CHAPTER 2. ESTABLISHING PROGRAM GOALS AND EVALUATING YOUR PROGRAM

Chapter 2: Establishing Program Goals and Evaluating Your Program

By the end of this chapter, you will be able to:

- Explain the differences between goals and objectives
- List and describe different types of objectives
- Discuss the importance of program goals and objectives as part of a successful program evaluation plan
- Identify sources of sample goals and objectives to incorporate into your program
- Create appropriate and measurable program goals and objectives
- Describe key focus areas for evaluation of perinatal hepatitis B prevention programs
- Use appropriate methods to evaluate the key focus areas

Strong public health programs are committed to a cycle of continuous quality improvement, in which planning and implementation are followed by monitoring and evaluation, which, in turn, yield findings that are used to make necessary program improvements. Viewed as a cycle, planning, performance measurement, and evaluation are seen as complementary, not independent, processes.

Describing a program is the first step in both strategic planning and program evaluation. That is, programs cannot be implemented until the program goals, objectives, and key activities or strategies to achieve those goals and objectives are clear. Clarity on goals, objectives, and activities becomes the backdrop for making decisions about which parts of the program you will evaluate.

This chapter will help you establish or revise your program's goals, create measurable objectives that can be readily evaluated, and identify focus areas and data-collection methods for evaluating different components of your program.

PROGRAM GOALS

All public health programs need to establish goals. Goals direct your activities and act as a standard for measuring how well you are performing. Implementing a program involves breaking down program goals into achievable objectives and figuring out how to achieve those objectives. In turn, another important component of program implementation is measuring whether goals and objectives have been achieved, i.e., program evaluation. The evaluation process begins with well-written goals and objectives and should last the lifetime of your program. Data collection

for program evaluation should be an integral part of routine program activities.

Defining the Terms

Goals are the primary aims of your program. They should reflect what you want your program to achieve. A goal tends to be more general than an objective.

> *Example*: All newborns in the state will receive hepatitis B vaccine before hospital discharge.

Objectives lay out the steps you will take to reach your goals, as well as the intended outcomes of a program. Objectives are more specific than goals and are frequently written in the "SMART" format. **SMART** refers to an acronym built around five attributes of well-written objectives: **S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**imely.

> **Specific:** Objectives should reflect explicit, desired accomplishments. Ask the question, "*What exactly are we going to do, and with or for whom?"*
>
> **Measurable:** Tracking whether or not an objective is achieved can only be accomplished when it meets a specific, observable, or countable outcome. Ask the questions, "*Is it measurable, can WE measure it, and how?"*
>
> **Achievable:** Objectives should be written to reflect attainable results. Ask the question, *"Can we get to the desired results?"*
>
> **Realistic: O**bjectives should be executable and achievable given the planning period and resources. Ask the question, "*Can we get it done in the proposed timeframe with our existing resources and context?"*
>
> **Timely:** Objectives should include a date or timeframe in which it should be completed. Ask the question, "*When will we accomplish this objective?"*

Types of Objectives

It is possible to have many objectives associated with one goal. The number of objectives depends on the complexity of the goal. There are also different types of objectives, depending on the phase of your program, your specific target groups, and the kinds of data you are interested in gathering. The two main types of objectives are *process* and *outcome*. *Process objectives* often monitor program implementation and provide data demonstrating that your program is reaching the target audience(s). *Outcome objectives* relate to the results of the program. (Note: Some people further distinguish outcomes into short-term results (sometimes referred to as "impact") and long-term results (sometimes labeled as "outcome").

Process objectives allow you to describe the performance of your program in relation to your goals and often specify numbers and types of activities to be completed by specific dates. They also explain what you are doing and how you will do it, and frequently describe participants, interactions, and activities. They can be quantitative (e.g., number of trainings conducted or number of hospitals with standing orders) or qualitative (e.g., satisfactory ratings of hospital

policies and procedures). Typically, one tracks and evaluates process objectives throughout the life of a program. Process objectives are usually measured with ongoing sources of data, such as inventories, log books, or periodic reports such as the National Immunization Survey.

