



*Working with Partners
To Improve Global Health*
*A Strategy for CDC
and ATSDR*



**CENTERS FOR DISEASE CONTROL AND PREVENTION
AND
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY**

Jeffrey P. Koplan, M.D., M.P.H., Director, CDC, and Administrator, ATSDR

Office of Global Health

Stephen B. Blount, M.D., M.P.H., Director

Agency for Toxic Substances and Disease Registry

Henry Falk, M.D., M.P.H., Assistant Administrator

Epidemiology Program Office

Barbara R. Holloway, M.P.H., Acting Director

**National Center for Chronic Disease Prevention
and Health Promotion**

James S. Marks, M.D., M.P.H., Director

National Center for Environmental Health

Richard J. Jackson, M.D., M.P.H., Director

National Center for Health Statistics

Edward J. Sondik, Ph.D., Director

National Center for HIV, STD and TB Prevention

Helene D. Gayle, M.D., M.P.H., Director

National Center for Infectious Diseases

James M. Hughes, M.D., Director

**National Center for Injury Prevention and
Control**

Stephen B. Thacker, M.D., M.Sc., Acting Director

National Immunization Program

Walter A. Orenstein, M.D., M.P.H., Director

**National Institute for Occupational Safety and
Health**

Linda Rosenstock, M.D., M.P.H., Director

Public Health Practice Program Office

Edward L. Baker, M.D., M.P.H., Director

**Working with Partners
To Improve Global Health**

A Strategy for CDC and ATSDR

September 2000

Preface

The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR), are pleased to present their new global health strategy, “*Working with Partners to Improve Global Health: A Strategy for CDC and ATSDR.*” The *Global Health Strategy* sets the stage for our international work in the new millennium.

The purpose of the document is to a) build consensus and a common vision among the agencies’ staff on the purposes and goals of our international work; b) educate readers about the connections between global and domestic health and the benefits the US population derives from our global work; and c) articulate the priorities of our international work, the way in which we work, and our role in the global arena.

The *Global Health Strategy* acknowledges the active role our agencies must assume to protect the US population and to help fulfill US global health commitments. It also stresses the importance of working in collaborations with partner organizations and of forming new partnerships as needed. The strategy articulates the rationale for our institutional commitment to improving global health, defines our goals in several critical areas of public health, articulates our priority program areas, and provides a corresponding set of anticipated outcomes in those areas.

We look forward to working with our partners within the framework of this new strategy, to continue to fulfill our global health commitment ever more effectively.



Stephen B. Blount, M.D., M.P.H.
Associate Director for Global Health
Centers for Disease Control and Prevention

Table of Contents

<i>Executive Summary</i>	1
<i>Introduction</i>	3
<i>Rationale for CDC/ATSDR's Involvement in Global Health CDC's Global Health Experience</i>	
<i>CDC's Strategy - Goals and Objectives</i>	7
<i>Public Health Surveillance and Response Public Health Infrastructure and Capacity Building Disease and Injury Prevention and Control Applied Research for Effective Health Policies Exchange of Information and Lessons Learned</i>	
<i>Implementing CDC's Strategy</i>	10
<i>Priority Program Areas</i>	12
<i>Agency-Wide Initiatives Initiatives from Centers, Institutes, and Offices</i>	
<i>Anticipated Outcomes</i>	15
<i>Conclusions</i>	18
<i>References</i>	19

Executive Summary

In today's world of increasing globalization, the United States continually faces new challenges and opportunities in public health. In response, the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry have prepared a *Global Health Strategy*. The rationale for CDC/ATSDR's institutional commitment recognizes a) the increasing influence of determinants arising outside the country on US health; b) the mutual benefits of improving the health of other countries; c) the advantages of sharing US knowledge and public health expertise with international partners; and d) the need to respond to the health consequences of international emergencies. In addition, past and ongoing international work by CDC has provided a strong foundation on which to base its international initiatives.

The CDC *Global Health Strategy* defines goals in the following five critical areas of public health:

Public Health Surveillance and Response — To strengthen global capacity to detect, investigate, and monitor disease and injury, as well as their causes, and to respond appropriately to problems as they are identified.

Public Health Infrastructure and Capacity Building — To work with countries to establish and maintain effective public health systems, including trained workforces and collection and use of essential information for effective public health policies and programs.

Disease and Injury Prevention and Control — To collaborate with countries and other international partners in developing, implementing, and evaluating prevention and control strategies to address important public health problems.

Applied Research for Effective Health Policies — To assist countries and other global partners to conduct applied research that will provide new information needed to improve the effectiveness of global public health policies and programs.

Exchange of Information and Lessons Learned — To promote the free flow of accurate technical information on global health problems and to share lessons learned in their control and prevention.

The implementation of this strategy is founded on five approaches. They emphasize that CDC's work will be rooted in sound science, bioethical principles, and local needs; that the primary modality for action will be through partnerships with other institutions; that CDC will engage in those areas that it has established expertise and capability; that long-term relationships with selected countries will be pursued due to the enhanced productivity of such sustained collaborations; and that CDC will assure that it has the workforce and administrative mechanisms required for the full implementation of this strategy.

