting of laws or regulations that require prenatal care providers and birthing hospitals to ensure HBsAg status of all pregnant women is known during each pregnancy, if such laws or regulations do not exist.
- 5.1g. Support and assist in the drafting of laws or regulations that require prenatal care providers, laboratories, and hospitals to report HBsAg-positive pregnant women to the health department, if such laws or regulations do not exist.
- 5.1h. Work with state surveillance staff to identify potential HBsAg-positive pregnant women from a chronic hepatitis B registry.

5.2 Conduct case management of all identified infants at risk of acquiring perinatal hepatitis B infection which includes

- a. administration of appropriate immunoprophylaxis is administered to all infants born to HBsAg-positive women [including hepatitis B immune globulin (HBIG), hepatitis B vaccine birth dose, and complete vaccine series].**
- b. completion of post-vaccination serologic testing of all infants born to HBsAg-positive women and reporting of all HBsAg-positive infants to CDC through the National Notifiable Disease Surveillance System (NNDSS).**

Required activities

- 5.2a. Assess whether delivery hospitals have developed a) written policies and procedures, and b) written standing orders for administration of post exposure prophylaxis to infants born to HBsAg-positive and HBsAg-unknown status mothers within 12 hours of birth by conducting a hospital policy survey every five years.
Performance measure: Percentage of delivery hospitals with a) written policies and procedures, and b) written standing orders for timely and appropriate post-exposure prophylaxis to infants born to HBsAg-positive and HBsAg-unknown status mothers
Target: 100%
- 5.2b. Through case management, assure that infants born to HBsAg-positive mothers complete their hepatitis B vaccine series by 6-8 months of age if the infant is receiving single antigen or Pediarix vaccine and by 15 months of age if the infant is receiving the Comvax vaccine series.
Performance measure: Percent of infants born to HBsAg-positive mothers who complete their vaccination series by 6-8 months if the infant received single antigen or Pediarix vaccine and by 15 months if the infant received the Comvax vaccine series
Target: 90%
- 5.2c. Through case management, assure that infants born to HBsAg-positive mothers receive post-vaccination serologic testing by 9-15 months of age if the infant received single antigen or Pediarix vaccine and by 18 months of age if the infant received the Comvax vaccine series.
Performance measure: Percent of infants born to HBsAg-positive mothers who receive post-vaccination serologic testing by 9-15 months of age if the infant received single

antigen or Pediarix vaccine and by 18 months if the infant received the Comvax vaccine series

Target: 90%

5.2d. Work with state surveillance staff to ensure complete perinatal case reporting (when infants test HBsAg-positive) to CDC via NNDSS that matches information from perinatal hepatitis B case management files.

5.2e. Identify household contacts and sexual partners of HBsAg-positive pregnant women and ensure they receive the hepatitis B vaccine series, if susceptible. Annually analyze case data to monitor progress.

Performance Measure: Percentage of identified household and sexual contacts for which susceptibility status is determined

Target: 90%

Performance measure: Percentage of susceptible household and sexual contacts that complete the three dose hepatitis B vaccine series

Target: 90%

Recommended activities

5.2f. Develop and maintain a database for tracking perinatal hepatitis B cases.

5.2g. Work with other maternal child health programs [e.g., perinatal human immunodeficiency virus (HIV) prevention program, newborn metabolic screening, early hearing detection, Women, Infants, and Children (WIC) program, etc.] to integrate program assessments and improve provision of complete services to pregnant women and mothers.

5.3 Evaluate completeness of identification of HBsAg-positive pregnant women, case management, reporting of HBsAg-positive infants, and appropriate care of infants born to HBsAg-unknown status mothers based on methodology provided by CDC.

Required activities

5.3a. Conduct medical record reviews at hospitals that deliver at least 90% of your jurisdiction's birth cohort (visiting at least half of all delivery hospitals in areas where 90% of births occur in less than half of the delivery hospitals) during the current grant cycle. Hospitals that have delivered infants of HBsAg-positive women or in areas with high HBsAg prevalence rates should be prioritized (see the Guide to Life for more details on selecting samples sizes for hospital reviews). *Assess maternal and infant hospital medical records for the presence of HBsAg test results (including the test date).*

Performance measure: Percentage of hospital medical records with documented HBsAg results for the current pregnancy

Target: 100%

5.3b. Conduct medical record reviews at hospitals that deliver at least 90% of your jurisdiction's birth cohort (visiting at least half of all delivery hospitals in areas where

