



Guide for
**State Health Agencies
In the Development of
Asthma Programs**



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention

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Guide for State Health Agencies In the Development of Asthma Programs

PURPOSE

This guide was developed to assist asthma program staff of state health departments (SHDs) develop and implement asthma control programs. This effort will need collaboration with local health organizations, medical societies, state or local government entities, managed care organizations, and other stakeholder organizations that have roles in asthma management, especially within local communities.

This guide outlines proven components of an asthma program. These components have been used by CDC asthma grantees who have completed the planning process and are implementing their state plans for asthma. An asthma program and an asthma plan are not synonymous. The asthma plan is written on the basis of activities completed within the SHD's program—such as gathering and interpretation of surveillance, establishing a state-wide coalition, and identifying appropriate interventions. The asthma plan belongs to more than just the SHD; it represents of the commitment of engaged partners throughout the state to provide resources and complete activities according to an established time line with measurable objectives.

As CDC's and the states' asthma programs mature, we will learn more about what makes a successful asthma control program. The guidance provided here may change as programs evolve and our knowledge of asthma increases. However, many state asthma programs have existed long enough to prescribe fundamental approaches and methodologies to help SHDs that have not yet designed their approach to asthma control. We offer it in that spirit, and we welcome the insights and experiences of SHDs on how we can strengthen this document.

The target audience for this guide is SHDs who are applying for or receiving CDC funding for capacity building and asthma plan implementation. However, SHDs that do not receive asthma program funding from CDC may find elements of the guide useful in addressing asthma to the extent that their agencies have made this disease a health priority within their state.

BACKGROUND

Asthma is a highly prevalent health problem with significant impact in the United States. It ranks among the most common chronic conditions in this country, affecting an increasing number of Americans—an estimated 20.3 million persons of all ages and races in 2001 (1). It is significantly higher among children than adults and among

African Americans than among persons of other races. In 1998 in the United States, asthma accounted for over 2 million emergency department visits, an estimated 423,000 hospitalizations, and 5,438 deaths (2). Children with asthma miss an average of twice as many school days as other children, with 21% of children with asthma in one study population missing over 2 weeks of school a year from asthma (3). The estimated direct and indirect monetary costs for asthma totaled \$12.7 billion in 1998 (4).

Much of this disability and disruption of daily lives is unnecessary because effective treatments for asthma are available (5). A pressing concern is identification of persons with poorly controlled asthma and referral to appropriate asthma care. A related concern is the lack of knowledge of some people that they have asthma despite significant symptoms (such as coughing, wheezing, chest tightness, and difficulty breathing) that could benefit from medical care. The keys to reducing the burden of asthma, then, are identifying persons with the condition; providing high quality medical care; environmental modifications and supportive outreach services; and assisting people in correctly adhering to their management regimens.

Because asthma is a chronic disease requiring substantial changes in personal behavior by patients, families, and providers, public health interventions are likely to be helpful. The need to blend appropriate treatment and behavior change make necessary melding of clinical care with public and community health practice, which can be facilitated by broad partnerships. In addition, to understand the patterns of disease and to plan and evaluate programs, surveillance is essential; the SHD should be a significant partner in the surveillance effort.

NATIONAL ASTHMA PROGRAM GUIDELINES

The federal government has recognized the seriousness of asthma and its impact upon the quality of life of affected persons. The U.S. Department of Health and Human Services (DHHS) has developed strategic guidelines that help shape CDC's asthma program goals and establish a framework for state agencies in establishing their asthma program infrastructure.



- **Healthy People 2010.** Healthy People 2010 presents a comprehensive, nationwide health promotion and disease prevention agenda. It gives direction to DHHS's effort to improve the health of all people in the United States during the first decade of the 21st century. The *Healthy People 2010* document dedicates a chapter to respiratory diseases. This chapter established eight objectives to measure progress toward reducing asthma-related mortality and morbidity and improving the quality of patient care. For more information about Healthy People 2010 asthma goals, visit <http://www.healthypeople.gov/document/html/volume2/24respiratory.htm>.

- **Action Against Asthma.** Building upon the strategic vision of Healthy People 2010, DHHS developed a special asthma initiative embodied in its publication, Action Against Asthma (6). This document unveils DHHS’s research strategy for uncovering the causes of the asthma epidemic and developing ways to prevent the disease. It establishes priority public health areas that need action to eliminate disparities in the public health burden of asthma and to reduce the impacts on people with asthma. For more information on Action Against Asthma’s identified priority areas, visit <http://www.aspe.hhs.gov/sp/asthma>.
- **CDC’s Asthma Program.** CDC’s asthma program aims to reduce the burden of asthma through better application of knowledge of medical and environmental management. This program, developed by CDC’s National Center for Environmental Health, Air Pollution and Respiratory Health Branch, has three main components. The first is surveillance. CDC is assisting SHDs in building capacity to gather and evaluate asthma data. In addition, CDC is developing and implementing telephone surveys and analyzing national data on asthma prevalence and control. The second component is assisting states and communities with identification and implementation of science-based asthma interventions, as well as expansion of the science base through surveillance and program research and demonstrations of the effectiveness of intensive, comprehensive interventions in defined areas. The third component is development of partnerships with key federal and state agencies, providers and purchasers of health care, and nonprofit and professional organizations.

Integrated into each of these components is a commitment to defining and eliminating population disparities through surveillance and community-based interventions that reflect the history, culture, and geography of the community or racial/ethnic group (7).

CDC’s partnerships with SHDs are a vital and primary priority. CDC will work with both grantee and nongrantee states to network, share information, and provide technical assistance. For more information about CDC’s asthma program, visit <http://www.cdc.gov/asthma>.

STRUCTURE FOR ASTHMA PROGRAM IN HEALTH DEPARTMENT STAFFING

SHDs vary in their organizational structure. Functionally, a state asthma program is best located within the division of the SHD that addresses disease control and prevention (particularly noninfectious and chronic disease control), environmental health, or health promotion. The state program for asthma will typically include surveillance activities, outreach to form partnerships, and a commitment to work with partners to develop a written asthma plan. Wherever in the SHD the program resides, an organizational commitment should exist to collaborate and coordinate among divisions, such as among and between staff working in health surveillance, tobacco control, diabetes, obesity, school health, physical activity, occupational health, environmental health,

communicable disease control, and Medicaid and managed care. This collaboration may range from public education and media campaigns to the sharing of staff.

Begin establishing asthma program staffing by identifying needed skills and competencies, then match these to the positions available and supported through your SHD human resource infrastructure. Establish minimum qualifications, in terms of education and experience, for positions. Listed below are examples of competencies, roles, and duties currently fulfilled in funded SHD asthma programs:

Program Management generally is conducted by a person with budget management, administrative, and supervisory skills. He or she generally develops, establishes, implements, and administers asthma program policies and procedures. He or she usually is responsible for responding to an agency's program announcement for federal funding, overseeing implementation and evaluation of grants and contracts, and overseeing development and use of program data and evaluations to make program policy decisions. He or she also provides technical assistance to local asthma programs; responds to public inquiries; prepares and develops legislative analyses; conducts long-range planning for implementation of the state asthma plan; and establishes collaborations with statewide organizations representing local health officers, schools, health-care providers, and others interested in asthma control.

In Michigan, the asthma program is a joint effort between the Bureau of Epidemiology and the Division of Chronic Disease and Injury Control at the Michigan Department of Community Health. Staff consists of a full-time asthma epidemiologist and part-time environmental epidemiologist from the Bureau of Epidemiology, and a full-time asthma program specialist in the Division of Chronic Disease and Injury Control. Staff from the Tobacco Section and the School Health Unit of the Department's Health Promotion and Publication section also contribute in-kind time by serving on committees and work groups of the asthma program.

