Global Health

Every day, 2 million people cross national borders as tourists, business travelers, immigrants, or refugees. World trade moves produce and manufactured goods from one end of the earth to another in a matter of hours or days. Disease vectors like mosquitoes have no regard for borders. All of this movement means that, in terms of disease, the world has become a very small place indeed. Health events far from our shores are significant in their own right, but also have the potential to influence health within the United States.

CDC has been involved in global health since its post-World War II origins as a malaria control center. Today, that tradition continues as CDC supports various initiatives designed to prevent diseases around the world. For example, CDC supports a micronutrient malnutrition prevention and control program that helps prevent the millions of cases of childhood blindness that occur each year in developing countries (caused by vitamin A deficiencies), mental retardation (caused by iodine deficiencies), and maternal deaths in the developing world (25% of which are caused by iron-deficiency anemia). With its partners around the world, CDC provides technical and financial assistance to eradicate diseases like measles and malaria. In addition, CDC's global health efforts help address the health effects of both natural and man-made disasters through humanitarian relief and surveillance efforts such as an ongoing effort to document the health effects of landmines that are still buried in 71 countries.

In addition to disease- and country-specific assistance, CDC's global health efforts help to transfer technical and scientific knowledge and leadership skills to public health counterparts around the world. For example, CDC's Field Epidemiology Training Program offers the same quantitative methods that have been used successfully to define, solve, and evaluate public health problems in the United States to researchers and healthcare professionals in other countries. Global surveillance programs help link our own disease detection networks to those around the world, providing an early warning of new and emerging threats to health. In the increasingly small world of public health, all of these efforts contribute to better health—both here and abroad.

CONTROLLING TUBERCULOSIS GLOBALLY

WHAT IS THE PUBLIC HEALTH ISSUE?

- Tuberculosis (TB) is a global emergency and a leading infectious killer of young adults worldwide, claiming the lives of about 2 million people each year. About one third of the world's population is infected with the bacterium that causes TB, *Mycobacterium tuberculosis*.
- By 2020, nearly 1 billion people will be newly infected, and despite the existence of effective treatments, 200 million will get sick, and 35 million will die from TB.
- Controlling TB is cost-effective; the World Bank has ranked the directly observed therapy short-course (DOTS) strategy as one of the "most cost-effective of all health interventions."

WHAT HAS CDC ACCOMPLISHED?

CDC works closely with the World Health Organization (WHO), the International Union Against TB and Lung Diseases, the U.S. Agency for International Development (USAID), the Royal Dutch Tuberculosis Society, and the TB control programs of numerous countries to control the spread of the disease globally. Efforts are focused on improving the quality of TB control programs in countries with a high burden of TB or those that contribute most to the U.S. epidemic. The global strategy is based on cornerstone activities that are mutually reinforcing and include providing program support with technical assistance in program management and implementation, focusing on those countries which impact U.S. morbidity the most with TB cases in non-U.S.-born populations, and addressing multi-drug resistant TB (MDR TB) and TB/HIV co-infection. Collaborative efforts include the *Stop TB Initiative* and the Tuberculosis Coalition for Technical Assistance that provides assistance to specific countries.

Example of Program in Action

TB rates in Russia are increasing at an alarming rate, as are rates of drug resistance and HIV prevalence. Factors contributing to the increase in TB include the inability to financially support the needed infrastructure for TB diagnosis and treatment, the unavailability of quality drugs, high levels of TB transmission in prison settings, and a reluctance to adopt the DOTS strategy as employed in other countries with a high burden of TB and in the United States, as recommended by WHO. CDC is collaborating with USAID and WHO to implement and strengthen basic DOTS programs in the four Russian oblasts (territorial administrative divisions). CDC has implemented DOTS-plus, the WHO strategy for the management of MDR TB treatment in low-resource settings, in two of these oblasts.

