

Managing a Perinatal Hepatitis B Prevention Program

A Guide to Life as a Program Coordinator

**U.S. Department of Health and Human Services
Centers for Disease Control and Prevention**

April 2007

ACKNOWLEDGMENTS

The original version of this manual was published in September 1996 and was developed by a working group of perinatal hepatitis B prevention coordinators from across the United States and staff from the immunization and hepatitis divisions at the Centers for Disease Control and Prevention (CDC).

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INTRODUCTION

Thanks in part to the dedication and hard work of public health professionals across the nation, the number of new hepatitis B virus (HBV) infections in the United States has declined dramatically — from an average of 260,000 new infections per year during the 1980s to 51,000 new infections in 2005, according to estimates from the Centers for Disease Control and Prevention (CDC). Building on the success of these past endeavors, CDC seeks to eliminate HBV transmission in the United States. However, this goal cannot be reached without assistance from our public health partners, especially you — the perinatal hepatitis B prevention coordinator.

Since 1984, control of perinatal HBV infection has been a crucial part of the Advisory Committee on Immunization Practices (ACIP)'s evolving hepatitis B immunization strategy. In 1984, the ACIP recommended hepatitis B surface antigen (HBsAg) screening for pregnant women in groups at high risk for acquiring HBV infection and postexposure immunoprophylaxis for all infants born to HBsAg-positive women. Recognizing that this approach missed many HBV-infected pregnant women, the ACIP subsequently recommended routine screening of all pregnant women for HBsAg in 1988. In 1991, the ACIP provided guidance to clinicians and local prevention programs by publishing a comprehensive strategy to eliminate HBV transmission in the United States that included a recommendation for universal hepatitis B vaccination of infants. Subsequent recommendations included routine vaccination of all adolescents aged <19 years to more rapidly reduce the incidence of disease.

To date, most of these immunization recommendations have been implemented. Hepatitis B vaccination has been successfully integrated into the childhood vaccination schedule, and infant vaccination coverage levels are now equivalent to those of other vaccines in the childhood schedule. As of 2005, nearly 93% of children aged 19–35 months had been fully immunized with three doses of hepatitis B vaccine. Part of this success can be attributed to the established infrastructure for vaccine delivery to children, which was facilitated by the introduction of the Vaccines for Children (VFC) program in 1994. School-entry hepatitis B vaccination laws have also contributed to the high vaccination coverage. In addition, case management through federally funded perinatal hepatitis B prevention programs has been effective in ensuring high levels of initiation and completion of postexposure immunoprophylaxis identified among infants born to HBsAg-positive women and high levels of HBsAg testing of pregnant women.

In 2005, the ACIP provided updated recommendations to address remaining challenges in the prevention of perinatal HBV transmission, including 1) the identification of only about 50% of expected births to HBsAg-positive mothers for case management, which affects timely delivery of postexposure immunoprophylaxis, 2) testing errors and lapses in reporting of HBsAg-positive mothers, resulting in failure of infants to receive appropriate immunoprophylaxis, and 3) low hepatitis B vaccine birth-dose coverage among infants born to women with unknown HBsAg status at the time of delivery. To address these challenges, ACIP recommended implementation of delivery hospital policies and procedures, case management programs, and laws and regulations to

- improve identification of infants born to HBsAg-positive mothers or to mothers with unknown HBsAg status at the time of delivery,
- ensure administration of appropriate postexposure immunoprophylaxis to these infants beginning at birth, and
- administer a birth dose of hepatitis B vaccine to all medically stable infants who weigh ≥ 2000 g.

Establishment and maintenance of case management programs is crucial to ensure prevention of perinatal HBV infections. These programs should include appropriate policies, procedures, laws, and regulations to ensure that

- all pregnant women are tested for HBsAg during each pregnancy, and
- infants born to HBsAg-positive women or to women with unknown HBsAg status receive recommended case management.

The recommended components of case management programs to prevent perinatal HBV transmission are provided in Chapter 1. Approaches to establishing program goals and evaluating achievement of program goals are presented in Chapter 2.

Every state and large metropolitan area has received federal funding to support perinatal hepatitis B prevention programs since the early 1990s. The location of these programs and the methods by which they operate depends on multiple factors (e.g., population density and annual caseload of HBsAg-positive women). Programs are located in state or local health departments, private health-care systems (e.g., health maintenance organizations), or institutions (e.g., correctional facility systems). In the implementation of these programs, administrators need to work with prenatal care providers, delivery hospital staff, pediatric care providers, private health-care systems, and health departments.

The accomplishments of perinatal hepatitis B prevention programs during the past 15 years have established a firm foundation for addressing the final challenges to elimination of perinatal HBV transmission. With a focus on the remaining gaps and the knowledge of how to tailor prevention activities to local communities, perinatal hepatitis B prevention coordinators play a lead role in eliminating HBV transmission in the United States.

ABOUT THIS GUIDE

This guide is designed to help perinatal hepatitis B prevention coordinators in state and local health departments meet program objectives by providing practical guidance on program planning, implementation, and evaluation. The guidance provided in this document might also be useful for perinatal hepatitis B prevention program administrators in other settings (e.g., health maintenance organizations and correctional facility systems). The guide describes the responsibilities of perinatal hepatitis B prevention coordinators, which include:

- Developing measurable program goals and objectives (Chapter 2)
- Conducting successful case identification and management (Chapter 1)
- Engaging essential stakeholders in perinatal hepatitis B prevention (Chapter 3)
- Educating stakeholders and the public (Chapter 4)
- Evaluating prevention efforts (Chapter 2)

Additional resources for managing a perinatal hepatitis B prevention program, including sample policies, protocols, letters, and forms, are described in Appendix D and available from <http://www.cdc.gov/ncidod/diseases/hepatitis/resource/perinatalhepB.htm>.

Both new and established perinatal hepatitis B prevention coordinators can benefit from the information contained in this guide. Whether you are seeking ways to improve current activities or just beginning your perinatal hepatitis B prevention program, this guide provides tools to help you lead your communities toward the goal of eliminating perinatal HBV transmission in the United States.

IMMUNIZATION GRANT PROGRAM REQUIREMENTS (2008–2012)

Perinatal hepatitis B prevention is funded through CDC's National Center for Immunization and Respiratory Disease, Immunization Services Division, with technical support from CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of Viral Hepatitis. Program requirements for perinatal hepatitis B prevention programs have been developed for the immunization grant cycle that runs from 2008 through 2012. These requirements, listed below, are expected to be met by all grantees. Detailed objectives recommended to achieve these requirements are provided in the 2008 Immunization Program Operations Manual.

1. Establish a mechanism to identify all HBsAg-positive pregnant women
2. Conduct case management of all identified infants at risk of acquiring perinatal HBV infection, which includes
 - a. administration of appropriate immunoprophylaxis 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 Nationally Notifiable Diseases Surveillance System (NNDSS)
3. Evaluate completeness of identification of HBsAg-positive pregnant women, case management, reporting of HBsAg-positive infants, and appropriate care of infants born to mothers of unknown HBsAg status, based on a methodology provided by CDC.
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.
5. Work with hospitals to achieve universal birth-dose coverage and documentation of the birth dose in an immunization information system (IIS).