A set of Priority Program Areas has been identified, based on federal commitments, major causes of the global burden of disease, the availability of effective interventions and CDC's comparative advantages. These areas include agency-wide endeavors for surveillance, formation of partnerships, networking, and communications, among others. They also include specific conditions or groups of conditions for which different units within CDC have primary leadership. These include

Emergency Response	Health Promotion and Chronic Disease Prevention
Emerging Infectious Diseases	Tobacco-Use Prevention and Control
Vaccine Preventable Diseases	Micronutrient Malnutrition
HIV/AIDS, STDs, and TB	Childhood Lead Poisoning
Non-Vaccine Eradication and Elimination Programs	Toxic Substances and Hazardous Wastes
Reproductive Health	Occupational Safety and Health Injury

Corresponding to these Priority Program Areas, a set of Anticipated Outcomes describes the results expected from full implementation of this strategy in the coming decade. Among the achievements, they envision

- Improved country surveillance systems for identifying critical public health problems
- An expanded research capacity generating new knowledge for application to those problems
- A broadened array of global partners with which CDC actively collaborates
- Worldwide eradication of polio and Guinea worm, and regional elimination of measles and lymphatic filariasis
- Improved immunization coverage and introduction of new childhood vaccines in many countries
- Reduction of HIV infection rates in Africa
- Improved TB cure rates through expanded use of directly observed therapy, short course (DOTS)
- Successful prevention measures leading to reduced malaria infection rates and mortality
- Health promotion programs functioning in the largest countries of the world adopting policies seeking to prevent tobacco use in youth

This *Global Health Strategy* acknowledges the active role CDC must assume to protect the US population and to help fulfill US global health commitments. It also stresses the importance of working in collaboration with partner organizations and of forming new partnerships as needed. Despite the health challenges facing the world at present, CDC believes that the current environment offers important opportunities for making a lasting improvement in global health for the benefit of the United States and the world as a whole.

Introduction

This document describes the *Global Health Strategy* of the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) to protect the health of Americans and to support their international partners in an era of increasing globalization. The strategy builds on the international experience CDC has acquired over the past 50 years. It defines the directions CDC is systematically pursuing to protect the health of Americans at home and abroad, and in its work with international partners to improve the health of people worldwide. CDC's strategy is founded on the application of sound science, technology, and bioethical principles, together with a keen recognition and appreciation of the value of productive partnerships. It is also based on fundamental values which include helping those in need and promoting self-reliance.

This Global Health Strategy supports CDC/ATSDR's vision of "Healthy People in a Healthy World through Prevention." It identifies five global health goals, their accompanying objectives, and underlying approaches to achieve them. Current priority program areas of this strategy are then presented, as well as outcomes anticipated over the next decade.

Rationale for CDC/ATSDR's Involvement in Global Health

In 1997, an Institute of Medicine (IOM) report¹ concluded that active engagement in global health is a "vital interest" of the United States, recommending that the country "exert greater leadership in global health by taking full advantage of its strength in science and technology." The IOM determined that such action is necessary because of the need to protect the health of the US public, the anticipated benefits such engagement will yield for the US economy, and the importance of US leadership in science and technology.

Recognizing this "vital interest," the specific rationale for CDC's involvement in global health is based on the needs and the national commitments described in the paragraphs below. The rationale takes into account the increasing influence of determinants arising from outside this country on US health, the mutual benefits of improving the health of other countries, the advantages of sharing US knowledge and expertise in public health with international partners, and the necessity of responding to international health-related emergencies.

Protecting the health of the US public

Improving and protecting the public's health inside the United States is not feasible unless CDC is also active outside the United States. For example, the prevention of future epidemics of influenza depends on surveillance and laboratory capacity in other parts of the world from which the virus migrates annually to the United States. With an increasing proportion of US tuberculosis cases arising in the foreign-born, TB control in the United States increasingly depends on improving control programs in the countries from which immigrants come to the United States, leading the IOM to again call for US global engagement, in this case specifically for tuberculosis control efforts.² In the area of foodborne diseases, with over a third of all fruits consumed in the United States being imported from abroad, the Surgeon General has stressed the importance of global collaborations to assure a safe food supply.³ Finally, global partnerships are necessary to be fully prepared for possible bioterrorist action against the United States.

Applying lessons learned from international collaborations

In addition to protecting the US from disease exposures, valuable lessons for improving health in the United States have been learned from international collaborations. For example, studies in East Africa have provided important information regarding the inter-relation of sexually transmitted infections and HIV/AIDS, influencing US policy.⁴ In the area of non-communicable diseases, longitudinal studies in North Karelia, Finland, as well as other countries, have helped to shape subsequent community prevention efforts for cardiovascular disease in the United States. Swedish studies have been very influential on US policies for breast cancer screening using mammography. Also, studies of the source populations of major immigrant groups to the United States have helped to better understand the roots of disparities between these immigrant groups and other Americans. International experiences with massive environmental exposures to toxic substances have also provided important scientific information and guidance to US policy in this area.