CDC has developed an extensive diagnostic and treatment protocol; assigned staff on 3-month temporary duty assignments to help implement the DOTS and DOTS-plus strategies; assigned a technical advisor for TB at USAID/Russia; helped establish a national TB surveillance system; supported epidemiologic studies of risk factors for the development of MDR TB in the Russian setting; provided laboratory training and quality assurance for drug sensitivity testing; revised international training materials for use in Russia; and developed a pilot project and country strategy to address the impact on of these interventions on TB control within Russia. CDC has also developed and is implementing a pilot project to evaluate and implement effective strategies for the control, care, and treatment of HIV-associated TB.

WHAT ARE THE NEXT STEPS?

CDC will continue to collaborate with international partners to support global TB programs; work to evaluate the effectiveness of treatment strategies for MDR TB in low-resource settings, particularly in countries of the former Soviet Union; continue to support expansion of the DOTS strategy in countries with high TB burden; and support regional TB activities throughout southern Africa.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

GLOBAL AIDS PROGRAM

WHAT IS THE PUBLIC HEALTH ISSUE?

- According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), of the estimated 40 million adults and children who were living with HIV/AIDS at the end of 2003, 95% lived in developing countries—and more than 90% were estimated to live in a country served by CDC's Global AIDS Program (GAP). In 2003, an estimated 5 million people were newly infected with HIV, and over 3 million died of AIDS.
- Sub-Saharan Africa populates 70% of the HIV/AIDS rates worldwide; in 2003, 77% of all AIDS deaths were in this region.

WHAT HAS CDC ACCOMPLISHED?

CDC works collaboratively with other U.S. government agencies, including the U.S. Agency for International Development; international health and economic organizations such as the World Health Organization, UNAIDS, and the World Bank; nongovernmental organizations; and host country governments to mitigate the devastating effects of HIV/AIDS. In 2003, CDC's GAP worked in 25 countries in Africa, Asia, Latin America, and the Caribbean and has regional offices/activities in the Caribbean, Southeast Asia, Southern Africa, and Central America. GAP has three primary program foci: infrastructure and capacity development—including surveillance, laboratory support, information systems, monitoring and evaluation; primary prevention—including voluntary counseling and testing, blood safety, activities targeted toward youth; and care and treatment—including treatment and care of tuberculosis (TB) and opportunistic infections, preventing mother-to-child transmission, appropriate provision of antiretroviral drugs, and soothing care (see www.cdc.gov/nchstp/od/gap/default.htm).

GAP is part of two ground-breaking U.S. initiatives to address HIV/AIDS in 14 countries hardest hit by the epidemic. The *International Mother and Child HIV Prevention (PMTCT) Initiative*, announced by President Bush in 2002, focuses on preventing the transmission of HIV from mothers to infants and improving healthcare delivery in Africa and the Caribbean. The PMTCT initiative has been incorporated into the broader *Emergency Plan for AIDS Relief,* announced by President Bush in 2003, which aims to prevent 7 million new infections, treat 2 million HIV-infected people, and care for 10 million HIV-infected individuals and AIDS orphans (see www.whitehouse.gov/infocus/hivaids/).

Example of Program in Action

Botswana has been one of the countries hardest hit by the HIV pandemic with adult seroprevalence at about 39%. To combat this epidemic, CDC works closely with the Botswana Ministry of Health in all of its HIV/AIDS activities. In the past year, CDC has provided funding and assistance to support 16 voluntary HIV counseling and testing sites. CDC also supports PMTCT activities through the training of health workers, provision of technical assistance to strengthen the counseling, testing, treatment, public education, and addition of 200 counseling and education units to prenatal clinics throughout Botswana. CDC, in collaboration with local partners, launched a radio series, focusing on culturally-specific AIDS-related issues. Finally, GAP assisted in the piloting of an Isoniazid Preventive Therapy program to prevent TB and is working with the government to expand efforts to prevent TB, the leading cause of AIDS-related deaths in Botswana (see www.cdc.gov/nchstp/od/gap/countries/botswana.htm).

