
Section III

Appendices

Appendix A — Linkage to HHS Strategic Plan

CDC has adopted key parts of the HHS strategic plan, which was recently revised, to move the agency forward into the 21st century. The HHS strategic plan has eight broad goals that are supported by multiple objectives. CDC's programs support multiple goals and objectives of the plan. A crosswalk delineating the relationship between CDC's programs and the HHS Strategic Plan is located at Appendix A.1.

HHS' strategic goals set the stage for actions that, on a daily basis, improve the quality of people's lives throughout the world. When it comes to action, CDC focuses its expertise and other resources in four principal areas.

1. Excellence in Science

CDC addresses HHS Goals 1 and 4 through actions generated from science-based programs. Serious threats to the nation's health come from many sources: diseases, organisms, injuries, behaviors, emerging risks. Meeting these complex health problems head-on requires CDC to be both nimble and flexible – that is, to adapt resources and balance priorities as needed, to use diverse tactics, and to forge effective partnerships.

Dramatic gains in life expectancy have resulted largely from improvements in sanitation and the prevention of diseases through vaccines. A century ago, pneumonia and TB were the two leading causes of death in the United States. Then, in the 1940s, a critical focus of the nation's health priorities was the control of malaria among military personnel during World War II. From these programs came the genesis of the Centers for Disease Control and Prevention, and since that time CDC has been at the forefront of the nation's efforts to improve the health and well-being of Americans.

As we move into a new century, many of CDC's resources are dedicated to solving complex, cross-cutting health problems that require a broad array of skills, abilities, and experience. For example, since the 1960s and 1970s, community-based programs have helped to produce more recent reductions in tobacco use, increases in blood pressure control, healthier diets, increased use of seat belts, and effective injury control. These improvements and others have contributed in turn to declines in deaths from stroke and heart disease and declines in overall death rates for children. Yet, despite these successes, heart disease and cancer have remained the leading causes of death through the latter part of the 20th century.

Today, CDC and partners confront challenging, complex issues that reinforce, reshape, and expand the traditional roles of public health. Responding to those challenges involves such activities as

- Investigating disease outbreaks in the United States and around the world.
- Probing the realms of viruses, bacteria, and parasites to uncover ways to control both emerging and re-emerging pathogens.
- Protecting the food and water supplies from both inadvertent and deliberate contamination.
- Curbing the toll of death and disability from preventable injuries.
- Stemming the epidemic of obesity in the United States.
- Convincing the public that altering certain behaviors will yield long-term health dividends.
- Educating youth about the risks of HIV, unintended pregnancy, tobacco use, physical inactivity, and poor nutrition.

- Translating biomedical research findings into practice in communities.
- Eliminating disparities in the health of all Americans.

Protecting health and safety has its basis in science. CDC staff use the applied techniques of epidemiology, laboratory, behavioral, and social sciences as the primary tools to understand the causes of poor health, identify populations at risk, and develop interventions for disease control and prevention. As research provides more information about the relationships among the physical, mental, and social dimensions of well-being, a broader approach to public health has become important in the quest for answers to prevent and solve health problems. CDC is committed to expanding its research agenda to help bridge the gap between research and protecting health and safety.

2. Excellence in Systems

CDC addresses HHS Goal 5 by providing credible, timely health information to help policy makers, providers, and consumers make informed decisions about personal and public health. The general public and health practitioners at all levels require up-to-date, credible information about health and safety to make rational decisions. To help support this crucial decision making, CDC continues to increase and apply its preeminent expertise in the disciplines of public health surveillance, epidemiology, statistical analysis, laboratory investigation and analysis, health communications and social marketing, behavioral risk reduction, technology transfer, and prevention research. CDC applies the science that underpins those disciplines to develop and disseminate credible and practical health information to meet the diverse needs of its primary clients, the people of the United States. Such information affects health and well-being across all stages of life when the best possible health decisions must be made by consumers, providers, and policy makers.

3. Excellence in Service

CDC makes this crucial health information available through many channels, including books, periodicals, and monographs; Internet websites; health and safety guidelines; reports from investigations and emergency responses; public health monitoring and statistics; travel advisories; and answers to public inquiries.