Strengthening the skills and experience of CDC staff solving health problems in the U.S.

CDC has observed that staff who have worked in disease and injury prevention and control programs abroad, in different cultural settings, have developed an enhanced set of skills and experience that they can bring to bear on solving challenging public health problems occurring in the diverse U.S. population. Thus, an important and ongoing component of CDC staff development is the identification and support of opportunities for staff to work abroad, returning to positions in the U.S. with an enhanced set of skills and experiences they can use to effectively tackle the public health challenges confronting the country.

Responding to disease outbreaks

CDC assistance is frequently requested by countries in their efforts to respond to disease outbreaks, which in many cases have implications for or direct impact on the United States. Such opportunities have also resulted in important advances in the understanding of different diseases and the risks of acquiring them. These advances have often been applicable in the United States, as well as in the affected country. It is in the interest of the United States that CDC assure proper investigation of such outbreaks together with the necessary response for their control, roles the Agency is well prepared to carry out.

Addressing disease risks to national security

Increasingly, major communicable diseases are being viewed as security threats. A recent report of the National Intelligence Council has analyzed the impact on national security of global infectious diseases, concluding that “new and emerging infectious diseases will pose a rising global health threat and will complicate US and global security over the next 20 years.”⁵ The HIV/AIDS pandemic is also being recognized as a threat to national security. Both the United Nations Security Council and the US President have taken the position that the spread of this disease poses such risks due to the political and social instability that may result from it. The CDC has critical expertise to contribute in these areas and is prepared to respond. Recognizing this, Congress has appointed CDC as the lead agency within the Department of Health and Human Services for the implementation of its LIFE (Leadership and Investment for Fighting an Epidemic) Initiative addressing HIV/AIDS in Africa and India.

Supporting global disease control efforts

The World Health Organization (WHO) has built an international consensus for targeting four major health problems for concerted action by all member nations – HIV/AIDS, malaria, tuberculosis, and tobacco use. As part of a strong US response, CDC has committed its support to addressing these program areas.

Eradicating diseases

The eradication of a disease, removing from future generations the risk of acquiring it, is a monumental health achievement of importance to all nations. WHO currently has several diseases targeted for eradication, including poliomyelitis, river blindness (onchocerciasis), and guinea worm disease (dracunculiasis). Other infections are likely to become future targets for eradication efforts. In addition to the humane value of preventing disease, the eradication of vaccine-preventable diseases will lead to considerable savings for all countries in the costs of immunization and focused surveillance programs. The CDC has substantial expertise and technical capacity in assuring the success of such efforts.

Responding to health-related emergencies

In times of international emergency, the United States offers support to help those in need. Among the forms of response provided is technical assistance for the health-related consequences of displacements of large populations associated with natural disasters or armed conflict. CDC has regularly supported international response efforts with rapid assessments, surveillance, operational research, and program evaluation. Recognizing that such emergencies are certain to continue to occur in the future, CDC needs to help country partners prepare for such unexpected developments, and to be prepared itself to provide assistance when they occur.

Improving the health of other countries

In the 20th century, the United States has seen major advances in environmental and reproductive health, and in the prevention and control of infectious diseases, non-communicable diseases and injuries.⁶ For example, mortality rates from cardiovascular disease have been reduced by 60% in the past 50 years.⁷ As the epidemiologic transition advances globally, with the predominant burden of disease shifting to adult conditions, the international community looks to CDC to share the methodologies it has developed and the lessons it has learned in this area. For example, adapting to other countries the US experience in health promotion, control of tobacco use, prevention of traffic injuries, and occupational safety and health, can reduce major causes of preventable disability and death. CDC is well prepared to transfer appropriate technologies and lessons learned in areas such as these. Both the better health outcomes of such efforts and their positive economic impact are supportive of broader US international interests.

In addition to the federal government, the non-governmental organization (NGO) community in the United States is strongly committed to improving the health of people in other countries and is deeply engaged in activities aimed at this goal. CDC's collaboration can support their efforts and, in the process, provide important lessons to be shared with a broader audience.

Providing technical information

As a key source of technical expertise in many areas of public health – including surveillance, applied epidemiology, applied research, laboratory support, emergency response, program management, behavioral and social sciences, capacity-building, and training – CDC collaboration is often sought by countries and international institutions, such as WHO and the World Bank. Providing such assistance to major world partners contributes to important advances in the knowledge base and the practice of public health, as well as to the effectiveness of global institutions of which the United States is a member state and major contributor.

CDC's Global Health Experience

CDC has a broad base of experience and current activity in international health that provides a solid foundation for implementing its global health strategy. For example, during the program to eradicate smallpox worldwide in the 1970s, one of the most notable accomplishments of public health, CDC provided critical resources and strategic support. More recently, CDC has participated in the investigation and control of numerous outbreaks of disease, including those associated with such virulent pathogens as Ebola virus, Lassa fever virus, and Nipah virus.