WHAT ARE THE NEXT STEPS?

CDC will continue to collaborate with multiple partners to provide technical assistance and direct support to country programs worldwide. In addition, CDC will support regional programs to serve a greater number of countries.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

GLOBAL INITIATIVES IN LABORATORY IMPROVEMENT

WHAT IS THE PUBLIC HEALTH ISSUE?

The Global AIDS Program (GAP) supports 25 countries in Asia, Africa, South America, and the Caribbean, which have a substantial burden of HIV infection, tuberculosis (TB), and other diseases. While most countries have a unique infrastructure of laboratories that provide support for disease surveillance, prevention, and care activities, in other countries, this laboratory infrastructure may be lacking or non-existent. Programs to ensure the technical and managerial training for laboratory staff are needed. GAP countries have expressed concerns over having qualified personnel, adequate laboratory training, technology, resources, and other tools to maintain adequate laboratory testing services.

WHAT HAS CDC ACCOMPLISHED?

CDC works closely with partners to strengthen the laboratory systems, implement comprehensive laboratory quality assurance programs, and conduct laboratory training in GAP countries. Strengthening the laboratory systems requires conducting in-depth assessments and assuring testing capability and capacity at the national and international levels. A key component is integrating quality laboratory services across prevention and care programs. Additionally, laboratory training is provided through a multifaceted approach of developing training materials, linking GAP and U. S. laboratories, planning, facilitating, and conducting laboratory training courses, as well as enhancing in-country training capacity.

CDC is working with partners to provide leadership for laboratory training, as well as developing and implementing quality systems for HIV/sexually transmitted infections/opportunistic infections testing services supporting surveillance, prevention, and care activities in India, Asia, and 14 Sub-Sahara African countries. Activities include assessments and ongoing technical support to develop laboratory systems and quality assurance programs in Botswana, Cambodia, the Caribbean (the Caribbean Epidemiology Center), Ethiopia, Guyana, India (Tamil Nadu state), Malawi, Tanzania, Thailand, Zambia, and Zimbabwe

As a major regional initiative, CDC has developed a new Laboratory Quality systems framework that addresses basic infrastructure for all laboratory testing and provides practical materials for implementation. CDC has also worked with partners, such as the World Health Organization and the Association of Public Health Laboratories, to provide leadership in creating training materials and quality assurance guidelines for TB and HIV. These efforts have garnered international recognition and are distributed worldwide.

Examples of Program in Action

Plans and activities have been developed and initiated in many African and Asian countries to demonstrate the value of a laboratory systems approach that integrates service, quality assurance, and the healthcare system. For example, CDC

- Presented a Laboratory Quality Systems workshop in Botswana for 67 delegates from 16 African countries.
- Convened and presented an Atlanta conference, "Update on GAP Technical Strategies and Approaches for Lab Support."
- Conducted a workshop on integrated disease laboratory testing in Ethiopia.
- Published and distributed *Guidelines for Appropriate Evaluation of HIV Testing Technologies* in Africa.
- Provided comprehensive technical support to the Zimbabwe National Quality Assurance Program.
- Produced a training videotape "Performing Rapid HIV Tests," training aides and posters for Acid Fast Bacillus Microscopy and Rapid HIV tests.

WHAT ARE THE NEXT STEPS?

Successful implementation of the laboratory systems in each of the GAP countries will require continued coordination, communication, and interaction between the ministries of health, public health laboratories, regional and local public health laboratories, and each of the constituents that provide testing of public health importance.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

GLOBAL POLIO ERADICATION

WHAT IS THE PUBLIC HEALTH ISSUE?

Polio, once the leading cause of permanent disability in the United States, remains a substantial cause of disability in polio-endemic countries. As of January 2004, a provisional total of 667 confirmed cases of paralytic polio were reported to the World Health Organization (WHO) for 2003. Currently, more than 200 countries and territories are polio-free, and indigenous polio is confined to parts of six countries in South Asia and Africa. Until polio is eradicated in every country, it remains a threat to children in polio-free countries and a scourge we must eradicate.