In addition to serving the public, CDC delivers health information that enables providers to make critical decisions. For example, the practicing medical and dental communities and the nation's healthcare providers are target audiences for numerous official CDC recommendations on the diagnosis and treatment of disease, immunization schedules, infection control, and clinical prevention practices. CDC also offers technical assistance and training to health professionals.

CDC is positioned in vanguard efforts to inform people about the benefits of having children wear bicycle helmets, teaching young women about preventing birth defects by taking folic acid, quitting smoking, eating sensibly and exercising regularly, reducing health hazards during food preparation in the home, making sure children and adults are vaccinated, and alerting the public to environmental hazards. CDC recognizes that many other public health messages either need to be heard for the first time or should be reinforced.

4. Excellence in Strategy

CDC addresses HHS Goal 2 through strong working relationships with key public health partners. CDC has a long history of developing and sustaining vital partnerships with various public and

private entities that improve service to the American people. CDC's partners in conducting effective prevention and control activities include

- Public health associations.
- State and local public health agencies.
- Other HHS agencies and agencies in other federal departments.
- Practicing health professionals, including physicians, dentists, nurses, and veterinarians.
- Public safety and security officials.
- Schools and universities.
- Communities of faith.
- Community, professional, and philanthropic organizations.
- Nonprofit and voluntary organizations.
- Business, labor, and industry.
- CDC Foundation and other foundations.
- International health organizations.
- State and local departments of education.

CDC's partners implement most of the agency's extramural programs. These programs are tailored to reflect local and community needs. In addition, partners strengthen CDC by serving as consultants to CDC program staff, by participating in CDC advisory committees, and by attending CDC-sponsored seminars and conferences. The wide-ranging perspectives that CDC's partners bring to common interests and goals generate new opportunities for collaborations, help shape key strategies, and provide another means for staying focused on the needs of the American public. Sustaining these partnerships involves coordination and communication.

CDC budget activities, which correspond to goals outlined in the HHS Strategic Plan, are indicated by a check mark. As a whole, CDC is working towards Goal 8, achieving excellence in management practices. The remaining seven goals and their specific objectives are listed for programs where appropriate; detailed goals and objectives are provided in the table below.

1. Reduce the major threats to the health and well-being of Americans

- Reduce risky behaviors and other factors that contribute to the development of chronic diseases, especially diabetes and asthma.
- Reduce the proportion of adolescents engaged in sexual activity, the proportion of persons engaged in unsafe sexual behaviors, and unintended pregnancies.
- Increase immunization rates among adults and children.
- Reduce substance abuse by expanding and improving communities' substance abuse prevention and treatment programs.
- Reduce tobacco use, especially among youth.
- Reduce the incidence and consequences of injuries and violence.

2. Enhance the ability of the nation's public health system to respond effectively to bioterrorism and other public health challenges

- Build the capacity of the healthcare system to respond to public health threats in a more timely and effective manner, especially bioterrorism threats.
- Improve the safety of food, drugs, biological products, and medical devices.

3. Increase the percentage of the nation's children and adults who have access to regular healthcare and expand consumer choices

- Create new, affordable health insurance options.
- Expand the healthcare safety net.
- Strengthen and improve Medicare.
- Eliminate racial and ethnic health disparities.
- Expand access to healthcare services for populations with special needs.
- Increase access to healthcare services for American Indians and Alaska Native (AI/AN).

4. Enhance the capacity and productivity of the Nations health science research enterprise

- Advance the understanding of basic biomedical and behavioral science and how to prevent, diagnose, and treat disease and disability.
- Accelerate private sector development of new drugs, biologic therapies, and medical technology.
- Strengthen and diversify the base of qualified health and behavioral science researchers.
- Improve the coordination, communication, and application of health research results.
- Strengthen the mechanisms for ensuring the protection of human subjects and the integrity of the research process.

5. Improve the quality of healthcare services

- Reduce medical errors.
- Increase the appropriate use of effective healthcare services.
- Increase consumer and patient use of healthcare quality information.
- Improve consumer and patient protections.
- Accelerate the development and use of an electronic health information infrastructure.

6. Improve the economic and social well-being of individuals, families, and communities, especially those most in need

- Increase the economic independence and workforce participation of low income families and persons receiving welfare.
- Increase the proportion of older Americans who stay active and healthy.
- Increase the independence and quality of life of persons with long-term care needs.
- Improve the economic and social development of distressed communities.
- Expand community and faith-based partnerships.