Among its proactive efforts, CDC has supported the development of surveillance systems worldwide. Moreover, CDC has assisted in the establishment of Field Epidemiology Training Programs in over 20 countries. These programs serve as the source of a cadre of field epidemiologists around the globe who are able to support surveillance and response systems and thus improve public health practice in their countries. Recognizing the need for improved management of public health programs, the Sustainable Management Development Program has established a network that provides a cadre of mid-to-upper-level public health program managers, in 46 countries to date, who are able to plan, implement, and evaluate public health programs effectively in their countries.



Photo by Matthew Naythons
(used by permission of National Geographic)

CDC epidemiologist collects water samples while investigating a cholera outbreak in Guinea-Bissau, West Africa.

In addition, CDC has engaged internationally in the conduct of applied research to address critical issues. CDC provides direct support for six international collaborative research centers and houses over 40 WHO Collaborating Centers, each of which addresses different global health needs. Currently over 100 CDC professionals are assigned to international partner institutions to support programs of mutual interest. Each of the 10 Centers, Institute, and Offices that comprise CDC are engaged in international activities contributing to the achievement of CDC's global health goals and objectives.

On the basis of the rationale provided and CDC's operational capacity, together with comparative advantages the Agency holds in relation to other institutions, CDC is committed to working with other partners to address major health challenges the world faces.

CDC's Strategy — Goals and Objectives

The CDC Global Health Strategy is formed around goals in five key areas:

- Public health surveillance and response
- Public health infrastructure and capacity building
- Disease and injury prevention and control
- Applied research for effective health policies
- Exchange of information and lessons learned

For each of these areas, a goal has been defined, and a set of objectives formulated. Work in these areas has proved fundamental to the many public health advances in the United States over the past century and is now equally relevant to the global context. As globalization has made the world smaller, CDC understands that working with other countries to strengthen their capacity to identify and solve their important public health problems is also an important aspect of its efforts to protect the health of Americans in the United States and abroad.

Public Health Surveillance and Response

Goal: *To strengthen global capacity to detect, investigate, and monitor disease and injury, as well as their causes, and to respond appropriately to problems as they are identified.*

Objectives:

- A. Strengthen disease, injury, and risk-factor surveillance and response.
- B. Promote and support the use of innovative information technologies to improve gathering, evaluating, and disseminating surveillance data.
- C. Increase the use of surveillance-based information for formulating effective public health policies, and for planning, managing, and evaluating the effectiveness of public health programs.
- D. Strengthen global capacity to monitor and respond to public health emergencies.

Public Health Infrastructure and Capacity Building

Goal: *To work with countries to establish and maintain effective public health systems, including trained workforces, and collection and use of essential information for effective public health policies and programs.*

Objectives:

- A. Support sustainable training programs to build effective global public health networks in the areas of surveillance, emergency planning and response, program management, and subject-specific prevention and control programs.
- B. Enhance the capacity of countries to plan for and respond to complex health threats, including environmental disasters and outbreaks of illness associated with biological and chemical terrorism.
- C. Strengthen public health laboratories and global laboratory networks through training and quality-assurance programs, with the aim of linking laboratory and epidemiologic data for effective surveillance.
- D. Expand the use of modern telecommunications to increase the availability of data and health information, to support distance learning technologies, and to improve communication among public health agencies.
- E. Develop and promote the adoption and dissemination of appropriate public health diagnostic, prevention, and control technologies.

Disease and Injury Prevention and Control

Goal: *To collaborate with countries and other international partners in developing, implementing, and evaluating prevention and control strategies to address important public health problems.*

Objectives:

- A. Implement, support, and evaluate programs for the prevention and control of injuries and communicable and non-communicable diseases.
- B. Develop, evaluate, and promote strategies to help communities and individuals, including health-care providers, to change behaviors that facilitate or cause disease and injury.

Applied Research for Effective Health Policies

Goal: *To assist countries and other global partners to conduct applied research that will provide new information needed to improve the effectiveness of global public health policies and programs.*

Objectives:

- A. Support and/or participate in collaborative applied research to identify risk factors for disease and injury in different settings and to develop and evaluate effective public health interventions adapted to those settings.
- B. Increase the number of qualified researchers in public health through training and mentoring programs and through joint field collaboration.
- C. Adapt applied research tools and methodologies for their application in different settings and disseminate them to countries and other global health partners.
- D. Improve the quality of global health research, promoting the complementary use of epidemiologic, behavioral, laboratory, management, economic, and communication sciences, as well as the dissemination and effective application of research findings.

Exchange of Information and Lessons Learned

Goal: *To promote the free flow of accurate technical information on global health problems and to share lessons learned in their control and prevention.*

Objectives:

- A. Support the development and functionality of global epidemiologic and laboratory information networks.
- B. Exchange and disseminate information on the effectiveness of public health laws, policies and interventions implemented in different settings, the factors associated with their impact, and the resources necessary for their implementation.
- C. Identify successful international experiences in disease and injury prevention and control and promote their adaptation, as needed, for use in the United States.
- D. Increase the use of Internet-based and other communications tools for the dissemination and exchange of information among countries and global health partners.