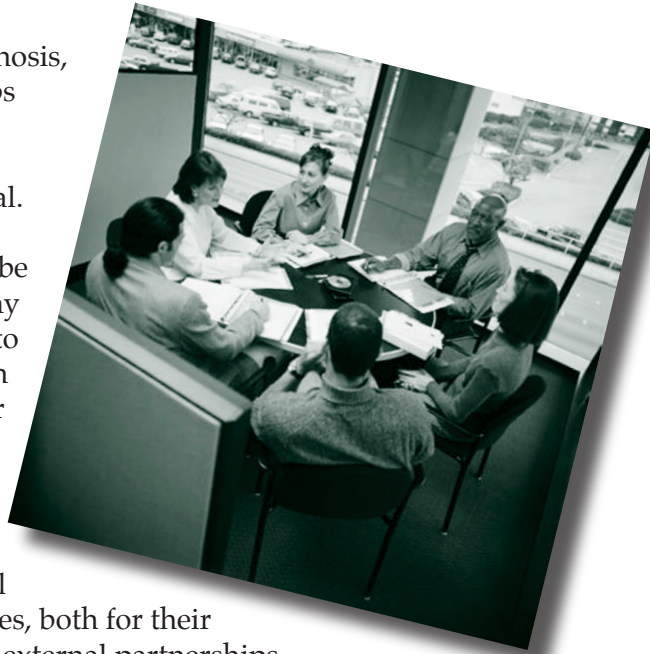
Epidemiology and Surveillance is performed by persons skilled in analyzing data; planning, designing, and implementing data collection mechanisms to support asthma surveillance; developing evaluation models; and interpreting and presenting data clearly to guide asthma program planning. These persons also review environmental data and chronic disease data for possible implications for the asthma program and should be experienced in the analysis of Behavioral Risk Factors Surveillance System (BRFSS) data and other national data sets that can provide insights to asthma epidemiology.

The role of Health Education and Promotion is most often filled by persons with Internet website development and management experience; public education and media skills; social marketing and health communication capabilities; and experience with community development and organizing techniques and strategies. A major responsibility is serving as an information resource for asthma materials in various languages and ensuring that materials are culturally sensitive and appropriate for various audiences, but health education also includes providing briefings and

presentations at professional meetings and public forums; leading, guiding, and training asthma coalitions; and identifying potential asthma management resources at the local, state, and federal levels.

STATEWIDE PARTNERSHIPS/COALITIONS

Because of the complexities of asthma diagnosis, management, and surveillance, partnerships with health care providers, asthma patients and their families and caregivers, public health professionals, and others are essential. These partnerships, established to facilitate development of the state asthma plan, will be crucial to implementation of that plan. Many SHDs do not have the resources or charter to provide direct health care and are limited in their ability to directly change legislation or policies related to asthma; therefore these activities need to be conducted in concert with a coalition of committed partners.



Equally essential is development of internal partnerships within and across state agencies, both for their own value and to facilitate development of external partnerships.

Because key partners in asthma prevention and control may not always be within the public health and health-care fields, development of statewide collaboration linkage among these diverse organizations is a key component of a successful asthma program. Later in this document, when we discuss the asthma program components, you should consider the role of a statewide partnership in structuring those components.

The principles of diversity and inclusivity also should be a cornerstone of the development of statewide partnerships and a state plan. Diversity ensures a representative process. It is broadly defined as a departure from tokenism and the pitfall of having one person represent everyone (7). Diversity should, at minimum, be multicomunity. Inclusivity enhances participation and indicates the level of involvement of community representatives in core decisions. Culturally competent interventions, diversity, and inclusivity do not eliminate population disparities, but they are essential ingredients in reaching that goal.

Michigan's Planning Group for its State Asthma Plan was co-chaired by two people selected for their diversity of approach and varied perspectives. Coalition members also were selected intentionally to create a diverse membership. This diversity led to rich recommendations, increased understanding between different portions of the asthma community, and increased awareness of asthma issues outside of members' primary discipline. For example, some clinical members gained a better understanding of the availability and utility of outdoor air quality data from environmental subcommittee members.

The American College of Chest Physicians has identified five major reasons to partner in its guide, A Development Manual for Asthma Coalitions, (<http://www.chestnet.org/education/physician/asthma/manual/manual21.php>) They are conservation of resources, faster implementation of programs, risk reduction, access to specialized sources, and increased flexibility. You can use this reference to obtain an excellent overview on organizing, growing, running, and evaluating coalitions.

In New Mexico, the Asthma Program built a coalition with the Office of School Health, the School Health Officer, the State Department of Education, and a University of New Mexico program planning specialist to develop a comprehensive plan for managing the full range of asthma issues in the state's schools. A program plan was developed to secure grant funding support for pilot testing the comprehensive plan in two schools. This grant proposal was coordinated by a consultant in collaboration with the coalition. The pilot project will focus on school-based health care, asthma education, and environment. In addition, a separate pilot project to raise awareness about indoor air quality (IAQ) issues in school settings is being implemented. The Tools for Schools program developed by the U.S. Environmental Protection Agency is being used for this project. An expert IAQ consultant, who helped develop the Tools for Schools materials, is leading the process in close collaboration with the Asthma Program Health Educator.

Structure to Support Asthma Coalitions

Because leadership, participation, and resources are essential to support an asthma coalition, you will need to develop systematic leadership for governing your coalition. The SHD can take this role initially (especially if the SHD is leading the effort to develop the state asthma plan), but another partner could assume this role, either from the start of the process or after the SHD establishes the coalition.

In Illinois, SHD staff initially led the coalition. After the first year, a partner satisfaction survey, which included a question about assisting with leadership, was sent to coalition members. From this survey, two co-chairs were selected to lead meetings. The state program still performed a logistical, coordinating role.

Your coalition needs a vision, goals, and objectives and buy-in from the members. The coalition should provide members with concrete products or services they can bring back to their organization, as well as opportunities for members to share their own resources. Resources can include time, meeting space, staff, and funding.

In Wisconsin, the asthma coalition includes the following partners:

- *Children’s Health Alliance of Wisconsin—a nonprofit advocacy organization, which created the basis for the coalition when it pulled together a group of individuals and organizations to plan and implement Wisconsin’s first asthma summit, held in 2001. Since then, the Division of Public Health has subcontracted with the Children’s Health Alliance to facilitate the statewide planning process.*
- *Fight Asthma Milwaukee (FAM) Allies—a Robert Wood Johnson-funded Allies Against Asthma project. Members and staff of the local coalition participate on the Wisconsin Asthma Coalition Executive Committee and planning workgroups. The FAM Allies also conducts targeted surveillance as part of the Wisconsin Division of Public Health’s asthma cooperative agreement with CDC.*
- *American Lung Association—partners in the state planning process. An ALA staff person chairs the Advocacy/Legislation workgroup and serves on the Executive Committee.*
- *Wisconsin state agencies, including the Department of Transportation, the Department of Natural Resources, the Division of Health Care Financing, and the Department of Public Instruction.*

The Wisconsin SHD developed an organizational commitment to collaboration and coordination among divisions, by building a cross-cutting team to coordinate asthma activities across the different divisions of the Department of Health and Family Services and to encourage collaboration and joint efforts by bringing together representatives from different program areas.

Structure of Committees in Asthma Coalitions

The framework of the coalition provides the infrastructure for the development of a state asthma plan. Although each coalition is unique, they share some components of their organizational structures. Along with a governing body (such as a Board of Directors or an Executive Committee that includes chairs from all subcommittees), coalitions tend to divide themselves into manageable working groups with topical significance.

In Wisconsin, an Executive Committee (which includes the chairs of all of the workgroups) governs the Wisconsin Asthma Coalition. Workgroups focus in the following areas: environment, surveillance, clinical care, enhanced covered services, education, advocacy/legislation, and occupational health. The coalition created mission and vision statements, selected a planning model, determined a decision-making process for workgroups, set general ground rules for workgroups, and developed workgroup charges. The facilitating organization (Children’s Health Alliance of Wisconsin) chairs the Executive Committee, with guidance from Division of Public Health staff.

CDC surveyed SHDs in 2001 to identify state level asthma partnership groups and subgroups. Seventeen state partnership groups reported having subgroups. The number of subgroups by state ranged from three in Idaho to eight in North Carolina. The most frequently mentioned subgroup (16 of the 17 reports) was data/surveillance. Education subgroups were reported in 14 of the 17 reports; eight of these had separate patient or public education subgroups, seven had professional or provider subgroups, and six had general education subgroups. Ten state partnership groups had environment subgroups, six had clinical care improvement subgroups, and five had subgroups focused on schools. Two state partnerships each had a community subgroup, finance subgroup, and public awareness/relations subgroup. Each of the following subgroups were found in only one of the 17 state partnerships: access to care, certified asthma educators, communication, local coalitions, occupation, managed care, marketing, pharmacists, physician, recruitment, summits, and sustainability.