7. Improve the stability and development of our nation's children and youth

- Promote family formation and healthy marriages.
- Improve the development and learning readiness of preschool children.
- Increase the involvement and financial support of non-custodial parents in the lives of their children.
- Increase the percentage of children and youth living in a permanent, safe environment.

8. Achieve excellence in management practices

- Create a unified HHS committed to functioning as One Department.
- Improve the strategic management of human capital.
- Enhance the efficiency and effectiveness of competition between public and private service providers.

- Improve financial management.
- Enhance the use of electronic commerce in service delivery and record keeping.
- Achieve integration of budget and performance information.
- Reduce regulatory burden on providers and consumers.

| Budget Activity/ HHS Goal | Goal 1 Reduce major threats | Goal 2 Enhance public health response | Goal 3 Increase access to care | Goal 4 Enhance health sciences research | Goal 5 Improve quality of health care | Goal 6 Improve economic and social well- being | Goal 7 Improve stability, development of youth | HHS Objectives |
|---|--------------------------------------|---|---|---|---|--|--|--|
| Birth Defects/Dev. Disabilities & Health | | | / | / | / | / | / | 3.4, 3.5, 4.1, 4.4, 5.2, 6.3, 7.2 |
| Chronic Disease Prevention and Health Promotion | / | | / | / | / | / | | 1.1, 1.2, 1.5, 2.1, 3.4, 3.5, 3.6, 4.1, 4.3, 4.4, 5.2, 6.2, 6.5 |
| Environmental Health | / | / | / | / | | | / | 1.1, 2.1, 3.4, 4.1, 4.4, 5.1, 5.5, 7.2, 7.4 |
| Epidemic Services & Response | | / | | / | / | | | 1.1, 1.2, 1.5, 1.6, 2.1, 2.2, 4.1, 4.3, 4.4, 5.3, 5.4, 5.5 |
| Health Statistics | | | | / | / | | | 1.1, 1.2, 1.3, 1.5, 1.6, 2.1, 3.1, 3.2, 3.4, 3.5, 4.1, 4.4, 4.5, 5.1, 5.2, 5.3, 5.5, 6.2, 6.3, 7.1, 7.2, 7.4 |
| HIV, STD, & TB Prevention | / | | / | / | / | / | | 1.1, 1.2, 2.1, 3.4, 3.5, 3.6, 4.1, 4.4, 5.2, 5.3, 5.4, 6.3 |
| Immunization | / | | / | / | / | | | 1.3, 2.1, 2.2, 3.4, 3.5, 3.6, 4.1, 4.3, 4.4, 4.5, 5.5, 5.2, 5.3, 6.2, 6.3, 6.5, 7.2, 7.4, |
| Infectious Diseases Control | | / | | / | / | | | 2.1, 2.2, 4.1, 4.4, 5.1, 5.2, 5.3 |
| Injury Prevention and Control | / | / | / | / | / | / | | 1.6, 2.2, 3.4, 3.6, 4.1, 4.4, 5.2, 5.3, 6.2, 6.3 |
| Occupational Safety and Health | / | | / | / | / | | | 1.6, 3.5, 4.1, 4.3, 4.4, 4.5, 5.3, 5.4 |
| Preventive Health and Health Services Block Grant | / | / | / | | / | / | / | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 3.4, 3.5, 3.6, 5.2, 5.5, 6.2, 6.3, 6.5, 7.2 |
| Public Health Improvement | | / | | / | / | | | 1.1, 1.3, 2.1, 3.4, 3.5, 3.6, 4.3, 4.4, 5.2, 5.3, 5.5, 6.2, 6.5 |
| Buildings and Facilities | | / | | | | | | 2.1 |
| Office of the Director | | / | | / | / | | | 2.1, 4.1, 4.3, 4.4, 4.5, 5.5, 8.1, 8.2, 8.4, 8.5, 8.6, 8.7 |
| Terrorism | | | | | | | | 2.1, 2.2, 4.1, 4.2, 4.4, 5.5 |

Appendix B — Changes and Key Improvements

As of December 2003, CDC has reported on 98 of 147 targets in CDC's FY 2003 Performance Report and has achieved or exceeded more than 83% of these targets. CDC has achieved or exceeded more than 78% of its performance targets for which data is available (133 of the 171 targets) in CDC's FY 2002 Performance Report. CDC has achieved, or exceeded, targets set for 176 of the 217 performance measures in CDC's FY 2001 Performance Report. Only 39 targets were unmet, and data is outstanding for 2 of the performance measures contained in the plan. Measures with outstanding data will be reported on as soon as results become available.