Examples:

> By 2008, 40% of delivery hospitals in the state will receive a presentation from the health department on the 2005 ACIP recommendations for prevention of perinatal HBV transmission and the role of hospitals in implementing those recommendations.
>
> By 2009, 80% of delivery hospitals will have standing orders for administration of a birth dose of hepatitis B vaccine.

As you implement your program, data will be collected on your objectives, and during evaluation, you will compare your accomplishments with your goals. Evaluation of process objectives provides an opportunity for continuous program improvement and modification of activities, objectives, or goals, when needed. If you take a close look at your program, you are probably already collecting some type of process data. These data can be used to modify and improve your program as it is implemented.

Outcome objectives describe the effect of your program on a public health problem and can focus on short-term changes in attitudes, knowledge, or behavior, as well as long-term outcomes of the activities (e.g., increased vaccination rates or decreased morbidity and mortality). Although process objectives and evaluation are necessary for monitoring the day-to-day implementation of your program, the ultimate result of your efforts should reflect a change in the public's health. Outcome objectives allow you to determine the extent to which your program contributes to the prevention of perinatal HBV infections in the United States. Outcome objectives for a perinatal hepatitis B prevention program might focus on reducing the incidence of perinatal HBV infection by a specific amount or increasing the percentage immunized in the target group. Again, data are collected on these measures and compared with the program's goals.

Example:

> By 2008, 90% of medically stable newborns weighing ≥2,000 grams at birth will receive hepatitis B vaccine before hospital discharge.

Evaluation of outcome objectives is an important and often challenging task. Well-written objectives make it easier to prove that positive or negative changes in health outcomes are attributable to your program's activities. Elements such as availability of resources, reliability of evaluation tools, and population sample size can influence, or confound, the results gleaned from your evaluation. Considering these factors when developing your objectives helps ensure successful and effective program evaluation.

Goals in a Perinatal Hepatitis B Prevention Program

If your state does not have established goals and objectives, you can adopt and/or adapt existing ones. Many of these goals and objectives can be derived from national sources such as *Healthy People 2010*, CDC's Immunization Program Operations Manual, and the 2005 ACIP recommendations on hepatitis B immunization of infants, children, and adolescents. Those goals and objectives are national in scope, so you will have to tailor the goals and objectives for your program. Examples of goals and objectives are provided in Box 2.1.

Box 2.1. Examples of Goals and Objectives for Perinatal Hepatitis B Prevention Programs

Goal 1: Reduce perinatal HBV infections

Objectives:

HBsAg screening of pregnant women

- By [year], the state has a law requiring HBsAg screening of all pregnant women.
- By [year], every delivery hospital has written policies and procedures and standing orders for verification of maternal HBsAg screening and/or testing upon admission for delivery.
- By [year], the state has developed a method to evaluate HBsAg screening of pregnant women.
- Each year, 100% of pregnant women are screened for HBsAg prior to delivery.

Identification and tracking of infants born to HBsAg-positive women

- By [year], the state has a law requiring reporting of HBsAg-positive pregnant women to the health department.
- By [year], the state has evaluated the completeness of reporting of HBsAg test results to the health department by laboratories serving prenatal care providers and delivery hospitals.
- By [year], the state has developed and evaluated the feasibility of implementing a plan to institute a universal reporting mechanism with documentation of maternal HBsAg test results for all births.
- By [year], the state has implemented a plan for a universal reporting mechanism with documentation of maternal HBsAg test results for all births, including the date of the test.
- By [year], 100% of delivery hospitals have written policies, procedures, and standing orders for the administration of postexposure immunoprophylaxis to infants born to HBsAg-positive women and women of unknown status.
- A protocol for perinatal hepatitis B prevention is periodically disseminated to local health departments, prenatal care providers, family practitioners, delivery hospitals, and laboratories.
- Each year,
  - — 90% of the estimated births to HBsAg-positive pregnant mothers in the state are identified.
  - — 100% of identified infants born to HBsAg-positive mothers receive the first dose of hepatitis B vaccine and HBIG at birth.
  - — 90% of infants born to HBsAg-positive mothers receive at least three doses of hepatitis B vaccine by age 6–8 months.
  - — 90% of infants born to HBsAg-positive mothers receive post-vaccination serologic testing by age 9–18 months.
  - — 100% of infants who test HBsAg-positive are reported to CDC via the National Notifiable Diseases Surveillance System.