State Health Department Support of Local Coalitions

State and local coalitions must communicate. State coalitions can support local coalitions with resources and other tools. The state coalition can often partner with local coalitions on projects. The state coalition can act as a central point for local coalitions to share their activities. Representatives from the state coalition may participate in local coalition meetings and vice versa.

In Michigan, local asthma coalitions are an integral part of the State's Asthma Initiative. Using state and federal resources, the Michigan Department of Community Health provides limited support funding to each local asthma coalition for capacity building and operation needs. The state also provides additional funding for collaborative projects on which coalitions can work to benefit the coalitions as a whole. With some fiscal support from the state, Michigan's local asthma coalitions met twice a year at a Summit of Coalitions for networking, information sharing, and ongoing training. Representatives from each of the local asthma coalitions serve on Michigan's Asthma Strategic Planning Task Force and sit on the Michigan Asthma Advisory Committee, which oversees implementation of Michigan's Asthma Strategic Plan. The state also provides coalitions with technical assistance and surveillance data, which coalitions use in program planning and evaluation. Coalitions assist the state by participating in various asthma-related activities.

Sources of Funding

Funding provides the resources needed to implement coalition activities. Funds may be available as CDC cooperative agreements to the SHD, other CDC grants and contracts provided directly to community organizations for a variety of asthma interventions, private foundation grants, state-based program funds, pharmaceutical company funds, membership dues, and funds from other sources. Tobacco settlement funds in several states can be used to at least partially fund asthma programs (e.g., environmental tobacco smoke cessation education). Maternal Child and Health block grants are another possible funding source.

However, funding does not need to be in place for a coalition to be formed. Meeting space can be donated. Materials can be printed and mailed by member organizations such as the SHD.

In Illinois, the coalition does not have funding. The SHD provides support for printing and mailing, and meetings are conducted at state facilities.

ASTHMA PROGRAM COMPONENTS

Data

Data collection is an essential component for every aspect of public health program development. This section of the guide demonstrates the critical role of data and program input into decisions about surveillance efforts. (For an overview of asthma surveillance, see Boss LP, Kreutzer RA, Luttinger D, et.al. The public health surveillance of asthma. *J Asthma* 2001;38: 83-89.)



Program planning and evaluation require disease surveillance data. Education—for example, to inform policy makers of the burden of a disease to enable them to make sound decisions about providing resources to address the disease—also requires data. Because all these uses of data involve programmatic activities, program staff need to participate in the development of the surveillance system.

Program staff have much to offer surveillance staff. They can answer questions about planning, evaluation, and education activities. Data on the disease of interest are analyzed using standardized methods, and presented as tables and charts but linking those tables and charts to program needs can be challenging. If program staff and surveillance staff together plan the approach to analysis, interpretation and application of data, everyone wins.

Surveillance data can help focus programs beyond those in the SHD. Identifying the key users of data in your state and their data needs are important steps toward establishing a customer focused surveillance program. State and local coalitions are key potential users, and serving the data needs of those coalitions is an important function of the asthma surveillance team. A survey of your data users' needs can be an effective use of staff time. Organizations involved in asthma and clean indoor air issues might be able to use asthma data to support grant proposals. A "data" subcommittee to the statewide asthma partnership also can help plan surveillance activities, provide access to additional sources of data, and help with its interpretation.

Although states' access to various data sets for asthma surveillance differs, a few fundamental measures should be used for analysis and planning. These include mortality, hospitalization discharge, and Behavioral Risk Factor Surveillance System "core" asthma prevalence questions. These sources will help the SHD better quantify the prevalence and severity of asthma, both at a given point and as a trend over time.

Wisconsin has conducted asthma surveillance using hospital discharge data since 1993. The SHD has used the Family Health Survey and hospital discharge data to identify the burden of asthma. Because the hospitalization rate is highest in Milwaukee, the SHD worked with a local coalition, Fight Asthma Milwaukee Allies, to identify specifically the burden in this area using hospitalization data, Medicaid claims and encounter data, and special surveys in schools and Women, Infants, and Children clinics. As part of the SHD's planning process, a surveillance workgroup was established, and surveillance is being built into every aspect of the state plan so that goals and objectives are formed on the basis of good data.

Communicating your data appropriately to the intended user is an essential part of the education process. Several state health agencies have published attractive booklets containing their data; the appendix lists websites where these booklets can be found. A one- or two-page summary sheet also can be useful; an excellent basic presentation of state data on the Web can be found at <http://www.oshd.org/asthma>. A speaker's kit can be useful, and you are welcome to use the CDC kit, "A Speaker's Kit for Public Health Professionals," (<http://www.cdc.gov/nceh/airpollution/asthma/speakit/>). You can tailor slides from this presentation to your audience.

Consider publishing your data in your state epidemiology bulletin and medical journal. Consider nontraditional methods of dispersing information to targeted audiences for inclusion in their newsletters or on their websites. Don't forget the one-page report—"learn everything about asthma in the state at a glance"—for legislators and other policy makers.

Surveillance systems for asthma seldom include cost data. Such data are difficult to obtain, but even low estimates of asthma costs can be persuasive. Specific cost studies are unlikely to be undertaken in your state, but cost estimates for your state and every city with a population of 100,000 or greater can be found at <http://www.aafa.org>, at "Cost of Asthma in America." Another source of valuable cost information comes from state Medicaid data. Cost data are relatively easy to obtain from this database. Because state government bears a high percentage of these costs, cost data can help justify initiation and expansion of your program.

Because a surveillance system is needed for planning and evaluation efforts, developing a long-term working relationship between program and epidemiologic colleagues is important. Each SHD funded by CDC to develop asthma program capacity is assigned both a CDC project officer and a CDC epidemiologist for assistance and coordination.

Interventions

Interventions are critical to your program. They are the mechanisms by which you improve health outcomes. This section delineates the considerations a SHD should consider when planning interventions and details several potential interventions which have been proven successful by existing CDC asthma grantees and should be considered by all SHDs as part of intervention planning. An SHD can consider other interventions based on the specific needs and audiences identified.

First steps include identifying the need for the intervention and the priority audiences to be addressed, and establishing goals and measurable objectives. These steps should be taken with input from state and local partners. Interventions should support program goals and be designed to meet measurable program objectives. To determine the success of an intervention, an SHD must determine whether it worked and to what extent; why it did or did not work adequately; and whether it should be continued, changed, or stopped. Consider the following example: Your state partnership identified professional education as a priority. Your goal was to educate primary-care physicians about the National Heart, Lung, and Blood Institute (NHLBI) guidelines. Your measurable objective was to provide all primary-care physicians with pocket cards on the NHLBI guidelines through a mailing within a given time period. To evaluate this intervention by measuring usefulness of the pocket cards and change in practice you sent an evaluation form to providers. The providers returned only ten percent of forms of which 50% indicate the cards had not been used. At this point, your program partners need to determine whether to continue, change, or end this intervention.

To be prepared to implement an intervention, the program must be able to answer six questions: Who is the target of the intervention? What is the program to be implemented? When will it be implemented? Where will it be implemented? How will it be implemented? and Why is it going to be implemented in the particular method chosen? Solicit input from partners before selecting or implementing an intervention, especially if partners are critical players. Use surveillance information to help make decisions about interventions, because surveillance will yield insights on priority audiences and possible methodologies. To the extent possible, select interventions that are science-based and have been proven effective in a setting similar to the one your program is considering. Conduct an intervention to achieve a goal, not only for the sake of doing program activities or spending allocated funds. Evaluation should always be a part of any intervention.

SHDs should be sensitive to the phenomenon that can arise in any group of enthusiastic partners--the desire to "go out and do something." That "something" can be an intervention that is not selected based on a data-driven need, nor one that is grounded in science with a track record of success. Although any asthma intervention might succeed, those that have been developed through a systematic process and are based on a proven research model are likely to be stronger and more cost-effective candidates.