Numbers tell only part of CDC's performance story. In an on-going effort to improve our performance plan and report, we have significantly revised our plan. In FY 2005, CDC plans to address key priorities in prevention and preparedness, while capitalizing on 21st century science and technology to achieve public health goals. In our prevention activities, we will continue our keen focus on closing the gap in health status among racial and ethnic minorities. CDC will enhance domestic and global preparedness by strengthening our nation's public health information systems, strengthening our capacity to diminish global threats to health, and increase our ability to detect terrorism.

In FY 2003, CDC achieved or exceeded a variety of goals in each of the identity theme areas.

I. Theme Areas

1. Excellence in Science

- In March 2003, the Institute of Medicine (IOM) published a report describing the spectrum of microbial threats to national and global health, factors affecting their emergence or resurgence, and measures needed to address them effectively. The report, *Microbial Threats to Health: Emergence, Detection, and Response*, clearly indicates the need for increased capacity of the United States to detect and respond to national and global microbial threats, both naturally occurring and intentionally inflicted, and provides recommendations for specific public health actions to meet these needs. The emergence of SARS, a previously unrecognized microbial threat, has provided a strong reminder of the threat posed by emerging infectious diseases. CDC continues to show progress in addressing threats from infectious diseases, which remain a leading cause of death worldwide. Coordinators were placed in 50 health departments nationwide to coordinate hepatitis C activities among health department programs. Surveillance for influenza was enhanced nationally to increase the likelihood of early detection of an influenza pandemic and maintain effective tracking of its spread. CDC increased the number of domestic laboratories using PulseNet for the early identification of and response to foodborne disease outbreaks. Actively reducing the rapid rise of vancomycin resistant pathogens associated with nosocomial infections in hospitals; and are continuing to reduce the use of antibiotics prescribed for a sole diagnosis of the common cold through education campaigns targeted to all levels of healthcare providers.
- In January, The Journal of the American Medical Association published CDC's first prevalence rates of autism. Understanding the magnitude and determining trends in autism and other developmental disabilities will position us to find the causes of these conditions and implement programs to prevent them.

- The United States has seen dramatic reductions in perinatal AIDS rates in the past decade. In 2001, approximately 100 children were diagnosed with AIDS, down from 954 in 1992. These declines reflect the success of widespread implementation of PHS recommendations for routine counseling and voluntary HIV testing of pregnant women and the use of zidovudine (AZT) by infected women during pregnancy and delivery and for treatment of the infant after birth. Declines may also reflect advances in treatment for those children who have been infected, forestalling progression to AIDS. Revised guidelines were published in 2001.
- The diabetes control programs (DCP) – funded in all 50 states, the District of Columbia, and 8 U.S. territories and Freely Associated States of the Pacific– identify high-risk populations, improve the quality of care, involve communities in controlling diabetes, and increase access to care with measurable success. For example of a 2-year period the New York DCP reduced hospitalization rates by 35% and decreased lower extremity amputations rates by 39%. In Michigan a long-standing DCP has produced a 45% lower rate of hospitalizations, a 31% lower rate of lower-extremity amputations, and a 27% lower death rate for participants.
- The prevalence of current smoking among youth (grades 9-12) decreased from 36.4% in 1997 to 27.5% in 2001. Success in reducing the youth smoking rate is attributed to restrictions on the tobacco industry, increased state funding for tobacco control programs, technical assistance from the federal government to determine effective tobacco-control strategies, and coordination of tobacco-control efforts among public agencies and non-governmental organizations.
- Through September 2001, the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) has provided 3.6 million screening tests to over 1.4 million women. The program has diagnosed 12,000 breast cancers, 48,170 precancerous lesions, and over 800 cases of invasive cervical cancer.
- Because most fire-related deaths and injuries occur while residents are asleep effective detection and alerting systems are essential. Indeed a working smoke alarm can reduce the risk of death by about 50%. In nearly three years CDC's 16-state smoke alarm installation/education program has installed over 116,000 smoke alarms in homes. This program has been credited with saving potentially 346 lives.