WHAT HAS CDC ACCOMPLISHED?

In collaboration with WHO, Rotary International, and the United Nations Children's Fund (UNICEF), CDC has provided epidemiologic, laboratory, programmatic expertise, and funding support to help polio-endemic countries with polio eradication activities. For example,

- During 2003, CDC contributed about 465 million doses of oral polio vaccine, through UNICEF, to eradicate polio.
- CDC helps countries conduct National Immunization Days (NIDs). During these activities, every child under 5 years of age receives two doses of oral polio vaccine, one month apart, regardless of their prior immunization status.
- Twenty CDC professional staff are assigned to partner agencies, including WHO and UNICEF, in critical positions within the global project. Moreover, CDC's Atlanta-based staff travels extensively to provide technical assistance to regions and countries.
- CDC sends public health professionals with experience in epidemiology and surveillance to polio-endemic countries to assist with surveillance and to plan, implement, and evaluate NIDs through Stop Transmission of Polio (STOP) Teams. Since January 1999, 483 STOP team members have participated in 3-month assignments in 39 countries.
- CDC and the Global Polio Eradication Initiative partners have intensified activities to strengthen active surveillance for acute flaccid paralysis especially in India, Bangladesh, Pakistan, Afghanistan, Nigeria, Ethiopia, Angola, Egypt, and other countries in Asia and Africa.
- CDC assists WHO in building global polio and measles laboratory networks, and serves as a WHO Global Specialized Reference Laboratory for polio. To date, 147 laboratories are in the global polio network.

Example of Program in Action

Since 1999, CDC has provided short-term consultants to help with polio eradication efforts in Bangladesh. As a result, disease tracking has improved, and poliovirus circulation appears to have been stopped. The last confirmed case of polio in Bangladesh occurred in 2000.

WHAT ARE THE NEXT STEPS?

The Global Polio Eradication Initiative's goal is that by 2005 wild poliovirus transmission will be interrupted and the world will be certified as polio-free in 2008. CDC will continue to fight polio by collaborating with partners to improve surveillance and increase the number and quality of NIDs, so that disease transmission is interrupted in the remaining six polio-endemic countries. CDC will provide scientific assistance to improve monitoring and documentation necessary to certify that polio eradication has occurred and continue to be a leader in the development and implementation of global plans for laboratory containment of polioviruses. Finally, CDC is leading research and consensus development efforts to determine the best strategies for stopping oral polio vaccine use in the post-eradication era.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

INTERNATIONAL MICRONUTRIENT MALNUTRITION PREVENTION AND CONTROL PROGRAM

WHAT IS THE PUBLIC HEALTH ISSUE?

Deficiencies of micronutrients such as iron, iodine, vitamin A, and folate affect nearly one-third of the world's population, and the consequences can be devastating. For example, iron deficiency among 6 to 24 month olds is impairing the mental development of 40% to 60% of children in developing countries, while more than 50,000 young women die each year during pregnancy and childbirth as a result of severe iron deficiency anemia. Because of iodine deficiency in pregnancy, as many as 20 million babies annually are born mentally impaired. Vitamin A deficiency compromises the immune systems of about 40% of preschool children in developing countries and results in the deaths of nearly 1 million children every year. Folate deficiency in pregnancy is the cause of severe birth defects in about 200,000 children and is associated with approximately 1 of every 10 adult deaths from heart disease per year. Effective and inexpensive interventions such as food fortification, supplementation, and dietary diversification have eliminated most cases of micronutrient deficiencies in developed countries. These interventions can be replicated in the developing world.

WHAT HAS CDC ACCOMPLISHED?