Even an unsuccessful intervention can provide gain valuable information if it is properly evaluated against measurable objectives. For example, an intervention that was not

implemented with fidelity to the model on which it was designed may require review of the process to determine whether the intervention needs to be changed or stopped and replaced with another intervention. Learning from an unsuccessful intervention is a realistic way to improve your program, strengthen partnerships, and meet overall program goals.

School-related Interventions

The school environment is a promising one for the implementation of your asthma interventions. Given asthma's impact on school absenteeism and other quality-of-life factors for children and the amount of time students (and adults working in the school) are enclosed in this environment, school systems are a natural potential statewide partner.

Schools have a number of issues that you can address. These include lack of knowledge about asthma among staff or students, IAQ issues, inadequate physical activity for students with asthma, identification of students with asthma, access to medications, missed school days, or availability of nurses to provide adequate care.

Many ways exist to determine the issues that need to be addressed in a school system. As with all interventions, those in schools should be data-based and must be subject to evaluation. Most states have access to Youth Risk Behavior Survey (YRBS) data, which can prove useful in setting up a school-based asthma program. Additionally, states may have data on health services, health education, and physical education programs and use. However, few data exist on asthma in schools. As a result, you might survey school superintendents or regional offices of education about health, performance, or policy issues related to asthma. Such a survey could reach a broad school population throughout the state. A survey of school nurses also could help collect data. Survey activities should involve the SHD surveillance staff. Seek out additional persons with whom to work within schools, such as health educators, physical education teachers, office staff, and parent-teacher groups. Focus groups comprising school staff can provide greater detail for potential programs.

A primary goal for schools is that they incorporate interventions that support the whole school community in the management of asthma. All school staff, parents, and students need to be given the opportunity to be involved. To tackle asthma issues, as well as other student health issues and involve all key players, you should develop a school health committee or use an existing health committee structure to address school asthma needs.

The approach to working in schools varies by state. Each state has uniquely structured school districts and its own state education agency. The state Board of Education (or similar body) will play a key role; school nurses also play key roles. Your statewide



asthma partnership and planning process should include both. Your state education agency can explain the schools' methods of communication and how you can partner with the agency and schools in multiple school projects. For example, if your state passes a new law regarding asthma and your organization wants to provide information about asthma and the new law, the state education agency can assist you by mailing the information or placing it on its website.

School nurses manage students with asthma first-hand and can help involve parents, teachers, principals, and coaches. Because many school nurses are members of professional associations, explore the professional affiliations available in your state. CDC's Division of Adolescent and School Health (DASH) funds state education agencies to conduct comprehensive school health programs, and in some states this includes efforts to implement asthma interventions. The CDC document "Strategies for Addressing Asthma Within a Coordinated School Health Program" concisely lists actions schools can take to help students manage asthma through a coordinated approach that addresses management and support systems; health and mental services; asthma education; healthy school environments; physical education and activity; and school, family, and community efforts. This document is available on the CDC DASH website: http://www.cdc.gov/nccdphp/dash00_pdf/asthma.pdf.

Children with asthma need proper support at school to control their asthma and to be fully active. The handbook "How Asthma Friendly is Your School?" is a useful resource for determining how well a school setting accommodates children with asthma. The seven-item checklist in this handbook is in a scorecard format that parents, teachers, and school nurses can use to help identify specific areas that may cause problems for children with asthma. This resource can help parents, teachers, and school nurses gain support from school administrators to make school policies and practices more asthma-friendly. This handbook is available at www.aafa.org. A few examples of policies that schools can implement to support children with asthma include: providing quick, reliable access to medications; requiring physicians to provide individualized student asthma management plans; planning for handling an asthma emergency; pre- and after-school care for children with asthma; and promoting safe and full participation in all school activities.

Child-care Facility-related Interventions

Child care is an emerging and important area for consideration of possible asthma interventions, as well as a source for participants in your statewide asthma partnership. The Asthma and Allergy Foundation of America (AAFA) has developed an education package called "Asthma and Allergy Essentials for Child Care Providers." It addresses ways to recognize the signs and symptoms of an asthma or allergy episode, institute environmental control measures to prevent such episodes, and properly use medications and other equipment for asthma management. An environmental checklist allows for pinpointing allergens and irritants that could affect a child's breathing. The program is available in areas of the country serviced by AAFA chapters. For more information, visit AAFA's website, <http://www.aafa.org>.

Professional Education Interventions

Professional education plays an important role in educational interventions. It targets a specific group; clinicians who diagnose and treat asthma. To manage this chronic disease successfully, ongoing partnerships among patients, caregivers, and health-care providers must be established. New medical therapies need to be learned, as do new approaches to self-management. In addition, health-care providers increasingly are affected by health-care delivery and business issues, so collaborative education that acknowledges the full scope of asthma case management is needed.

Physicians often are most receptive to information from other physicians, especially those who are well-respected opinion leaders. Time is a critical factor and a frequent barrier to education for the health-care professional. Therefore, identifying partners who can easily reach the health-care professional is important (e.g., partner with the American Academy of Pediatrics to reach pediatricians).

Education for health-care providers should focus on changing aspects of provider behavior rather than just presenting information. Describe for providers key behaviors and messages they can use during routine asthma care, and emphasize that quality of care and efficiency can improve with change.

As part of the North Carolina Asthma Initiative, a distance learning course offered through the National Respiratory Training Center (NRTC) has been used to increase the asthma skills of over 200 health professionals in the state and another 250 clinicians in 40 other states, since 1998. This comprehensive course is designed to expand understanding of asthma, extend knowledge of diagnosis and treatment of the disease (based on NHLBI guidelines), and improve effectiveness in educating and monitoring patients. It includes a 4 to 6 month period of workbook and structured, applied learning along with two mid-course study days and one final review and examination day. Evaluation has found that NRTC graduates are more knowledgeable about asthma, have sharper prevention and management skills, and are more confident they can make a positive difference in the health of their patients than they were before the course. (More information on the NRTC's Asthma Course is available at <http://www.nrtc-usa.org>).

Patients receiving asthma care interact with a variety of health-care providers. Ensure that education is consistently provided to all members of the asthma management team, including physicians, nurses, clinical staff (such as asthma educators or respiratory therapists), and others. In a hospital setting, this could also include emergency department personnel and pharmacy staff, as well as primary-care physicians and asthma specialists and their staffs.

Simply mailing information to health-care providers is not an effective way to change behavior. Problem-based learning is effective with providers, but it can be time consuming and costly. Some of the best education programs require providers to apply their newly learned skills and knowledge while they still have access to the instructors for advice. You should identify education practices successful with the health-care

provider group being targeted. For example, for the allied health professional, a successfully evaluated training program might be used.

Occupational Settings Interventions

Work-related (occupational) asthma is defined as any case of asthma in which exposures in the workplace cause or aggravate symptoms. It includes persons with asthma who take their condition to work and may develop exacerbations at work because of exposure to routine environmental allergens and persons who develop asthma or asthma exacerbations because of specific occupational exposures. An estimated 11 million workers in a wide range of industries and occupations are potentially exposed to at least one of the more than 200 agents known to be associated with the development of occupational asthma, and about 15% of asthma among adults qualifies as work related. (U.S. Dept. of Labor, Occupational Safety and Health Administration website <http://www.osha.gov/SLTC/occupationalasthma/>). Most occupational asthma can be managed once the agent is identified and strategies are implemented to minimize contact with the agent. Education of workers also is important. Proper materials-handling procedures, avoidance of spills, and good housekeeping can reduce occupational asthma. When implementing occupational asthma projects consider partnering with occupational health nurses and physicians; health and safety officers; union representatives; staff of the state departments of labor, health, or the environment; the U.S. Environmental Protection Agency; CDC's National Institute for Occupational Safety and Health (NIOSH); and the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA).

Many federal agencies are implementing surveillance projects to collect data on the prevalence of occupational asthma. For example, a NIOSH-developed tool, the "Initial Questionnaire of the NIOSH Occupational Asthma Identification Project," includes materials and other instruments used by academic investigators to gather information on respiratory symptoms and diseases. It has been used with groups at risk for occupational asthma. The questionnaire is being evaluated in comparison to other health responses in the workers surveyed to determine which items most effectively identify workers with occupational asthma. The questionnaire can be viewed at <http://www.cdc.gov/niosh/asthwww.html>.