90% of births occur in less than half of the delivery hospitals) during the current grant cycle. Hospitals that have delivered infants of HBsAg-positive women or in areas with high HBsAg prevalence rates should be prioritized (see the Guide to Life for more details on selecting sample sizes for hospital reviews). *Assess delivery hospital records for administration of hepatitis B vaccine and HBIG within 12 hours of birth to infants born to HBsAg-positive women AND administration of hepatitis B vaccine within 12 hours of birth to infants born to HBsAg-unknown status women by assessing newborn delivery records.*

Performance measure: Percent of infants born to women with HBsAg-positive or HBsAg-unknown status that receive appropriate prophylaxis within 12 hours of birth
Target: 100%

- 5.3c. Monitor completeness of reporting of HBsAg-positive pregnant women to the appropriate health department office by prenatal care providers, delivery hospitals, and laboratories (refer to Guide to Life). Determine and address reasons for lack of reporting.

Performance measure: Percent of expected births to HBsAg-positive pregnant women reported to the health department

Target: 90%

- 5.3d. Maintain a listing of all laboratories that perform prenatal HBsAg testing (including delivery hospital laboratories) and confirm that positive HBsAg test results are being reported to the health department by these laboratories.

Performance measure: Review and update the laboratory list

Target: At least annually

- 5.3e. Conduct reporting assessments at laboratories that collectively report at least 90% of all HBsAg-positive results to the health department (see “Sample Laboratory Site Visit Report” at: <http://www.cdc.gov/hepatitis/Partners/PeriHepBCoord.htm>) during the current grant cycle (2008-2012). Be sure to include some hospital laboratories that run HBsAg assays in-house. Assessments may be accomplished by partnering with routine communicable disease laboratory reviews.

Performance measure: Percent of HBsAg-positive results reported to the health department by the laboratory

Target: 100%

- 5.3f. Measure the percentage of identified infants born to HBsAg-positive women who received their hepatitis B vaccine series and post-vaccination serologic testing on time through annual analysis of perinatal hepatitis B case management data.

Performance measure: Percent of infants born to HBsAg-positive women who receive their hepatitis B vaccine series and post-vaccination serologic testing on time

Target: 90%

- 5.3g. Measure the administration of a universal birth dose of hepatitis B vaccine by reviewing the annual NIS rates, assessing universal birth dose administration during

routine hospital record reviews, and/or analyzing the birth dose data in an immunization information system (IIS).

Performance measure: Percentage of ALL newborns receiving a birth dose of hepatitis B vaccine

Target: 90%

5.4 Develop and examine feasibility to implement a state plan to put into practice a universal reporting mechanism with documentation of maternal HBsAg test results for all births.

Required activities

5.4a. Work on a plan to establish a universal reporting mechanism (e.g., newborn metabolic screening card, electronic birth certificate, IIS) for HBsAg test results of pregnant women (indicating negative, positive, and unknown status and the test date) for all births for those states without such mechanisms.

5.4b. For states with a universal reporting mechanism, work to ensure the mechanism includes the date of the HBsAg test result.

5.5 Work with hospitals to achieve universal birth dose coverage and documentation of the birth dose in an IIS.

Required activities

5.5a. Educate delivery hospitals on the universal hepatitis B birth dose recommendation.

5.5b. Identify and address barriers to implementing birth dose policies in delivery hospitals.

5.5c. Assure that delivery hospitals develop a) written policies and procedures, and b) written standing orders for the administration of a universal birth dose.

Performance measure: Percentage of delivery hospitals with a) written policies and procedures, and b) standing orders for a universal birth dose

Target: 90%

5.5d. Encourage delivery hospitals to enroll in the Vaccines for Children (VFC) program to obtain hepatitis B vaccine at no cost for VFC-eligible children.

5.6 Additional Activities

Recommended activities

5.6a. Educate prenatal care providers about the need to perform hepatitis B risk assessment of all prenatal patients and fully vaccinate women at risk.

Performance measure: Periodically remind providers about the need to perform hepatitis B risk assessment of prenatal patients and fully vaccinate women at risk

Target: Set by individual program

- 5.6b. Educate HBsAg-positive mothers and prenatal care providers about the appropriate follow-up and medical management of the mother (see 2005 ACIP statement, section “Prevention of Perinatal HBV Infection and Management of Pregnant Women”).

This document can be found on the CDC website at:

<http://www.cdc.gov/vaccines/vac-gen/policies/ipom/downloads/chp-05-perinatal-hepb.pdf>