Implementing CDC's Strategy

Five basic approaches will guide how the activities in CDC's Global Health Strategy are implemented. They underscore the spirit, values, and overall philosophy by which CDC operates, the partnerships CDC values as being vital for achieving its goals, the areas in which CDC can make important contributions, and the internal supports needed to carry out the strategy successfully.

1. Ensure that CDC's services and research meet the needs of collaborating countries and are based on sound science and bioethical principles.

A basic principle of CDC global collaboration is that these activities meet the needs of its partners in host countries. The support to be provided will include all phases of a project – planning, implementation, and evaluation. Finally, the object of the collaboration will be based on sound scientific principles, and will assure that every effort is taken to protect the rights of those who participate. CDC works to assure that its workforce is technically competent and well educated in the principles of bioethics in order to uphold the highest standards of scientific integrity and professional excellence.

2. Work in close partnership with ministries of health and other major institutions that contribute to global health.

Partnerships are a necessary means to achieve effective action in public health. Successfully undertaking global health activities often requires the following elements:

- The mandate to take on the problem
- The technical resources to address the problem
- The financial resources to carry out planned activities
- Access to relevant policy makers
- Access to target populations
- Access to health services

Although CDC is able to provide some of these elements, it will necessarily depend on partner institutions for others. CDC is in a position to offer considerable technical resources to the global public health community, while having only a limited physical presence outside the United States. CDC often has access to policy makers, and on occasion, to limited financial resources. But to bring together the remaining complementary elements necessary for a given global initiative and to assure a sharing of the associated responsibilities, it is essential that CDC partner with other agencies.

Ministries of health and other national health institutions are key partners at the country level. Global institutions actively engaged in the health sector, such as WHO, the United Nations Children's Fund (UNICEF), the World Bank, and other multi-laterals are another group of essential partners. Within the United States, partnerships with the US Agency for International Development (USAID), agencies of the Department of Health and Human Services (DHHS), and private sector institutions (NGOs, academia, foundations, professional associations, and multinational corporations) are vital to achieve CDC's global health goals in areas of mutual interest.

3. Provide assistance to partners in program areas in which CDC has technical expertise, field experience, and trained staff.

In considering those areas in which it will engage in global activities, CDC must have a comparative advantage based on technical expertise, field experience and trained staff. The different forms of technical assistance it can offer include short-term consultancies, long-term assignments, secondments to partner institutions, and training opportunities, as well as technical laboratory support. CDC will actively support capacity-building efforts in applied epidemiology, public health program management, laboratory support, behavioral, and communication sciences, and in the building of public health infrastructure.

4. Develop long-term relationships with selected countries while pursuing new opportunities.

CDC has established close institutional and professional relationships with countries in all regions of the world and will actively continue to pursue new opportunities to further expand such relationships.

Longstanding relationships with countries have been of benefit both to those countries and to the United States. They have often led to important sharing of lessons, to long-term operational research with public health gains to the partner country and the United States, to more efficient and timely response to disease outbreaks and other emergencies, and to important capacity building and greater self-reliance. In seeking to strategically identify countries in which CDC should further invest to establish such long-term, productive relationships, criteria will include the nature and magnitude of the country's health problems, its population size, its readiness for such a relationship, and the extent of its regional influence.

5. Ensure CDC's capacity to work efficiently in global settings.

CDC must ensure that it has a workforce that is appropriately educated, experienced and culturally sensitive so as to be both a productive and welcome partner in global settings. In addition, administrative mechanisms to support global activities (e.g. international contracts, expenditures, contracting of personnel) need to be in place and highly functional to meet the needs of CDC outside the United States.

Priority Program Areas

Based on CDC's proposed goals and objectives for global health, the following program areas have been identified as of high priority. These priorities take into consideration Congressionally assigned responsibilities and other US commitments, as well as the impact of individual diseases on world health, the effectiveness of available interventions for them, and the comparative advantage of CDC's ability to respond. Many of the areas listed include initiatives in which collaborative work is currently underway. Designated financial resources are available to support a limited number of these activities (e.g. eradication of poliomyelitis, LIFE initiative), while most others would benefit from increased financial and/or human resources. Additional priorities will be added in the future as new needs and opportunities arise.