Because not all health-care providers are occupational medicine specialists you should include work-related asthma in professional education. Primary-care providers need to be aware of the role of exposure to work-related agents in causing and exacerbating asthma so they can help patients identify triggers at work and refer them to specialists. In addition, work-related asthma needs to be incorporated into other asthma surveillance and intervention activities.

Environmental Interventions

Education and outreach activities addressing environmental factors involved in asthma should be major components of a state asthma program. A variety of education and outreach strategies can be employed to inform audiences about environmental factors that are important in asthma and how exposures can be reduced or eliminated. Some

examples include conventional public service messages in print and broadcast media about asthma exacerbation triggers and ways to avoid exposure; ambient air-quality advisory networks that forecast days with high ozone, particulate matter, or allergen exposure levels and that are combined with messages to reduce outdoor physical activity at certain times of day; and outreach to physicians about assessing residential or workplace exposures that affect their patients' asthma and recommending ways to reduce those exposures. Educational efforts can be directed toward individual patients, their families, health-care providers, community organizations, local government agencies, landlords, employers, workers, and schools, with outreach messages customized for different audiences. Allergens cause reactions only in persons with particular allergies. Although all persons with asthma should ideally be aware of the allergens to which they are allergic, this is often not the case, and you should design your educational strategies accordingly. In addition, direct interventions by public health agencies to reduce or eliminate residential or occupational environmental exposures can be implemented in some circumstances.

The New York State Healthy Neighborhoods Program involves local health department staff visiting individual homes. They provide both educational elements, such as instruction in effective cleaning methods, and direct intervention elements, such as bedding encasements for antigen-exposure reduction and recommendations for behavior modification to restrict or eliminate residential indoor smoking.

Interventions Involving the Elderly

Elderly persons are a target population with specific issues and considerations for asthma interventions. The highest rates of asthma-related death occur in the elderly, making them a key group for you to consider when planning interventions.

When dealing with the elderly population, co-morbidity issues--such as chronic obstructive pulmonary disease (COPD)--typically are a factor. Asthma is reversible, whereas COPD is not. Access to care and ability to pay for medication are also issues. Asthma medications may interact adversely with medications used to treat other conditions more prevalent in the elderly than in other groups. In addition, no central location exists for accessing the elderly analogous to schools for accessing children. This makes education and awareness interventions more difficult. Partnering with groups such as the state Department on Aging (or equivalent) and other groups that have experience working with the elderly population can help you overcome this obstacle.

Including Asthma with Other State Public Health Interventions

Resources are always a concern in establishing a disease intervention. Opportunities may exist to add asthma to an existing intervention, for example, one for lead poisoning prevention, smoking cessation, maternal and child health, or death review teams. These opportunities also may be available in the area of surveillance, and both program and surveillance asthma staff should look for ways to share data and limited resources with more longstanding programs.

Legislative Policy and Issues

Legislation is a key intervention for many chronic diseases. Well-known examples include removal of lead from gasoline; mandated use of seatbelts and motorcycle helmets; mandated third-party payment for medical services, such as mammography; and taxation of tobacco products. Such legislative action has changed behaviors and prevented deaths.

Staff of most public health agencies at the local, state, and national levels are not permitted to develop or lobby for specific legislation or policy development. However, some are called to testify on potential legislation, and most are permitted to educate persons who have influence. Nonetheless, the restrictions placed on health agencies do impact their ability to participate directly in the legislative and policy arenas. Nongovernment organizations are better positioned in some ways to target health-care issues. Therefore, partnerships between SHDs and these organizations are key components to addressing asthma successfully.

The American Lung Association (ALA) demonstrated its leadership in the area of asthma legislation in the publication of *Action on Asthma* in January 2000. ALA sent every state asthma contact a copy of this manual, and every local ALA office should have a copy. *Action on Asthma* is a starting point for developing an asthma advocacy effort in your jurisdiction. It provides foundation information and lobbying tactics, model legislation, advice on cooperating with the media to accomplish your goals, and a list of useful resources. It considers legislation related to four primary areas:

- Program infrastructure: surveillance, program, and evaluation
- Schools
- Access to health care
- Environment

A similar ALA Advocacy Binder exists for tobacco. Consider linking with tobacco coalitions to accomplish asthma-related legislative goals.

Knowing about asthma-related legislation in your state, such as legislation or policies that negatively impact people with asthma (e.g., drug-free school policies that limit a person's ability to carry needed medication), and bills under consideration that positively or negatively impact people with asthma is vital. State Medicaid programs are another area where you can advocate for proper asthma care; program staff should keep abreast of state Medicaid issues related to this disease.

Several sources exist that can help identify pertinent state legislation in your agency's legal office. The National Conference of State Legislatures, a bipartisan national forum for state lawmakers, offers a CDC-funded, searchable database of state asthma bills and laws at <http://www.ncsl.org/programs/ESNR/asthma.cfm>. CDC maintains an asthma legislation and policy page at <http://www.cdc.gov/nceh/airpollution/asthma/policy.htm>. A number of state websites also can help you; see the Resource Materials section at the end of this document, under Useful Web Links--State.

Environmental Factors

Goals of the environmental health component of a state asthma plan should include identification of environmental factors that are important contributors to asthma prevalence and morbidity and reduction of eliminating exposure to those factors. To attain these goals, government asthma programs can include education and outreach activities, direct interventions, policy initiatives, monitoring, and research—at least in the broad sense of keeping abreast of the most current state of knowledge related to asthma causation and exposure reduction. Two other important general program elements are collaboration and coordination of effort among involved state agencies (e.g., between health, housing, and environmental protection agencies) and ongoing program evaluation to assess the effectiveness of interventions and other program activities.



An excellent reference for use in developing a state environmental program for asthma is the 2000 Institute of Medicine report: *Clearing the Air: Asthma and Indoor Air Exposures*. This report summarizes scientific and technical research on the health impacts of indoor pollutants related to asthma, and mitigation and prevention strategies to reduce these pollutants. It is available at <http://www.nap.edu/books/0309064961/html/>.

In developing a state asthma program, consider both indoor and outdoor environmental exposures. Common residential indoor exposures that can be significant factors in asthma causation or exacerbation include antigens (dust mites, cockroach, rodents, furry pets, fungi, and foods), environmental tobacco smoke, dampness (which may be involved in asthma indirectly by promoting antigen sources such as fungi or dust mites), building materials (e.g., formaldehyde in many pressed-wood and other household products, insulation fibers, volatile chemicals from glues and paints), and consumer products (e.g., cleaning products, hobby or craft materials, perfumes and colognes, furniture, and carpeting). Many of these also can be present in nonresidential indoor settings, such as child care centers or schools.

Occupational exposures may be directly job-related and can include antigens (e.g., latex, laboratory animals, and wheat flour), sensitizing chemicals (e.g., nickel, glutaraldehyde, and toluene diisocyanate), and many chemicals that are respiratory irritants. Other occupational exposures that can be associated with workplace asthma are not directly job-related but may be related to more general indoor air quality issues, such as dustiness, dampness, fungal growth, cleaning products, building materials, furnishings, or poor ventilation.

Many outdoor exposures may be related to asthma exacerbations, including several of the criteria air pollutants (ozone, particulate matter, nitrogen oxides, and sulfur dioxide). Other common outdoor exposures that may be important in asthma morbidity include hydrocarbon vapors, diesel exhaust emissions, and outdoor antigens (pollen and fungi).

You also can use information you gather about controlling exposures to environmental factors to support policy initiatives. Such interventions are costly, making it even more important that you implement appropriate program evaluation. Policy actions aimed at reducing environmental exposures will be strengthened if you support them with sound scientific information supporting their effectiveness, for example, using studies of the effect of environmental tobacco smoke on pre-school age children to help champion a child care facility no smoking policy.

Research and data collection are important program elements that provide the basis for education and outreach, direct intervention, and policy actions. SHDs should be aware of the latest scientific findings related to environmental factors and asthma. Some SHDs may be able to learn from ongoing projects within the state agency or area universities, about environmental links to asthma causation and exacerbation. CDC will share pertinent information with SHDs. You can check the CDC asthma website at <http://www.cdc.gov/asthma> for emerging information related to environmental research and other asthma research topics.