CDC has been working with the United Nations Children's Fund, the World Health Organization, the U.S. Agency for International Development (USAID), and the Global Alliance for improved nutrition to assist countries to assess the burden of micronutrient deficiencies through national surveys and implementation of surveillance systems to monitor food fortification and micronutrient supplementation programs and track the micronutrient status of target populations. CDC also has supported regional training workshops on micronutrient survey methods, food fortification monitoring, and micronutrient program communication planning. In addition, CDC has developed computer-based tools to train public health professionals in micronutrient program planning and management; micronutrient survey methods; and health communication planning in support of micronutrient intervention programs. Through its International Micronutrient Reference Laboratory, CDC has collaborated with partners to establish a global network of resource laboratories to enhance and monitor the quality of national micronutrient laboratories.

Example of Program in Action

Under an interagency agreement with USAID, CDC's International Micronutrient Malnutrition Prevention and Control (IMMPaCt) Program has been collaborating with Micronutrient Operational Strategies and Technology (MOST), the Micronutrient Initiative, and the Ministry of Health in Nicaragua to strengthen the national nutrition monitoring system in that country. The purpose of the monitoring system is to obtain regular and reliable process and impact data to strengthen the management of the national food fortification (salt with iodine, flour with iron and folic acid, and sugar with vitamin A) and supplementation (iron and vitamin A) programs in Nicaragua.

WHAT ARE THE NEXT STEPS?

CDC will continue to support selected countries in their efforts to better assess micronutrient status of their populations and monitor and evaluate the process and impact of their intervention programs, especially food fortification. CDC will expand its regional training programs and laboratory improvement activities. CDC also will collaborate with international and national wheat and flour industries, and public and civic organizations at the global, regional, and national levels through the Flour Fortification Initiative to promote fortification of flour with vitamins and minerals.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

MEASLES MORTALITY REDUCTION AND REGIONAL GLOBAL MEASLES ELIMINATION

WHAT IS THE PUBLIC HEALTH ISSUE?

Measles caused an estimated 644,000 deaths worldwide in 2002 and is the leading cause of childhood death from a vaccine-preventable disease globally. In 1989–1991, a measles outbreak affected more than 55,000 Americans, resulting in 123 deaths. The United States remains at risk of importation of measles from countries that have not yet eliminated the disease. A total of 54 confirmed measles cases were reported in the United States in 2003. From July 13 to September 13, 2003, a total of 647 measles cases were reported on Majuro Atoll in the Republic of the Marshall Islands. This was the first measles outbreak reported there since 1988. Low coverage rates, at the time, contributed significantly to the spread of the disease. This outbreak resulted in the importation of 21 cases of measles into the United States.

WHAT HAS CDC ACCOMPLISHED?

Transmission of indigenous measles virus in the Americas was interrupted as of November 2002, demonstrating the effectiveness of current control strategies in a large geographic area. During 2003, the provisional number of confirmed measles cases reported in the Western Hemisphere was 104. These cases occurred mainly in Mexico and the United States, with all cases related to importations from endemic countries outside of the Western Hemisphere. U.S. success in measles-control efforts is the result of routine measles vaccination coverage achieved among over 90% of children by the age of 1 year, combined with successful follow-up campaigns implemented in the Western Hemisphere since 1988.

With funds from CDC's immunization appropriations, CDC contributed about $42 million in grants and other scientific and technical assistance to control measles globally during 2003. CDC grantees included the Pan American Health Organization (PAHO) to eliminate measles from the Western Hemisphere, and the Measles Partnership—a joint effort by the American Red Cross/The International Federation of Red Cross and Red Crescent Societies, the World Health Organization (WHO), the United Nations Children's Fund, the United Nations Foundation, and CDC—to reduce measles-related mortality in Africa. To date, the partnership has vaccinated over 115 million children and prevented an estimated 220,000 deaths in Africa.

Example of Program in Action

CDC provides epidemiologic and laboratory assistance for disease tracking, vaccine for outbreak control and other supplementary immunization activities, and assignments of CDC scientific staff to priority countries. In 2003, CDC provided scientific, technical, and programmatic support for measles outbreak investigation and control activities in Niger and Burkina Faso. These efforts resulted in recommendations for improved surveillance and control activities and showed that measles mortality rates in an outbreak may be higher than previously expected.