2. Excellence in Systems and Service

- In FY 2003, CDC continues to expand the information on the amount and types of environmental chemicals that affect people's health. CDC can now measure the presence of approximately 200 such substances including metals, pesticides, dioxins, and others in blood and urine. To communicate these findings to the public, CDC issued the first a *National Report on Human Exposure to Environmental Chemicals* in FY 2001. This report provides the public an assessment of the U.S. population's exposure to environmental chemicals that may cause cancer, birth defects, and respiratory diseases, and other illnesses. Information from this report will also aid in monitoring the effectiveness of programs designed to reduce exposures. The second edition of the *Report* will be released in January 2003.
- The National Program of Cancer Registries includes 45 states, the District of Columbia and 3 U.S. territories and Freely Associated States of the Pacific representing 96% of the U.S. population. CDC helps states and organizations use cancer surveillance data to describe the disease burden, evaluate cancer control activities, and identify populations at high risk for certain

cancers. For example, from 1988 through 1999, the California Cancer Registry conducted a special study of cancer incidence among members of the United Farmworkers of America (UFW), a largely Hispanic farmworker labor union. Results showed that the risk of leukemia, stomach, cervical, and uterine cancers was elevated in California farmworkers. UFW members also experienced later stage of disease at diagnosis than other California Hispanics for most major cancer sites, but not for breast cancer. Additional research into the potential causes of this increased risk for certain cancers is planned, including a study of farmworkers' exposure to pesticides.

- CDC translates occupational research finding into various media for workers, employers, policy makers, and practitioners. CDC distributes >1 million paper copies of documents annually and also makes information available through the NIOSH website. In FY 2002, NIOSH received 10,704 requests for information via the web, 117,500 requests via telephone, and 4,587 requests via mail. To increase its information dissemination efforts to the growing number of Hispanic laborers within the U.S. workforce, NIOSH launched a Spanish version of its website in FY 2002. After its launch in December 2001, the website received 253 requests for information via the web and 157 requests via telephone during FY 2002.
- CDC documented a 31% reduction in the rate of birth defects of the spine and a 16% reduction in the rate of birth defects of the brain following fortification of the U.S. food supply with the B vitamin folic acid. CDC provided further evidence of the dramatic prevention impact of the vitamin, including a 62% reduction in a common birth defect of the abdominal wall for women who used multivitamins containing folic acid before and during early pregnancy, as well as a 50% decrease in the rate of imperforate anus from a folic acid intervention in China. In FY 2003, CDC published findings that women with diabetes who take multivitamins before and during early pregnancy had a lower risk of having a child with diabetes-associated birth defects such as heart defects and central nervous system defects. To make sure that we maximize the prevention impact of folic acid, CDC is also studying whether taking it can reduce risk for women with diabetes, who are known to be at increased risk of having a child with certain birth defects.
- CDC established the Autism Information Center to educate researchers, public health practitioners, parents, policymakers, and the general public about autism and related disorders. The Web-based resource also includes information on autism-related activities conducted or sponsored by CDC and other federal agencies, resources for families and researchers, and activities to help children use the Internet to learn about autism.

3. Excellence in Strategy

- CDC is collaborating with Danish researchers to use Denmark's unique public health infrastructure to investigate important public health issues for which comparable data do not exist in the United States, including certain issues related to cerebral palsy, fetal alcohol effects, hearing loss, and autism. A recent example is a study recently conducted in response to concerns that exposure to childhood vaccines causes autism—the study results strongly indicated no association between exposure to the MMR vaccine and autism. Future plans of the collaboration include assessing whether intrauterine infection in pregnancy increases risk for cerebral palsy and autism, and evaluating prenatal alcohol exposure as the cause for a broad spectrum of developmental disabilities and conditions.