Research activities increase our understanding of the environmental factors that are most important in asthma, methods that are effective in reducing or eliminating exposures, and ways to prioritize program elements. Your research activities may largely involve maintaining an understanding of current knowledge of environmental exposures and asthma, but they also can include original research, if your agency has resources to support it.

Ongoing program evaluation is important to assess the effectiveness of interventions and education and outreach activities. Surveillance programs help define the asthma burden in various contexts, such as the workplace, schools, and community. For example, occupational asthma surveillance can be used to identify specific workplace exposures to target intervention or outreach activities. Another important element in this area is coordination among data-collection systems—e.g., between ambient air-monitoring data systems and asthma surveillance systems. Finally, asthma programs should have the flexibility to adapt to new asthma research or surveillance findings.

Communication

Communication is critical element for all facets of asthma program development and implementation. The ability of surveillance and program staff to communicate their needs and mechanisms for meeting those needs and results of data gathering have a major impact on the planning process for designing a statewide asthma program. Communication is the lifeblood of coalition building and maintenance; some of the best efforts can be undermined if people feel they are not being kept informed, or if their work is not appreciated. Successful interventions count upon effective and continuous communication between those implementing, and those affected by, the planned activities.

Although this vital component cross-cuts all program activities, someone on your program staff will need to have lead responsibility for SHD external and internal communication about planning and implementation. This person will need to work

closely with the SHD's media or public affairs office, as well as with CDC project officers, and should consider using national asthma planning documents, such as *Action Against Asthma* (www.aspe.hhs.gov/sp/asthma) to design a state level asthma campaign.

Key national messages that your state level asthma program could include are the following:

- Asthma is a serious disease
- Asthma has no cure
- Asthma can be well managed through a combination of proper diagnosis and treatment, environmental control and management, and behavior change
- People with asthma can live normal lives without significant limitations to their activities

Your messages should state clearly that behavior changes include the greater health-care, school, business, legal, and social environments and that asthma requires a coordinated and comprehensive public health response. You can tailor CDC's slogan "A Public Health Response to Asthma," to a state or community venture, such as "Michigan's Public Health Response to Asthma" or "Partners in Asthma-A Public Health Response in Genesee County."

Many state programs have found a website for asthma useful. A website can inform the public about asthma and the program's activities as well as communicate with state partners. As of early 2002, 13 state asthma programs had websites; see these listed at the Resource Materials section. Other channels of communication to consider are e-mail, newsletters, periodic mailings, and statewide conferences. Excellent websites of national asthma organizations are included in this section.

PROGRAM EVALUATION

Program evaluation is a vital part of the overall process of developing and implementing an effective asthma program. Because evaluation occurs at both the beginning and end of any successful program and is used to improve ongoing programs the planning process is both linear and cyclic. Evaluation is both formative—assessments are made at the start and throughout the process to fine-tune surveillance and implementation activities—and summative—the impact of the program is measured upon completion of key elements. Evaluation results are continuously fed back into the program planning and implementation process to improve effectiveness and efficiency. Evaluation answers two key questions: "Are we doing things right?" and "Are we doing the right things?"

The program planning phase should include evaluation. Evaluation is the critical factor that enables us to know whether we are using our limited resources in the most cost-effective manner. We encourage you to review CDC's guide, "A Framework for Program Evaluation in Public Health," published September 17, 1999, in the *Morbidity and Mortality Weekly Report* (Vol. 48, No. RR-11). (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4811a1.htm>). It explains the value of evaluation, outlines six steps for

developing an evaluation framework, and provides four evaluation standards that can help assess whether an evaluation is well designed and working to its potential.

Evaluation of an asthma program should include both process measures and outcome measures. Process measures, collected throughout the program's development and implementation, allow an SHD to assess a program's implementation and answer the question "Are we doing things right," or "How well are we implementing our state plan?" Some questions you can answer include the following: Is the program progressing according to schedule? Are data sources collectable? Do the data reveal the expected information? Are coalition activities falling into place? Are materials being written as planned? Are partners keeping to their schedule and commitments?

Your outcome measures should be developed to assess the results of the implementation of the overall asthma program. These could include measures of the specific interventions described in the program, but also would include measures of the total of the parts, e.g., surveillance, interventions, coalitions, legislation, communication. One example is the measure of emergency department visits for asthma over time. Outcome measures assess a program's impact and answer the question, "Are we doing the right things?" or "We appear to be implementing our state plan very well; do we need a better plan?"

The Asthma Initiative of Michigan uses CDC's Framework for Program Evaluation in Public Health to guide its evaluation process. It also has hired an evaluation consultant from the University of Michigan and formed an Evaluation Subcommittee (a subgroup of the Advisory Committee) to assist in the development and implementation of the evaluation plan. The evaluation is guided by three primary questions: 1) Is our process effective? 2) Are we improving knowledge and behaviors and affecting intermediate outcomes (e.g., patients, providers, systems, policies)? 3) Are these efforts reducing asthma's impact on Michigan morbidity and mortality? Because Michigan does not have the resources to evaluate every component of its asthma initiative, it focuses their evaluation on priority projects perceived to have the greatest potential for impact. For each priority project, a logic model is being developed to identify impact and outcome indicators for evaluation. Evaluation designs will vary, depending on the nature of the intervention. Essential to Michigan's evaluation plan is involvement of its partners and stakeholders in both the evaluation development and implementation.

In planning an asthma program evaluation, a SHD should focus on what it wants the program to do. Process questions can include the following: Were the key questions regarding asthma that the program set out to answer examined? Was information gathered in response to these questions? What interventions were implemented? What infrastructure was built across the state to support the program and to allow for asthma communication, education, and policy-making? What stakeholders were engaged in identifying possible solutions?

Outcome questions related to evaluation of your overall program can include the following: What were the results? What attributable, measurable outcomes resulted from individual interventions and from the entire program? How has the program affected the asthma burden of disease, as measured by recognized criteria, such as prevalence, hospitalizations, and missed school days? Will the measurable outcomes encourage stakeholders to embrace the program and sustain it beyond the period of government funding?

The New York State Department of Health will evaluate its regional asthma coalitions using the CDC Framework for Program Evaluation in Public Health. New York began its evaluation planning in May 2002 and continued efforts during the next month's statewide coalition conference. Buy-in was critical to obtain from the seven regional coalitions before the evaluation initiative could progress further. The program staff developed a logic model, which took a number of iterations to finalize. By early 2003, having completed the first two steps of engaging stakeholders and developing the program description through the use of the logic model, the SHD is focusing the evaluation design to ensure users and uses are identified, the appropriate measures are established, and a timeline is put in place.

DEVELOPING A STATE PLAN

Within each state, a large number of individuals and organizations are undoubtedly committed to asthma care. However, they are often working independently or in small groups with no unified vision or unifying direction. Your statewide plan can bridge this gap and ensure that people with asthma across the state have access to asthma information, care, and services. A statewide plan can minimize duplication of effort and maximize resource use.

Here are some common elements you can consider including in your statewide plan:

- **Background** This section defines the current condition and describes why asthma should be a public health priority. It answers such questions as What is the asthma burden of disease in the state? Why is a statewide plan necessary? How was it developed? Who was involved in the planning process? What activities or infrastructure are currently in place?
- **Asthma Priorities** Here you should outline the results of asthma surveillance activities and how these activities have helped shape your state's planned approach to asthma management. This section highlights issues unique to your state (e.g., large immigrant population with poor access to care, challenges to collaboration due to rural geography, barriers to access to asthma surveillance data) and ranks priorities for action. It also notes how your state's priorities may differ from or coincide with national asthma control priorities, such as those in Healthy People 2010.
- **Goals, Objectives, and Activities** This section provides a vision of the state asthma plan, by describing its goals. Objectives are more concrete statements that specify how you will attain the broader goals. Objectives should be measurable

and describe a specific product, service, or action. Activities are concrete steps needed, usually in sequence, for the objective to be met.