Implementation of a universal birth dose

- By [year], 90% of delivery hospitals have written policies, procedures, and standing orders to administer a universal birth dose.
- By [year], 100% of delivery hospitals are enrolled in the Vaccines for Children program.
- Each year, 90% of all newborns receive a birth dose of hepatitis B vaccine.

Goal 2: Prevent HBV transmission in households of HBsAg-positive pregnant women

Objectives:
Identification and vaccination of contacts of HBsAg-positive pregnant women

- By [year], the state has a program to vaccinate household contacts and sex partners of HBsAg positive pregnant women.
- Each year,
  - 90% of household contacts and sex partners are assessed for susceptibility.
  - 90% of susceptible household contacts and sex partners complete the three-dose hepatitis B vaccine series.

Goal 3: Ensure medical management of HBsAg-positive pregnant women

Objectives:
Referral of HBsAg-positive pregnant women

- Information is periodically disseminated to prenatal care providers about the appropriate follow-up and medical management of HBsAg-positive mothers.
- Each year, 70% of HBsAg-positive mothers have had an appointment before delivery for medical management of chronic liver disease.

Goal 4: Prevent HBsAg-negative pregnant women from becoming infected

Objective:

- Information is periodically disseminated to prenatal care providers about the need to perform a hepatitis B risk assessment of prenatal care patients and to fully vaccinate women at risk for HBV infection.

Goals, objectives, and evaluation

Goals and objectives act as a standard for determining how well your program is functioning. Writing goals and objectives without considering how you will evaluate them can detract from your program's effectiveness. **When creating goals and objectives for your program, it is also important to make certain that you have the means to appropriately evaluate them.** Because HBV infections in infants are asymptomatic, disease-reduction targets based on acute disease surveillance data will not reliably measure the effectiveness of programs to prevent perinatal HBV transmission. In addition, surveillance for the adverse outcome of perinatal infections (chronic liver disease) is not a reliable measure of program effectiveness because cirrhosis and hepatocellular carcinoma related to perinatal HBV infections usually do not occur until adulthood. Therefore, you will need to have other mechanisms to measure these program components.

The data you collect should be able to measure the achievement of your objectives. For instance, if your objective is to fully vaccinate 80% of your target population, then you should be able to track completed hepatitis B vaccine series for persons in the target population. Tracking only the total number of doses of hepatitis B vaccine administered will not allow you to evaluate fulfillment of your objective.

PROGRAM EVALUATION

Program evaluation encourages ongoing program improvement by identifying successful efforts and pinpointing areas that fall short and need attention. For many years, perinatal hepatitis B programs focused on evaluation of HBsAg screening of pregnant women and completeness of case management of infants born to HBsAg-positive mothers. Although both of these areas remain important, additional focus areas for evaluation have been identified to accelerate progress in eliminating perinatal HBV transmission.

The goal for the national perinatal hepatitis B prevention program is to prevent perinatal HBV infections in infants. National objectives to achieve this goal, as detailed in the 2005 ACIP recommendations for hepatitis B vaccination of infants, children, and adolescents (http://www.cdc.gov/mmwr/PDF/rr/rr5416.pdf), are as follows:

- HBsAg screening of all pregnant women
- Hepatitis B vaccination of all medically stable infants following delivery and before hospital discharge (i.e., universal birth dose of hepatitis B vaccine)
- Case identification and case management
  - Immunoprophylaxis (HBIG and hepatitis B vaccine) within 12 hours of birth for infants born to HBsAg-positive women
  - Immunoprophylaxis (hepatitis B vaccine) within 12 hours of birth for infants born to women of unknown HBsAg status
  - Completion of the hepatitis B vaccine series by age 6–8 months and post-vaccination serologic testing of infants born to HBsAg-positive women by age 9–18 months

These national objectives provide a basis for identifying the following four focus areas for state or local program evaluation.