- Through the Global AIDS Program, CDC is working with experts from U.S. and international agencies such as HRSA, NIH, USAID, CAREC, UNAIDS, WHO, and UNICEF to help ministries of health in Africa, Asia, and Latin America address the devastating impact of HIV/AIDS. In FY 2005, CDC continues to develop programs in 25 countries in Africa, Asia, Latin America and the Caribbean. In addition, CDC will play a key role in implementing the President's International Mother and Child HIV Prevention Initiative. With funds requested in 2004 and 2005, CDC and USAID plans to work in 14 countries to prevent mother to child transmission of HIV and provide care and treatment to infected mothers to prolong their health and improve family life.
- Through the Special Olympics Healthy Athletes initiative, CDC is partnering with Special Olympics to address health challenges and disparities faced by Special Olympics athletes and other people with mental retardation. The initiative provides quality health services in the areas of oral health, secondary conditions, mental health, nutrition, physical activity, vision, and hearing to address disparities and improve health and well-being among people with mental retardation.
- As long as polio transmission occurs anywhere in the world, it remains a threat to American children. CDC continues to collaborate with many partners including WHO, Rotary International, USAID, the Task Force for Child Survival and Development, UNICEF, and other international agencies to bolster polio eradication efforts by providing scientific assistance and financial support. This collaboration is unique among public health initiatives for the unprecedented level of partnership. This global initiative is on target for certification of polio eradication by 2005. Global polio incidence has declined more than 99% from 1988 to 2001, about 250,000 lives have been saved and 4 million cases of childhood paralysis have been avoided, and the number of polio-endemic countries dropped from 125 to only 7 at the end of 2002. In FY 2001, a 25% price hike by polio vaccine manufacturers of oral polio vaccine (OPV) from 7.2 cents per dose to 9.0 cents per dose decreased CDC's purchasing capacity (through UNICEF) from a projected 625 million doses in FY 2001 to an actual 590 million doses. In FY 2002, CDC exceeded its target by purchasing 694 million doses of OPV.
- CDC is partnering with the Christopher and Dana Reeve Paralysis Resource Center to provide a library and website with educational materials, referral services, and self-help guidance to those living with paralysis. In its first year of receiving funding from CDC, the center funded more than 60 community programs to improve quality of life for people living with paralysis.
- CDC is partnering with local Muscular Dystrophy Association clinics, Parent Project Muscular Dystrophy and other parent advocacy groups, neurologists, orthopedic surgeons, and others to develop the infrastructure for determining the incidence of muscular dystrophy and evaluating the impact of various treatment options on the health and well-being of people living with the condition.

II. High Priority Initiatives in the FY 2005 Plan

Several high-priority, critical initiatives are included in CDC's 2005 Annual Performance Plan. These initiatives include support for the President's Management Agenda, the Secretary's Budget Priorities, and CDC's Workforce Restructuring and Delaying Plan.

CDC's work in support of the Secretary's Budget Priorities includes the following:

1. Preventing Disease/Illness and Promoting Positive Lifestyles

CDC's highest prevention priority is to respond forcefully to the twin epidemics of obesity and diabetes. 2001 saw the release of two landmark, gold standard studies on the prevention of type 2 diabetes in high-risk adults. Both studies show—for the first time—that type 2 diabetes *can be prevented* in very high-risk adults—those defined as “pre-diabetic.”

2. Responding to BT and other Public Health Emergencies

CDC will improve its own ability to respond, while also working through its cooperative agreement program to bolster the ability of state and local public health agencies to respond to all terrorism hazards. Research will build our knowledge base.

3. Closing the Health Disparities Gap

CDC supports prevention research, program development and analysis and evaluation to improve the health status of minorities and reduce health disparities. CDC provides leadership, coordination, assessment and evaluation for minority health initiatives, policy initiatives targeting improving the health of ethnic populations and Executive Branch activities.

4. Expanding the Department's Efforts in International Health

CDC will reduce serious global health threats associated with living in an increasingly interconnected world. By working with our global health partners to build public health capacity worldwide, CDC plays a vital role in assisting other nations - an important part of protecting our nation's health and safety.

5. Modernizing IT and Establishing an HHS Health Architecture

CDC is committed to advancing public health through science and technology. In FY 2005, CDC priorities in this area include building the Public Health Information Network and supporting improved health statistics and geographic information systems.