Some state asthma programs are further along than others in terms of resources for completion of activities. Therefore, not all goals and objectives necessarily have to begin as completely time-phased or measurable. Your state plan needs to be a “living” document that is periodically updated, so progress, achievements, and clarifications to objectives and activities can be included. However, your state plan should describe how you plan to address your measurable objectives.

- Process of Creating a Statewide Plan The statewide asthma coalition is a natural forum for championing the creation of your state asthma plan. An SHD, ALA chapter, or any competent individual or agency can lead the coalition. You should invite anyone who is interested and has a stake in the outcome: health-care providers, public health professionals, advocacy groups, environmental health professionals, school personnel, people with asthma and their families, local coalitions, community-based organizations, legislators and their aides, professional organizations, and the media. Not all potential stakeholders will participate, and in some states, the SHD may be discouraged from involving certain groups (e.g., in Michigan, state legislators were not included in the state asthma plan process because of potential conflicts of interest and lobbying restrictions).

In Michigan, strategic planning participants were identified through a multitiered process. Michigan began by asking current partners if they would be interested in participating in a strategic planning process for asthma and inquiring about additional individuals and organizations that this strategic planning initiative should involve. This resulted in a list of over 100 individuals and organizations with a vested interest in asthma across the state. Potential participants were reviewed to ensure a broad representation of expertise, experience, geographic distribution, affiliation, and community representation. Each potential participant received a letter from the Department of Community Health explaining the strategic planning initiative and anticipated timeline of meeting and activities and inviting them to participate in the planning task force or to identify a representative from their. The result was a 125-member planning task force with persons representing nearly 90 organizations who developed Michigan’s Asthma Strategic Plan.

Members of the Planning Task Force were divided into four subcommittee: Clinical Care, Education, Environmental Quality, and Surveillance and Epidemiology. Each subcommittee was charged with developing recommendations in its areas that were science-based, maximized quality assurance, had the potential for statewide impact, addressed underserved populations, and included measurable and sustainable strategies. The full task force reviewed and approved the resulting recommendations were and published them in a final report.

Identification of potential participants can be challenging, especially considering the range of professionals needed to represent all areas of asthma management, such as tobacco reduction coalitions, organizations that implement asthma-related

recommendations (such as health maintenance organizations and Medicaid), health-care professionals in the field (including pharmacists and Doctors of Osteopathy), and representatives who reflect the geography and demography of the state. The SHD (or agency leading development of the state plan) needs to network with the widest possible variety of sources to gather “leads” for potential interested partners.

In Wisconsin, the first day-long meeting of asthma workgroups included one adult with asthma and two parents of children with asthma who shared their experiences and provided input regarding improving asthma diagnosis and management.

Planning and Conducting a Meeting

At least one statewide meeting during which all participants can talk about the issues, prioritize them, and decide next steps may be helpful. Before this meeting, provide invited participants with background materials, including asthma surveillance information. Plan for at least one full day of meetings. To help establish the framework for the project provide an overview of the meeting’s goals and timeframes, as well as criteria on which to base recommendations such as linkage to the state’s asthma priorities, as identified through surveillance activities; basis in science; feasibility; and potential for reducing the problem.

Organize breakout groups that can discuss each potential priority area in depth and report recommendations to the entire group. Advise the breakout groups of the need to develop measurable objectives and evaluation plans for their selected recommendations, to assess progress on implementation and impact. Ask them to relate these measures to national objectives, such as Healthy People 2010.

Decide and arrange next steps. If the breakout groups need to communicate directly, set up a second meeting or teleconference. Ask for volunteers to serve on a workgroup for plan development, which has been labor intensive in existing CDC asthma grantee states. Staffing the planning activity should be discussed carefully and every attempt should be made to muster sufficient human resources from a variety of sources (e.g., set up teams to write different sections, borrow from other states’ plans, use university students to review or research sections if possible) for its completion.

Writing the Plan

After the initial statewide meeting and after subgroups have developed recommendations for goals, objectives, and activities, your workgroup should begin organizing these recommendations into an overall plan. Gaps in information need to be identified and filled by either the subgroups or the plan workgroup. Written input from the subgroups needs to be reworked into one cohesive document. As soon as possible, send a draft to a select group of meeting attendees, such as breakout leaders, to elicit feedback.

When your draft is nearly final, share it with all meeting attendees. Their comments will determine whether you need to re-convene one or more subgroups. Alternatively, the statewide coalition leadership may need to become involved if the process starts getting mired by disagreements. You will need a defined approval chain for the plan once it is in its final format. If the SHD or other government agency is preparing the plan, remember to figure clearance time and issue resolution into the milestones for plan approval. States that have already completed a plan, as part of a CDC funded cooperative agreement for asthma program capacity building, have found helpful a periodic review of the original Request for Application to ensure that all requirements related to state plans have been addressed.

Disseminating the Plan

You should view with pride the approval and release of your state asthma plan. The plan is a rallying point for your state asthma coalition and for regional or local coalitions. Its unveiling will catch the attention of professionals, the public, and the media. You should share the plan with all meeting attendees and partners, as well as professional societies, local health departments, voluntary health organizations, policy makers, the media, and others. In fact, the release of the plan can be the focal point of a media event. Depending on your state- or community-specific activities, you can combine the release of the plan with a larger asthma event, such as World Asthma Day, or link it to another appropriate milestone, such as the beginning of the school year or passage of asthma legislation. The plan should be posted on the SHD website and on your partners' websites. Because the plan is a living document, it will need review and update at least annually as implementation begins and evaluation measures are assessed. This will allow you to improve the plan over time.

SUMMARY

SHDs have a pivotal role in the establishment of an infrastructure to successfully address asthma at state and local levels. Through cooperative agreements, CDC has provided a number of states with resources to begin this work, while in other states the efforts are underway without federal funding. In both cases, health department staff bring a wealth of skills to asthma surveillance, the development of coalitions and a statewide asthma plan, and ultimate program implementation and evaluation. We developed this Guide to assist you in these efforts, and we recognize that many approaches can lead to the same successful outcomes. We wish you the best of luck as you work to improve the quality of life for people with asthma and their families.

RESOURCE MATERIALS

General

CDC. A Speaker's Kit for Health Care Professionals (2003):

<http://www.cdc.gov/nceh/airpollution/asthma/speakit/default.htm>.

CDC. National Center for Environmental Health, Air Pollution and Respiratory Health Branch (2003): <http://www.cdc.gov/asthma>.

CDC. Surveillance for Asthma--United States, 1980-1999" MMWR 2002; 50(No. SS-1):

<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5101a1.htm>.

Council of State and Territorial Epidemiologists (CSTE) Asthma Surveillance and Case Definition, Position statement number 98EH/CD-1 (1998):

<http://www.cste.org/ps/1998/1998-eh-cd-01.htm>.

Mortimer KM, Mitchell HE. The Inner-City Asthma Program: A guide for Helping Children with Asthma. National Cooperative Inner City Asthma Study, the National Institute of Allergy and Infectious Diseases, NIH, 1997. (Phase 2; available from NIAID).

NIH. Facts About Controlling Your Asthma (1997):

http://www.nhlbi.nih.gov/health/public/lung/asthma/asth_fs.htm.

NIH. Lung Information for Health Care Professionals:

<http://rover.nhlbi.nih.gov/health/prof/lung/index.htm>.

NIH. Lung Information for Patients and the General Public:

<http://rover2.nhlbi.nih.gov/health/public/lung/index.htm#asthma>.

NIH. National Institutes of Health, National Heart, Lung and Blood Institute. National Asthma Education and Prevention Program Expert Panel Report 2: "Guidelines for the Diagnosis and Management of Asthma (1997): <http://www.nhlbi.nih.gov/guidelines/>.

Pearce N, Beasley R, Burgess C, and Crane J. "Asthma Epidemiology: Principles and Methods." New York: Oxford University Press, 1998.

US DHHS. Action Against Asthma, A Strategic Plan for the Department of Health and Human Services. Washington, DC: U.S. Department of Health and Human Services (2000): <http://aspe.hhs.gov/sp/asthma/index.htm>.

US DHHS. Healthy People 2010. Washington, DC: U.S. Department of Health and Human Services: <http://www.healthypeople.gov>.