I. Evaluation of HBsAg Screening of Pregnant Women

You can use any of several methods to evaluate HBsAg screening of pregnant women, including laboratory record reviews to assess completeness of reporting, reviews of universal reporting of maternal HBsAg status (e.g., newborn metabolic screening cards, hospital-based electronic birth certificates), and reviews of hospital medical records.

***Completeness of reporting*.** Part of your evaluation of screening for HBsAg-positive pregnant women is regular assessment of the completeness of reporting. Your focus should be on laboratories since laboratories, rather than providers, tend to be the primary consistent sources of reporting. It is especially important to assess the completeness of hospital laboratory reporting because some HBsAg-positive women will not be identified until the time of delivery.

State and local jurisdictions should periodically evaluate laboratories to assess reporting of HBsAg-positive test results. In many areas, laboratory reporting evaluations are routinely conducted by communicable disease staff, and it might be possible to ask to have HBsAg-positive reports assessed at certain intervals. CDC has created a tool to assess laboratory reporting of HBsAg-positive tests (see Appendix B) and recommends that each laboratory that performs HBsAg testing be evaluated at least every 5 years.

Universal reporting of HBsAg status. The ACIP recommends that reporting of maternal HBsAg test status be included on hospital-based electronic birth certificates or newborn metabolic screening cards. Several states have added the maternal HBsAg status to newborn metabolic screening cards or birth certificates to enable evaluation of HBsAg screening of pregnant women. One challenge in using these reporting methods is the need to educate hospital personnel on correct and consistent recording. As expected, problems encountered in using these methods include incomplete transfer of information and documentation of false-positive and false-negative HBsAg results.

Hospital medical record review. (see section II, below).

II. Evaluation of Universal Hepatitis B Vaccine Birth-Dose Administration

Several resources are available to help you evaluate the administration of hepatitis B vaccine to all infants at birth. These include the annual National Immunization Survey, state/local immunization information systems, data from electronic birth certificates that include documentation of the birth dose of hepatitis B vaccine, and hospital medical record reviews.

***National Immunization Survey (NIS)*.** NIS assesses birth-dose-administration rates for all states and selected cities annually. The survey measures rates based on administration of the first dose of hepatitis B vaccine from 0 to 2 days of birth and from 0 to 7 days of birth. Although NIS can give you an estimate of the birth-dose administration for your area, there is about a two-year time lag with these data because NIS assesses children aged 19–35 months.

Immunization information systems. Some cities and states with well-utilized immunization information systems can review registry records to assess the administration of a birth dose. Reviewing birth-dose coverage through a registry can help you identify specific hospitals, providers, or regions with low birth-dose-administration rates; you can then target education efforts to those providers or hospitals.

Electronic birth certificates. Some states have added the birth dose of hepatitis B vaccine to state electronic birth certificates. This allows the perinatal hepatitis B prevention program to run monthly or quarterly reports to assess birth-dose-administration rates in specific regions and hospitals. You can then target education accordingly.

Hospital medical record review. To assess maternal HBsAg documentation and birth-dose-administration rates at specific hospitals, programs can conduct medical record reviews. Medical record reviews are conducted in hospitals and involve auditing a sample of paired maternal and neonatal medical records. Although this type of assessment is labor intensive, it provides the most precise measurement of universal birth-dose administration and maternal HBsAg documentation. You should consider partnering with health department colleagues in communicable disease prevention, STD prevention, maternal and child health, and other areas to collect additional data (e.g., maternal status with regard to rubella, group B streptococcus, syphilis, HIV; newborn status with regard to pertinent infections, metabolic screening, or early hearing screening) and to receive additional staff support from these other areas of the health department.