WHAT ARE THE NEXT STEPS?

In 2004, CDC and its partners will continue to apply current measles control strategies to maintain elimination of measles in the Western Hemisphere. CDC will promote PAHO strategies in Africa and other regions to reduce mortality from measles and to stop endemic measles transmission in WHO regions with a measles elimination goal.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

STRENGTHENING GLOBAL IMMUNIZATION SYSTEMS

WHAT IS THE PUBLIC HEALTH ISSUE?

About 2.4 million children die each year from vaccine-preventable diseases because 30% of the world's children do not receive all of the available vaccinations. Globally, child immunization programs routinely use vaccines to prevent nine diseases, preventing over 2 million child deaths each year. Working together, the countries of the world have eradicated smallpox and hope to eradicate polio by 2005, and eventually measles. Because of the risk of disease importation, no country is truly free of these diseases unless all countries have effective immunization programs.

WHAT HAS CDC ACCOMPLISHED?

CDC is committed to improving access to sustainable and safe immunization services worldwide. Together with international partners, CDC helps to reduce illness and death caused by vaccine-preventable diseases by strengthening routine immunization activities and building a strong platform for the introduction of new vaccines in the developing world.

Strengthening Childhood Immunization Services

- Since 2001, CDC has collaborated with international partners in projects at the country and regional levels to provide technical assistance to strengthen immunization programs; improve health information systems and use of data; and increase coordination with polio eradication and measles morbidity reduction strategies.
- CDC is providing epidemiologic and programmatic expertise and funding support for the development of standardized computer entry and analysis modules for vaccination coverage and surveillance data.

Supporting the Global Alliance for Vaccines and Immunizations

- CDC is working closely with international partners in the Global Alliance for Vaccines and Immunizations (GAVI). GAVI's mission is to help provide vaccines to the 36 million unimmunized children around the world. Through the generosity of partners such as the Bill and Melinda Gates Foundation Vaccine Fund, GAVI will provide more than $1.2 billion to support childhood immunization over the next 5 years, with more than 60 countries receiving GAVI funding support.
- For the past 3 years, CDC has served as the technical institute representative on the GAVI Board. CDC has provided technical support at the global, regional, sub-regional, and country levels in the implementation and evaluation of GAVI-related activities. Other partners include the World Health Organization, the United Nations Children's Fund, the World Bank, the International Federation of Pharmaceutical Manufacturers Association, other public health and research institutions, and national governments.

WHAT ARE THE NEXT STEPS?

CDC will expand its work with developing countries and partners to increase access to sustainable and safe immunizations; develop and evaluate best practices to strengthen routine immunization; and use these findings to help sustain achievements towards polio eradication, measles elimination, and mortality reduction from all vaccine-preventable diseases. CDC also plans to work with partners to evaluate the impact of GAVI funding on strengthening routine immunization, introducing new vaccines and enhancing safety of injections given for immunization. CDC will use these findings to develop better programs.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

SUSTAINABLE MANAGEMENT DEVELOPMENT FOR GLOBAL PUBLIC HEALTH

WHAT IS THE PUBLIC HEALTH ISSUE?

- Many public health workers in developing countries lack basic management skills, including planning, priority setting, and problem solving, needed to effectively implement interventions to prevent disease and disability (e.g., immunizations, oral rehydration therapy, malaria chemoprophylaxis).
- This shortage of management skills has been compounded by recent global trends shifting responsibility from management to workers in the health system.
- Most developing countries lack qualified faculty, appropriate curricula, and the most basic training resources to provide competency-based training for their public health workforce.

WHAT HAS CDC ACCOMPLISHED?