A. Agency-Wide Initiatives

- Support global efforts to achieve integrated disease, laboratory, and behavioral risk-factor surveillance for public health action.
- Expand CDC's support of training for the staff of international partners, including the use of distance learning technologies, in field epidemiology, laboratory sciences, public health management, health informatics and other needed areas.
- Support CDC's international collaborative research centers to strengthen the capacity of countries in areas of public health leadership; disease, injury, and risk-factor surveillance, applied research, data-based policy formulation and advocacy, program planning, implementation, management, and evaluation.
- Strengthen key partnerships by establishing joint action plans and memoranda of cooperation, and by seconding staff to priority partner organizations.
- Support the goals and objectives of international networks, such as the Training in Epidemiology and Public Health Interventions Network (TEPHINET), Sustainable Management Development Program Network, Global Polio Laboratory Network, and others.
- Work in partnership with Mexico and Canada, as well as other border partners to detect, monitor, and prevent communicable and non-communicable diseases, injuries, and other conditions with increased rates along US borders.
- Develop and implement a plan to enhance communications among CDC and its partners (i.e., to share information on the effectiveness of public health approaches and interventions applied in different settings and to describe opportunities for training and technical assistance readily available to CDC's clients and partners).
- Work with global partners to lessen the potential for bioterrorist episodes, as well as to strengthen the capacity to detect and respond to such events.
- Support the definition and assessment of performance standards in public health as a means of strengthening national public health infrastructure and capacity.

B. Initiatives from Centers, Institute, and Offices

1. Emergency Response

- Work to expand the capacity of countries, CDC, and other external partners to respond to natural disasters, complex humanitarian emergencies, technological disasters, bioterrorism, and other emergencies.

2. Emerging Infectious Diseases

- Strengthen and link sites for a global consortium to detect, monitor, and investigate diseases that emerge abroad but could affect the health of Americans.
- Implement strategies to reduce antimicrobial resistance and to encourage effective national and international drug use policies.
- Monitor and respond to international outbreaks of foodborne diseases; assist countries in planning and implementing foodborne disease prevention programs.
- In partnership with WHO and others, support global surveillance of influenza, to include annual recommendations for Northern and Southern Hemisphere vaccine composition and for pandemic preparedness.
- Actively support WHO's Roll Back Malaria Program to prevent and control malaria-related morbidity and mortality worldwide; aid in country assessments; evaluate and refine interventions; explore new tools (diagnostics, drugs, vaccines); strengthen capacity of leaders and malaria program managers.
- Promote enhanced laboratory-based surveillance for dengue and dengue hemorrhagic fever and, in partnership with WHO and its regional offices, promote improved prevention and control programs focusing on patient care and vector control with increased community participation.
- Strengthen plague surveillance and control efforts in priority countries, promoting the development of a network of plague research institutions.

3. Vaccine-Preventable Diseases

- Participate as a key partner organization to provide technical, programmatic, laboratory, and financial support to WHO, UNICEF, and countries where poliomyelitis and measles are endemic, to achieve the following:
 - Eradication of poliomyelitis, with the goal of global certification by 2005.
 - Elimination of measles from the Americas by the end of 2000, from the WHO European Region by 2007, from the WHO Eastern Mediterranean Region by 2010, and achievement of accelerated measles control in the African, South-East Asian and Western Pacific Regions.
- Participate in the Global Alliance for Vaccines and Immunization to improve access to sustainable immunization services, expand the use of existing cost-effective vaccines, accelerate the development and introduction of new vaccines, and make immunization coverage an integral part of the design and assessment of health systems and international development efforts.

4. HIV/AIDS, STDs, TB

- Enhance HIV/AIDS prevention and control efforts in multiple African countries and in India in collaboration with other national, multilateral and bilateral agencies through the Leadership and Investment for Fighting an Epidemic (LIFE) Initiative.
- Support the global Stop TB Initiative.
- Assist national TB control efforts, prioritizing those countries associated with cases detected in the United States, and countries with high rates of multidrug-resistant tuberculosis.
- Continue support for HIV, STD, and TB control in Russia, the Newly Independent States and Central Asian Republics.

5. *Non-Vaccine Eradication and Elimination Programs*

- Participate as a partner with WHO, UNICEF, the World Bank, Global 2000 and others in the global eradication of dracunculiasis (Guinea worm).
- Work with WHO and other international partners in support of elimination efforts for onchocerciasis (river blindness), lymphatic filariasis, and blinding trachoma.

6. *Reproductive Health*

- Collaborate with partners to increase options available to women for a broad selection of family planning and reproductive health services in developing countries, thus enabling them to space their children, resulting in improvements for the health of their children and themselves

7. *Health Promotion and Chronic Disease Prevention*

- Collaborate with WHO to support the Mega Country Health Promotion Network, mobilizing the world's 11 most populous countries to promote health in a collaborative, concerted effort.
- Collaborate with WHO to develop and implement a Global Strategy for Control of Non-Communicable Diseases, focusing on cardiovascular diseases and on surveillance, prevention, and management practices appropriate for several chronic conditions.
- In collaboration with global partners, support major initiatives in preventing and controlling diabetes, cardiovascular disease, cancer and health problems of adolescents and school-age children.
- Collaborate with WHO to prevent priority risk behaviors among youth through development and implementation of the Global School Health Initiative and the Focusing Resources for Effective School Health (FRESH) Start Initiative to improve school health programs.

8. *Tobacco-Use Prevention and Control*

- Actively support WHO's Tobacco Free Initiative to prevent tobacco use worldwide.