Your ability to design a medical record review to evaluate birth-dose administration and maternal HBsAg screening will depend on the availability of resources (e.g., staff, interns), your level of enthusiasm, and the hospital's willingness to participate. Generally, this is an enlightening process for both you and the host institution. And, importantly, it often results in changes in hospital policies that improve identification and treatment of HBsAg-positive mothers and their infants, information transfer, reporting of births to HBsAg-positive mothers, maternal HBsAg documentation, and administration of a universal birth dose. Data that you might consider collecting during a hospital medical record review include:

- Delivery date and time
- Mother's HBsAg test date and test result as reported in the maternal medical record
- Mother's HBsAg test date and test result as reported in the infant's medical record
- Type of maternal HBsAg status documentation (transcribed or original laboratory report)
- Infant hepatitis B vaccination (yes/no)
- Date and time of vaccination
- HBIG administration (yes/no)
- Date and time of HBIG administration

A targeted review of records of infants born to HBsAg-positive mothers or mothers with unknown HBsAg status also provides insight into the completeness of infant case management. Some states have used a more targeted sampling design for their perinatal medical record review by pulling records for mothers who had no prenatal care (all states have a field for the number of prenatal care visits on their birth certificate) to assess maternal HBsAg screening and administration of the hepatitis B vaccine birth dose.

Table 2.1 can be used to determine the sample size for a hospital medical record review. This table shows the sample size necessary to assess hospitals with at least 50% expected levels of maternal HBsAg screening completeness and/or hepatitis B birth-dose rates using an 8% confidence interval. For example, if a hospital delivered approximately 800 infants last year, and you expect approximately 95% of the mothers giving birth at this hospital to have been screened prenatally for HBsAg (based on prior hospital record reviews or your state's prenatal care rates) and you expect about 75% of the infants born in this hospital to have received a birth dose of hepatitis B (based on National Immunization Survey birth-dose rates for your state or birth-dose rates based on data from your state immunization registry), you would need to review at least 99 charts to assess completeness of HBsAg screening and hepatitis B vaccine birth-dose administration.

Table 2.1. Sample sizes for hospital medical record reviews to assess maternal HBsAg screening or hepatitis B vaccine birth-dose coverage – Revised 2008

	Expected Maternal HBsAg Screening or Hepatitis B Vaccine Birth-Dose Coverage*									
Birth Cohort Size	**95%**	**90%**	**85%**	**80%**	**75%**	**70%**	**65%**	**60%**	**55%**	**50%**
100	22	35	43	49	53	56	58	59	60	60
200	25	43	55	65	72	77	81	84	85	86
300	26	46	61	73	82	89	94	97	99	100
450	27	48	65	79	90	98	105	109	112	113
600	27	50	68	83	95	104	111	116	119	120
800	28	51	70	86	99	109	117	122	125	126
1,000	28	51	71	88	101	112	120	126	129	130
1,500	28	52	73	90	105	116	125	131	135	136
2,000	28	53	74	92	107	119	128	134	138	140
3,000	28	53	75	93	108	121	131	137	142	143
5,000	28	53	75	94	110	123	133	140	144	146
10,000	28	54	76	95	111	124	135	142	146	148
20,000	28	54	76	96	112	125	136	143	147	149
40,000	28	54	76	96	112	126	136	144	148	150
50,000	28	54	76	96	112	126	136	144	148	150
70,000	29	54	76	96	112	126	136	144	148	150
80,000	29	54	76	96	112	126	136	144	148	150
100,000	29	54	76	96	112	126	136	144	148	150
150,000	29	54	76	96	112	126	136	144	148	150
300,000	29	54	77	96	113	126	136	144	148	150

* Using confidence interval of +/– 8%

III. Evaluation of Case Identification

Births to HBsAg-positive women and to women of unknown HBsAg status are critical events under surveillance in perinatal hepatitis B prevention programs. Identification of these births is the major indicator of program effectiveness. To evaluate completeness of identification, CDC has provided estimates of the number of births to HBsAg-positive women that occur each year in the United States and in each state and selected cities. The estimates, which are available from CDC's Immunization Services Division, are based on natality data and the estimated prevalence of chronic HBV infection among pregnant women by race and ethnicity. They can serve as a benchmark for measuring program effectiveness. The estimates are derived using the following race/ethnicity-specific rates of HBsAg positivity:

- Whites, non-Hispanic = 0.11%
- Blacks, non-Hispanic = 0.5%
- Hispanics = 0.09%
- Asians, U.S.-born = 1.4%
- Asians, foreign-born = 8.9%
- Others = 0.5%

CDC's estimates are for states and a few cities, but you can calculate numbers of expected births to HBsAg-positive women for your area by using the local natality data and the HBsAg prevalence estimates provided by CDC. For example, some states elect to break down the expected births by county or region for more targeted efforts at case identification.

Example
Livewell County encompasses a major metropolitan area with several delivery hospitals and sees a majority of the state's deliveries each year. As the perinatal hepatitis B coordinator for the state, you decide to estimate the expected number of births to HBsAg-positive women in Livewell County by applying the race/ethnicity-specific rates provided by CDC to the birth cohort.

Using natality data for Livewell County, tally the number of births in each racial/ethnic group. Then, multiply the number of births for each racial/ethnic group by the estimated prevalence to determine the estimated number of births to HBsAg-positive mothers.

Livewell County: Birth Cohort Demographics

	Number of births	**Estimated HBsAg prevalence (CDC data)**	**Estimated births to HBsAg-positive mothers**
Whites, non-Hispanic	16,800	0.11%	18
Blacks, non-Hispanic	15,500	0.5%	78
Hispanics	11,250	0.09%	10
Asians, U.S.-born	800	1.4%	11
Asians, foreign-born	1,100	8.9%	98
Others	43	0.5%	0
Total	45,493	—	215

Because the prevalence of HBsAg among pregnant women of different ethnicities might vary considerably by state, CDC has calculated a "lower confidence limit," or minimum number of HBsAg-positive births that are expected to occur in each state. All projects should be able to detect 100% of the minimum number of HBsAg-positive births that occur each year in their state.

According to the 2004 CDC annual survey of perinatal hepatitis B coordinators, approximately 12,000 HBsAg-positive births were identified overall, and, nationally, programs identified 51% of the expected number of HBsAg-positive births. Additional HBsAg-positive births were not identified for various reasons:

- Reporting systems in most states still rely on a single source of case reports — laboratories. In some places, hospitals, providers, and county health departments are not

reporting all HBsAg-positive test results for pregnant women to the state health department.
- Some pregnant women are not screened for HBsAg status, either because their providers fail to test them (especially women already known to be HBsAg-positive) or because they do not receive prenatal care.
- Some prenatal care providers do not forward HBsAg-positive test results to hospitals and pediatricians.

Fostering strong relationships with your laboratory, health department, hospital, and private practice partners is one way to overcome the obstacles described above. Share with your partners your yearly estimates of projected births to HBsAg-positive mothers. Your job will become more productive if you use a team approach to identify the estimated number of births to HBsAg-positive mothers in your program area.

IV. Evaluation of Case Management

With regard to evaluation of case management activities, the 2008–2012 Immunization Program Requirements indicate that each program should track the following information annually:

- Number of HBsAg-positive pregnant women
- Proportion of infants born to HBsAg-positive women receiving postexposure immunoprophylaxis within 12 hours of birth, on-time completion of the hepatitis B vaccination series, and post-vaccination serologic testing for HBsAg and anti-HBs
- Reasons for cases lost to follow-up
- Proportion of screened and vaccinated household and sexual contacts

In addition, the ACIP recommends that perinatal hepatitis B prevention programs should determine reasons for the following:

- >10% difference between expected and identified number of HBsAg-positive pregnant women
- <90% completion rates for HBIG and hepatitis B vaccine administration within 12 hours of birth, on-time completion of the hepatitis B vaccination series, and post-vaccination testing for infants born to HBsAg-positive mothers
- <90% completion rates for hepatitis B vaccine administration within 12 hours of birth for infants born to mothers with unknown HBsAg status