Since 1992, CDC's Sustainable Management Development Program (SMDP) has trained 235 instructors in 55 countries worldwide in the basic management skills of planning, priority setting, problem solving, budgeting, and supervision. SMDP has helped strengthen the public health infrastructure supporting the nearly 4 billion people who live in these countries. Program graduates return home to teach these skills in various public health settings, including academic institutions, government training programs, and nongovernmental organizations. SMDP's strategy includes working with international donor partners to provide in-country technical assistance that supports alumni in such areas as curriculum development; marketing, organizing and teaching workshops; and supervising applied learning projects. SMDP also produces ready-to-use management training tools that are specifically designed to facilitate teaching management concepts to health workers in developing countries.

Example of Program in Action

Since 1994, CDC's SMDP has worked with the Philippines Department of Health to strengthen its capacity to train program managers at the provincial and district levels. The 16 Filipino SMDP alumni have institutionalized a Field Management Training Program within the Philippines Department of Health, a program which now provides management training for health workers throughout the Philippines. Graduates of the Philippines program have also begun serving as training consultants in Asia and the Pacific helping professionals in other countries develop management training programs. Other SMDP-supported management training programs exist in Botswana, Croatia, Guam, Malawi, Mexico, Nicaragua, Uganda, Vietnam, and Zambia.

WHAT ARE THE NEXT STEPS?

CDC continues to work with established programs, such as the one described above in the Philippines, to expand regional training capacity and help identify donor organizations willing to invest in strengthening public health management training capacity.

WORLD HEALTH COLLABORATING CENTER FOR PUBLIC HEALTH PRACTICE

WHAT IS THE PUBLIC HEALTH ISSUE?

- Globally public systems are not adequately prepared for rapidly evolving health threats.
- Many countries are decentralizing their public health systems without ensuring that the local public health infrastructure can cope with the increasing responsibilities and changing tasks.
- Regular measurement of a country's public health system performance is needed to ensure that its populations are protected and served by effective public health services.

WHAT HAS CDC ACCOMPLISHED?

CDC and the Pan-American Health Organization (PAHO) have worked collaboratively since 1996. In December 2001 these organizations established the World Health Collaborating Center for Public Health Practice. The center's mission is to strengthen public health systems globally and ensure the effective delivery of essential public health services through performance measurement, improvement planning, and systems development at both the national and subnational levels. Analysis of the data from the assessment of public health systems, completed in 42 countries around the world, continues to be done. Through this type of analysis, factors that can affect performance of health systems will be determined. Some countries have already begun to use the information in their national level health planning.

Examples of Program in Action

- The application of the assessment process in each country has been seen as an intervention in itself. The data are readily available for discussion by participants who are drawn from all levels of the health system. The discussions that take place permit immediate identification of problem areas within the system as well as targeted interventions to strengthen the system. This has lead to some of the countries using the data to help develop national health plans. Jamaica has incorporated the data to plan a wide range of projects. A formal project is underway in collaboration with the Caribbean Program Office of PAHO to determine how other countries in the Caribbean have also used the data to strengthen health planning activities at all levels.
- In collaboration with the Caribbean Program Office of PAHO, the center facilitated participation of a team from that region to participate in the 2003–2004 leadership development program of the Public Health Leadership Institute. This is the first time that individuals from the English-speaking Caribbean will participate.
- The center continued its collaborative efforts with the World Bank, AfriHealth, and CDC's Sustainable Management Development Program (SMDP). From the collaboration with SMDP, an invitation was extended to the World Health Collaborating Center by Croatia to participate in the first Croatian Congress on Preventive Medicine and Health Promotion. Future work in the area of performance measurement and capacity building is anticipated with both Croatia and Macedonia.

WHAT ARE THE NEXT STEPS?

Technical assistance services are being strengthened to support use of the assessment instrument. Some countries are developing regional and local level assessment instruments. Their use will be coordinated with national-level assessments. The instruments will promote collaboration of the public and private sectors. In partnership with the World Bank, the Collaborating Center will continue to work with that institution to ensure more targeted use of funds that will improve accountability and quality improvement of public health systems.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*