Yes We Can Toolkit: Includes Program Implementation Manual, Clinical Care Coordinator Manual, Community Health Worker Manual, Data Base CD Rom for chart clinical encounters and CHW home visits, forms, sample letters, and protocols:
<http://www.communityhealthworks.org/yeswecan>.

Sources of National Comparison Data

CDC. National Center for Health Statistics National Vital Statistics System:
<http://www.cdc.gov/nchs/nvss.htm>.

CDC. National Center for Health Statistics Surveys and Data Collection Systems:
<http://www.cdc.gov/nchs/express.htm>.

Prevalence

CDC. Behavioral Risk Factor Surveillance System (BRFSS):
<http://www.cdc.gov/nccdphp/brfss/>.

CDC. BRFSS Questionnaires: <http://www.cdc.gov/nccdphp/brfss/brfsques.htm>.

CDC. 1999 BRFSS Summary Prevalence Report, Tables 33.1 and 33.2, p. 91-92:
<http://www.cdc.gov/nccdphp/brfss/pdf/99prvrpt.pdf>.

CDC. National Center for Health Statistics: <http://www.cdc.gov/nchs/about.htm>.

Ambulatory Health Care Data

Burt C, Knapp D. Ambulatory Care Visits for Asthma: United States, 1993-1994. Advance Data Number 277: September 27, 1996: <http://www.cdc.gov/ncsp/data/ad277.pdf>.

CDC. National Ambulatory Medical Care Survey: 1998 Summary. Advance Data Number 315: July 19, 2000: <http://www.cdc.gov/nchs/data/ad/ad315.pdf>.

National Hospital Discharge Survey

Hall MJ, Popovic JR. 1998 Summary: National Hospital Discharge Survey. Advance Data Number 316: June 30, 2000: <http://www.cdc.gov/nchs/data/ad/ad316.pdf>.

Estimates of Cost

Asthma & Allergy Foundation of America. Costs of Asthma in America:
<http://www.aafa.org/highcosts/index.html>.

Asthma Coalition Development

Kaye G, Wolff T (Eds.). From the Ground Up! A Workbook on Coalition Building & Community Development. Amherst, MA: AHEC/Community Partners, 1997:
<http://www.ahecpartners.org/order/>.

University of Kansas Community Development. Community Tool Box:
<http://ctb.lsi.ukans.edu>.

Winer M, Ray K. Collaboration Handbook—Creating, Sustaining, and Enjoying the Journey.
St. Paul, MN: Amherst H. Wilder Foundation, 1994:
http://www.wilder.org/pubs/collab_hndbk/index.html.

School-based Asthma Education Resources

American Lung Association Open Airways for Schools and A is for Asthma:
<http://www.lungusa.org/asthma/>.

Environmental Protection Agency (EPA). IAQ Tools for Schools:
<http://www.epa.gov/iaq/schools/index.html>.

EPA. IAQ Tools for Schools, Managing Asthma in the School Environment: <http://www.epa.gov/iaq/schools/asthma/index.html>.

Minnesota Department of Health. Asthma Education: An Integrated Approach, Ideas for Elementary Classrooms: (or call 612-676-5274 or e-mail library@health.state.mn.us to request).

NIH. Asthma and Physical Activity in the School:
http://www.nhlbi.nih.gov/health/public/lung/asthma/phy_asth.htm.

NIH. Asthma Awareness Curriculum for the Elementary Classroom:
<http://www.nhlbi.nih.gov/health/prof/lung/asthma/school/index.htm>.

NIH. National Institutes of Health, National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program: <http://www.nhlbi.nih.gov/about/naepp/index.htm>.

Useful Web Links - National

Agency for Healthcare Research and Quality (AHRQ): <http://www.ahrq.gov>.

Allergy & Asthma Network, Mothers of Asthmatics, Inc (AAN/MA):
<http://www.aanma.org/>.

American Academy of Allergy, Asthma, & Immunology (AAAAI):
<http://www.aaaai.org>.

American Academy of Pediatrics: <http://www.pediatrics.org>.

American Association for Respiratory Care (AARC): <http://www.aarc.org>.

American College of Allergy, Asthma & Immunology (ACAAI):
<http://allergy.mcg.edu/About.html>.

Allergy, Asthma & Immunology Online: <http://allergy.mcg.edu>.

American College of Chest Physicians (ACCP): <http://www.chestnet.org>.

American Journal of Respiratory & Critical Care Medicine:
<http://www.atsjournals.org/>.

American Journal of Respiratory Cell & Molecular Biology:
<http://www.atsjournals.org/>.

American Lung Association (ALA): <http://www.lungusa.org>.

American Thoracic Society (ATS): <http://www.thoracic.org>.

Asthma & Allergy Foundation of America (AAFA): <http://www.aafa.org/>.

CDC. National Center for Environmental Health, Air Pollution and Respiratory Health
Branch: <http://www.cdc.gov/asthma>.

Environmental Protection Agency (EPA): <http://www.epa.gov>.
IAQ Tools for Schools: <http://www.epa.gov/iaq/schools/index.html>.
IAQ Tools for Schools, Managing Asthma in the School Environment:
<http://www.epa.gov/iaq/schools/asthma/index.html>.

Global Initiative for Asthma (GINA): <http://www.ginasthma.com>.

Multicenter Airway Research Collaboration (MARC):
<http://healthcare.partners.org/marc/marc.htm>.

National Association of Health Data Organizations (NAHDO): <http://www.nahdo.org>.

NIH. National Heart, Lung and Blood Institute (NHLBI):
<http://www.nhlbi.nih.gov/index.htm>.

Asthma Management Model: <http://www.nhlbisupport.com/asthma/index.html>.

NHLBI National Asthma Education and Prevention Program:
<http://www.nhlbi.nih.gov/about/naepp/index.htm>.

Asthma Awareness Curriculum for the Elementary Classroom:
<http://www.nhlbi.nih.gov/health/prof/lung/asthma/school/index.htm>.

How Asthma-Friendly is Your School?: <http://www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm>.

Asthma and Physical Activity in the School:
http://www.nhlbi.nih.gov/health/public/lung/asthma/phy_asth.htm.

National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma: <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm>.

Practical Guide for the Diagnosis & Management of Asthma:
<http://www.nhlbi.nih.gov/health/prof/lung/asthma/practgde.htm>.

NIH. National Institute of Allergy & Infectious Diseases (NIAID): <http://www.niaid.nih.gov>.
Fact sheets and publications: <http://www.niaid.nih.gov/publications/asthma.htm>.

National Jewish Medical & Research Center: <http://www.njc.org>.

The Physician's Guide to Special Education Services: <http://members.aol.com/pepofwi/phys/Physician.html>.

School Nursing Asthma Resource, School Asthma Allergy:
<http://www.SchoolAsthmaAllergy.com>.

Useful Web Links – State

California Department of Health Services
<http://www.ehib.org>
<http://www.dhs.c.gov/asthma>

Colorado Department of Public Health and Environment
<http://www.cdphe.state.co.us/ps/pp/asthma/astmahom.asp>

Connecticut Department of Public Health and Addiction Services
<http://www.dph.state.ct.us/>

Idaho Department of health and Welfare
<http://www2.state.id.us/dhw/asthma/home.htm>

Iowa Department of Public Health
<http://www.idph.state.ia.us/sa/hprom/asthma>

Illinois Department of Public Health
<http://www.idph.state.il.us>

Maryland Department of Health and Mental Hygiene
<http://www.fha.state.md.us/och/html/asthma.html>

Michigan Department of Community Health
<http://www.GetAsthmaHelp.org> (Michigan Asthma Communication Network)

Nebraska Health and Human Services System
<http://www.hhs.state.ne.us/epi/asthma.htm>

New Jersey Department of health and Senior Services
<http://www.state.nj.us/health/commiss/omh/asthma/>

North Carolina Department of Health and Human Services
<http://wch.dhhs.state.nc.us/Asthma/AANC.htm>

Oregon Department of Human Services
<http://www.oshd.org/asthma>

Rhode Island Department of Health
<http://www.health.state.ri.us>

<http://www.healthri.org>

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6. Action Against Asthma. <http://www.aspe.hhs.gov/sp/asthma/>
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