SURVEILLANCE FOR PERINATAL HBV INFECTIONS

The major outcome objective of perinatal hepatitis B prevention programs is to reduce the incidence of perinatal HBV infections. Since virtually all infants who are infected with HBV are asymptomatic, the primary method for identifying infected infants is serologic testing of infants born to HBsAg-positive mothers for HBsAg and anti-HBs at age 9–18 months after completion of at least three doses of the hepatitis B vaccine series. You should work with the communicable diseases program in your health department and with pediatric care providers to ensure identification and follow-up of infected infants, including:

- Completion of post-vaccination testing of all infants born to HBsAg-positive women
- Case investigations of suspected cases of perinatal HBV infection

- Reporting of all HBsAg-positive infants as "perinatal HBV infection" (event code 1010A) to CDC through the Nationally Notifiable Diseases Surveillance System. HBsAg-positive children who do not meet the case definition of perinatal HBV infection should be reported as chronic HBV infection (event code 10105)
- Facilitating referral of children with HBsAg-positive test results for medical evaluation to verify the presence of chronic HBV infection, assess for biochemical evidence of chronic liver disease, and assess for severity of disease and possible treatment according to current practice guidelines

Further information about identification, investigation, and follow-up of infected infants is provided in CDC's *Guidelines for Viral Hepatitis Surveillance and Case Management*, available at http://www.cdc.gov/ncidod/diseases/hepatitis/resource/index.htm#surveillance.

EVALUATING KNOWLEDGE, ATTITUDES, PRACTICES, AND POLICIES

Periodic surveys of prenatal care providers, delivery hospital staff, and pediatric care providers can also be valuable tools to assess knowledge, attitudes, practices, and policies related to your program. There are many ways to undertake a survey. You can add questions to an existing survey, develop and implement your own, or a combination of the two. Using a core set of questions over time can facilitate monitoring trends from one year to the next. If needed, you can add additional questions to reflect current issues or concerns.

In planning a survey, you will need to consider the following questions:

- What do you want to assess and why? What evaluation question will it answer?
- Who or what can best answer the question?
- How can I best sample the individuals or organizations?
- What resources are available for the survey?
- What survey technique will provide the best answers for my situation?

The first step in planning a survey is to determine the information you need and how it relates to your objectives. For instance, are you interested in reported barriers to post-vaccination testing, knowledge of providers offering evaluation and treatment of chronic HBV, or hospital policies regarding perinatal HBV prevention?

Next, determine the "unit of analysis." Is it an organization, such as a hospital or group practice, or an individual, such as a pediatrician? If it is an organization, you will need to determine the best way to collect the information. Is there a person who would be able to reliably answer your questions? Or, would it be more helpful to obtain and analyze written documents, such as a policy or procedures manual? How will you access the person or documents?

One of the most important steps in conducting a survey is designing the sampling procedures. The major question to ask is: do you want to conduct a "census" or "population" survey (all the individuals or organizations in a specific group) or just survey a selected sample of them? The listing of the accessible population from which you'll draw your sample is called the *sampling*

frame. The *sample* is the group of people who you select to be in your study. How you select your sample and the final percentage of participants completing your survey (*response rate*) greatly affect the validity of your survey. Designing and implementing surveys can be a significant undertaking. For more information on survey design and sampling, see the Evaluation Resources section at the end of this chapter.

There are many different techniques for surveying participants: telephone surveys, mailed surveys, web-based surveys, and face-to-face interviews. Each technique has advantages and disadvantages; these are summarized in Appendix C.

EVALUATING PROVIDER EDUCATION

For perinatal hepatitis B prevention programs that offer in-hospital trainings or educational programs for clinicians (see Chapter 4 for guidance on conducting provider training), evaluation is essential to determine whether key messages are being received and whether the educational measures are having concrete effects on providers' practices. Provider education programs should be structured around specific, time-phased, measurable learning objectives. In particular, continuing education credit programs are required to have objectives and evaluation measures. Evaluation of provider education can consist of both process and outcome evaluation.