9. *Micronutrient Malnutrition*

- Partner with others to reduce the global burden of disease associated with micronutrient malnutrition.
- Establish the CDC micronutrient reference and training laboratory as a WHO Collaborating Center.

10. *Childhood Lead Poisoning*

- Support host countries in conducting epidemiologic and laboratory assessments of the magnitude and distribution of environmental sources of, and human exposure to, lead.

11. *Toxic Substances and Hazardous Wastes*

- Collaborate with global partners to enhance country capacity in risk assessment for, and in response to toxic substances, hazardous wastes, and other forms of pollution introduced into the environment.

12. *Occupational Safety and Health*

- Raise awareness of the importance of occupation-related illness and injury as public health problems.
- Enhance the capacity of countries to recognize traditional and emerging occupational safety and health problems and to respond with science-based control and prevention activities.
- Enhance collaboration with WHO in the development of international programs in occupational safety and health and the dissemination of prevention and control strategies and other critical information.

13. *Injury*

- Bring increased attention to violence as a public health problem by collaborating with WHO on the report "Violence Prevention: A Public Health Priority for the World."
- Strengthen the capacity of countries to document the burden of and to prevent unintentional injury.

Anticipated Outcomes

An increased and more strategic engagement of CDC in global health over the coming decade will result in major contributions to a number of important health outcomes, as listed below with their respective Program Areas. The health impact of such outcomes translates into reduced mortality and an improved quality of life within the United States and for millions of others around the world.

Public Health Surveillance and Response

- Country health surveillance systems are in place, which identify, quantify, and describe critical public health problems in a timely manner, and effective responses are undertaken. (*Agency-Wide*)

Public Health Infrastructure and Capacity Building

- There are strengthened laboratory support capabilities in partner countries and enhanced laboratory support networks. (*Agency-Wide*)
- CDC regularly collaborates with countries and multilateral agencies, development banks, NGOs, and other global health institutions having established joint action plans with its principal partners. (*Agency-Wide*)
- CDC has a workforce prepared to act globally, and the administrative mechanisms for working efficiently with partners in international settings. (*Agency-Wide*)
- The array of global partners with which CDC collaborates has broadened, providing expanded opportunities to impact on critical public health problems. (*Agency-Wide*)

Disease Prevention and Control

- Countries and assistance organizations are better prepared for natural and man-made disasters, providing prompt, efficient and effective responses that reduce mortality and improve the quality of life in emergency-affected populations. (*Emergency Response*)
- There are strengthened international networks in applied epidemiology and public health management training. (*Agency-Wide*)
- Increased cooperation and collaboration with countries strengthen HIV/AIDS programs and reduce HIV infections and AIDS according to the goals set by individual countries, UNAIDS and the International Partnership against AIDS in Africa. (*HIV/AIDS, STDs, TB*)
- Greater numbers of women and men will have access to high quality family planning and reproductive health services, including counseling, and a broad range of safe, affordable, and effective methods of contraception. (*Reproductive Health*)

- Global immunization efforts are successful at eradicating poliomyelitis, and eliminating measles from the Western Hemisphere. (*Vaccine-Preventable Diseases*)
- National immunization programs in countries with low per capita income are successful in improving childhood immunization coverage to 80%, and in introducing vaccines for *H. influenzae* type b, hepatitis B and yellow fever where disease burden for these infections is substantial. (*Vaccine-Preventable Diseases*)
- As a result of the Stop TB Initiative, national country programs are strengthened, with more patients receiving directly observed therapy, short course (DOTS), leading to improved cure rates. (*HIV/AIDS, STDs, TB*)
- Based on improved surveillance and laboratory capacity for antimicrobial susceptibility testing, national programs are developed to improve use of available antimicrobial drugs as a part of antimicrobial resistance prevention and control. (*Emerging Infectious Diseases*)
- The global influenza surveillance network has strengthened laboratory and epidemiologic capabilities through training programs and other initiatives. (*Emerging Infectious Diseases*)
- Global surveillance for Salmonella provides a template for voluntary monitoring of foodborne diseases at the global level. Training in foodborne outbreak surveillance and investigation is available to enhance national foodborne disease prevention programs, in collaboration with WHO and other international partners. (*Emerging Infectious Diseases*)
- Global efforts are successful in eradicating dracunculiasis (Guinea worm), and eliminating onchocerciasis (river blindness) and lymphatic filariasis in the Americas. (*Non-Vaccine Eradication and Elimination Programs*)
- Malaria burden is reduced in partner countries due to successful application of prevention and control strategies while national program capacity has been strengthened. (*Emerging Infectious Diseases*)
- Morbidity and mortality caused by dengue and dengue hemorrhagic fever will be reduced following implementation of prevention and control programs based on effective mosquito control and the incorporation of a tetravalent vaccine, when this has been developed. (*Emerging Infectious Diseases*)
- Countries with populations over 100 million have established health promotion programs, including anti-tobacco programs and policies for prevention of tobacco use among youth. (*Health Promotion and Chronic Disease Prevention*)
- In the near term, several countries have determined the prevalence of lead poisoning, identified associated risk factors, and adopted control strategies. In the near- to mid-term, national policies for prevention of lead poisoning will have been adopted. (*Childhood Lead Poisoning*)