6. Strengthening Management

The Program Support section of CDC's Performance Plan represents management activities that cross-cut the entire organization. Activities and priorities of the Human Resources, Information Technology, and Financial Management Offices are all captured in the Program Support section of CDC's Performance Plan.

Appendix C — Partnerships and Coordination

I. Promoting Health through Strong Partnerships

The everyday world provides a series of obstacles to continued good health: emerging infectious diseases and the threat of terrorism (biological, chemical, radiological or through more conventional weaponry); pollution in the air we breathe and water we drink; unsafe conditions in our workplaces; personal habits that damage our health; intentional and unintentional injuries; and limited access to health services, especially for disadvantaged populations. CDC works collaboratively with global, national, state, and local organizations to promote health and protect people from disease, injury, and disability. CDC alone cannot protect the health of the American people. However, by collaborating with others – from state and local health departments to private corporations, from county-sponsored clinics to managed-care organizations, from media outlets to the general public – CDC can leverage its vision of a better world of Safer • Healthier • People.

CDC has a broad mandate to promote health and quality of life by preventing and controlling disease, injury, and disability. The people of CDC contribute significantly to Americans' ability to lead longer, more productive, healthier lives. As illustrated in this report, CDC's unique approach to health improvement achieves results and cost savings. *Safer • Healthier • People* is a desirable and achievable goal made possible by CDC.

1. Setting the Nation's Health Promotion and Disease Prevention Agenda

CDC has been an active participant in setting and working toward national health promotion and disease prevention goals and objectives since the Healthy People (HP) initiative began in 1979. Beginning in 1996, more than 600 national and state organizations and more than 11,000 persons and organizations participated in the development of HP 2010 objectives. Key participants included representatives of state and local health departments. The extensive participation by representatives of state and local governments, academic institutions, business and labor, and community and professional organizations at each step in the process helped to establish the broad network needed for successful implementation of programs. CDC actively participated in this process, accepting the lead in overseeing the coordination, collaboration, and implementation of many health promotion and disease, injury, and disability prevention objectives.

The HP 2010 initiative was launched in early 2000. CDC shares lead coordination of HP 2010 objectives with other federal organizations. Many of the performance objectives in CDC's Annual Performance Plan are directly linked to HP objectives, and HP 2010 goals and objectives serve as a foundation for a number of CDC's performance measures. Although CDC has lead responsibility for many of the objectives in HP 2010, achievement of these objectives represents a national effort in which CDC works closely with other federal, state, local, and community entities. Performance measures in CDC's plan have been crafted to reflect the collaborative nature of CDC's program activities.

2. Supporting State and Local Health Departments

In FY 2000 about 71% of CDC's budget (\$3.07 billion) – provided through extramural grants, cooperative agreements, and program contracts – was spent on public health work performed by CDC's partners. Most of those funds were provided to state and local health departments as grants

and cooperative agreements to support public health programs aimed at disease prevention and control.

3. Supporting Extramural Research

CDC funds extramural research through such programs as the Prevention Research Centers, which support a prevention research agenda at 28 schools of public health throughout the country, and through the community-based, participatory Extramural Prevention Research Initiative, which engages communities in the formulation of research questions and encourages localized application of research findings to prevent disease and promote healthy behavior.

4. Expanding Partnerships and Coordination

Just as the development of national health objectives is dependent on the work of many, CDC works with its many partners throughout the United States and the world to accomplish the long-term and annual goals in the CDC Performance Plan and the HHS Strategic Plan. State and local health departments provide the infrastructure on which the public's health is built. Other traditional partners include persons and institutions that educate and promote the health of Americans of all ages, such as school systems, local community groups, businesses, voluntary and professional associations, and other federal organizations. In view of the increasingly diverse and complex role of public health, CDC has reached out to newer and less traditional public health partners, including churches, local organizations, health insurance organizations, health alliances, health boards, consumer groups, and private medical providers.

CDC continues to work with its partners to develop effective outcomes-based control and prevention services.

II. CDC Partnership Activities at the Program Level

1. Birth Defects, Developmental Disabilities Prevention, and Disabilities and Health

CDC works in partnership with state health departments, healthcare professional organizations, academic institutions, and many non-profit organizations. Specific examples are given below.