Process evaluation. To begin, record the number of training sessions you give and the number of participants who attend. This information can help you to track where and when you have given training sessions and to plan future sessions. Having this information can also help you account for your time and travel, which can be especially helpful when you are planning your budget and staffing needs.

Consider giving participants a chance to evaluate the training in the form of satisfaction surveys. Participant feedback can help you determine the successful portions of your program and those that need improving. Periodic revision and updating of your curriculum lets participants see that their comments are valued and helps you create a better product.

Outcome evaluation. Typically, a main objective of an education program is to have an impact on individual knowledge and practices. One of the simplest ways to ascertain the outcome of your training is to compare the number of referrals or notifications to your perinatal hepatitis B prevention program from months preceding and following your training date. At the least, you can conclude that providers in your state are familiar with your program and know how to contact you for detailed information.

A second method to evaluate the outcome of your education program is to monitor the HBsAg screening and reporting habits of the locations where you have presented. You can also review hospital policies and procedures for changes following your education sessions or technical assistance.

COMMUNICATING YOUR FINDINGS

Program evaluation provides the opportunity to learn from past mistakes. But it also gives you a chance to celebrate your successes. It is important to share your successes and lessons learned with others outside of your program. Suggested formats include dissemination of annual reports, submissions to peer-reviewed journals, and presentations at national conferences.

An annual report (including progress on short-term objectives required for grant reporting) can serve the dual purpose of program evaluation and documentation. Items that might be included in an annual report include:

- Program background and goals
- Updates of ACIP/CDC recommendations
- Program monitoring data
- Results of evaluation studies
- Plans for the future

The annual report is a way of showing local health departments the involvement of hospitals in past activities and communicating their future plans. Readers can track the progress of the overall perinatal hepatitis B prevention program and compare the progress of their county to that of other counties. Indicating your plans for the program gives readers an opportunity to offer input or voice agreement or disagreement with the stated goals and objectives and their roles in achieving them.

EVALUATION RESOURCES

Support for establishing or promoting program evaluation can be found from evaluators in your state health department, fellow perinatal hepatitis B prevention coordinators, and CDC staff. Resources are also available from the following CDC websites and other sources.

Perinatal Hepatitis B Coordinator Information website
http://www.cdc.gov/ncidod/diseases/hepatitis/resource/perinatalhepB.htm

Framework for Evaluation in Public Health
http://www.cdc.gov/eval/framework.htm

Introduction to Program Evaluation for Public Health Programs: A Self-Study Guide
http://www.cdc.gov/eval/evalguide.pdf

An Evaluation Framework for Community Health Programs http://www.cdc.gov/eval/evalcbph.pdf

University of Kansas Community Tool Box — Evaluating Community Programs and Initiatives
http://ctb.ku.edu/tools/en/part_J.htm

National Network of Libraries of Medicine
Evaluation Guides from the Outreach Evaluation Resource Center
http://nnlm.gov/evaluation/guide/

Free Management Library: Basic Guide to Program Evaluation
http://www.managementhelp.org/evaluatn/fnl_eval.htm

Program Evaluation ToolKit from Health Canada
http://www.phac-aspc.gc.ca/php-psp/toolkit.html

WK Kellogg Foundation Evaluation Handbook
http://www.wkkf.org/Pubs/Tools/Evaluation/Pub770.pdf

Queen Margaret College: Questionnaire Design and Analysis Workbook
http://www.tardis.ed.ac.uk/~kate/qmcweb/qcont.htm

Cornell University's Research Methods Knowledge Base http://www.socialresearchmethods.net/kb/

Taking Stock: A Practical Guide to Evaluating Your Own Programs
(sponsored by the American Association for the Advancement of Science)
http://www.horizon-research.com/reports/1997/stock.pdf

Conducting Research on the Internet: Online Survey Design, Development and Implementation Guidelines
http://www.ifsm.umbc.edu/~preece/Papers/Online_survey_design_IJHCI04.pdf