- National intervention strategies to prevent micronutrient deficiencies are being evaluated by surveillance systems which monitor their prevalence. CDC's laboratory serves as a global reference and training center. (*Micronutrient Malnutrition*)
- National programs are developed to conduct occupational disease injury and risk factor surveillance, perform workplace inspections, and disseminate information in a timely manner. (*Occupational Safety and Health*)

Applied Research for Effective Health Policies

- New knowledge is generated to address critical public health questions, and to improve the effectiveness of actions at the global, national, and local levels. (*Agency-Wide*)
- Expanded CDC international collaborative research centers carry out state-of-the-art investigations directed at priority health problems of the country, while providing scientific information of use to the global community. (*Agency-Wide*)

Exchange of Information and Lessons Learned

- A CDC global health website serves as a readily accessible, comprehensive site for the exchange of information between CDC and its global partners. (*Agency-Wide*)

Conclusions

This document describes CDC's *Global Health Strategy* for responding to the increasingly globalized context of public health. It recognizes the growing degree in which domestic health concerns are linked to those of other countries. To fulfill its mission, CDC must assume an active role in global health, and be committed to supporting countries and its global health partners to achieve their goals. Over the next decade, CDC aims to achieve the global health goals and objectives presented here through activities in the multiple program areas described, at global, regional, and country levels, and through new undertakings as additional needs are identified.

Working in partnership with other organizations is a fundamental element of this strategy, both due to the need for complementary resources and as a principle of shared responsibility. New partnerships are to be sought, where appropriate, and existing ones strengthened. In addition to CDC's traditional joint efforts with such partners as USAID, WHO, UNICEF, UNFPA and others, broader collaborations are anticipated with the development banks and NGOs.

Although much progress in health has been achieved in past decades, recent advances in telecommunications, transportation, changing global economic circumstances, and other areas provide an environment that has the potential for facilitating exchange of information and more active collaboration, promising even greater progress worldwide in the years to come. CDC plans to take advantage of this evolving environment to make a lasting improvement in global health for the benefit of the people of the United States and the world as a whole.



African Sunrise

REFERENCES

1. Institute of Medicine. America's vital interest in global health: protecting our people, enhancing our economy, and advancing our international interests. Washington, D.C.: National Academy Press, 1997.
2. Institute of Medicine. Ending neglect: the elimination of tuberculosis in the United States. Washington, D.C.: National Academy Press, 2000.
3. Satcher D. Food safety: a growing global health problem. JAMA 2000; 283:1817.
4. CDC. HIV prevention through early detection and treatment of other sexually transmitted diseases – United States recommendations of the advisory committee for HIV and STD prevention. MMWR 1998; 47(No. RR-12):1-24.
5. National Intelligence Council. The global infectious disease threat and its implications for the United States. NIE 99-17D, January 2000. Available at <http://www.odci.gov/cia/publications/nie/report/nie99-17d.html>. Accessed September 7, 2000.
6. CDC. Ten great public health achievements – United States, 1900-1999. MMWR 1999; 48:241-3.
7. CDC. Achievements in public health, 1900-1999: decline in deaths from heart disease and stroke – United States, 1900-1999. MMWR 1999; 48:649-56.

The following CDC staff members prepared this report:

Office of Global Health

Jay McAuliffe, M.D., M.P.H.

Marguerite Pappaioanou, D.V.M., Ph.D.

in collaboration with the

CDC Global Health Advisory Board

Stephen Cochi, M.D., M.P.H., National Immunization Program

Richard Ehrenberg, M.D., National Institute for Occupational Safety and Health

Richard Keenlyside, M.D., M.S., National Center for HIV, STD and TB Prevention

James Leduc, Ph.D., National Center for Infectious Diseases

Michael Malison, M.D., M.P.A., Public Health Practice Program Office

David McQueen, Sc.D., National Center for Chronic Disease Prevention and Health Promotion

Melinda Moore, M.D., M.P.H., National Center for Environmental Health

Francis Notzon, Ph.D., National Center for Health Statistics

Richard Waxweiler, Ph.D., National Center for Injury Prevention and Control

Mark White, M.D., Epidemiology Program Office

CDC thanks the many other members of its staff and external partners who assisted in the development of this report.

Editorial assistance was provided by Elliott Churchill, M.S., M.A., Kristen McCall, M.P.A., and Felicia Johnson.

Design and layout by Ryan Eady.

Cover Photos

1st photo: Public Health Image Library

2nd photo: CARE, USA

3rd photo: CARE, USA

4th photo: stock photo

Back Cover Photos

Top: Monique Petrofsky

Middle: CARE, USA

Bottom: Kristen McCall