Programs for monitoring birth defects, developmental disabilities, and the health of people with disabilities are usually done in partnership with state health departments or with a university or other non-profit organization acting as agent for the state health department. Non-profit organizations such as the March of Dimes will sometimes conduct special surveys on risk factors such as folic acid consumption to assist CDC in monitoring effectiveness of health promotion campaigns. The Early Hearing Detection and Intervention programs are implemented by state health departments but a partner organization, the Directors of Speech and Hearing Programs in State Health and Welfare Agencies, collect and make available the data. Fetal alcohol syndrome (FAS) monitoring is done by state health departments but programs to develop interventions for children with FAS are usually done by universities or other non-profit research organizations. A variety of partners are involved with developing and implementing educational materials about FAS.

Several organization such as the Amputee Coalition of America, the Christopher Reeve Paralysis Foundation, Children and Adults with Attention Deficit Disorder, and National Information Center

for People with Disability help CDC provide information to improve the lives of people living with disability.

2. Chronic Disease Prevention and Health Promotion

Chronic diseases are a community-wide burden. CDC works with state and local health and education agencies, healthcare organizations, academic institutions, national organizations, nonprofit agencies, business, and philanthropies to reduce the burden of chronic diseases.

In FY 2003, CDC will consolidate state funding into six categories of grant programs in FY 2003. These six most closely align with the way programs are organized and implemented in state health departments, and the clustering of state partner organizations that co-fund and implement the programs: (1) *Heart Disease and Stroke*; (2) *Cancer Prevention and Control* (breast and cervical cancer registries, and other cancer grant awards); (3) *Diabetes*; (4) *Health Promotion* (Behavioral Risk Factor Surveillance System (BRFSS), tobacco, nutrition/physical activity/obesity, oral health, arthritis, Safe Motherhood and infancy including Pregnancy Risk Assessment Monitoring System (PRAMS), Wisewoman, and any other cooperative agreements not specified above that provide grants for state prevention programs). In addition to the state awards above, consolidated awards will be made to department of education and university partners in the following two areas: (1) *School Health* (Youth Risk Behavior Surveillance System (YRBSS), school-based HIV prevention, and school health programs); and (2) *Prevention Centers*. Over the past year, CDC has consulted with the State Chronic Disease Directors, the Association of State and Territorial Health Officials and the Association of State and Territorial Directors of Health Promotion and Health Education regarding consolidating and streamlining the cooperative agreement process.

Breast and Cervical Cancer

Recognizing the value of screening and early detection, Congress passed the Breast and Cervical Cancer Mortality Prevention Act of 1990, which established CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP). CDC provides funding to all 50 states as well as 21 U.S. territories and Freely Associated States of the Pacific and tribal organizations to implement the NBCCEDP. The NBCCEDP provides screening services, including clinical breast examinations, mammograms, pelvic examinations, and Pap tests, to under-served women. The NBCCEDP also funds other program components to ensure a comprehensive approach to screening. These include tracking, follow-up and case management; quality assurance; public and professional education; evaluation and surveillance; and partnership development.

Partnerships are critical to the NBCCEDP cancer control efforts. A successful national program to control breast and cervical cancers depends on the involvement of a variety of committed partners and national organizations. The Division of Cancer Control and Prevention at CDC collaborates with state, tribal, and territorial health agencies; healthcare professionals and organizations; human service and voluntary organizations; and academia.

An example of an important partner to the NBCCEDP is the National Indian Women's Health Resource Center (NIWHRC). The NIWHRC is a national organization whose mission is "to assist American Indian and Alaska Native women achieve optimal health and well being throughout their lives." In October 2000, the Resource Center entered into a cooperative agreement with the CDC's NBCCEDP to provide technical assistance to tribes, tribal programs, and states with substantial

Indian populations. The NIWHRC has been a critical partner to supporting screening efforts with Indian populations and building the capacity of funded tribal organizations to implement the NBCCEDP.

Tobacco

It is important to note that while CDC serves as a focal point for HHS tobacco prevention activities, prevention or reduction of tobacco use is a shared effort. Multiple agencies in HHS, in addition to CDC, address tobacco use. NIH conducts biomedical and applied research, surveillance, and public health interventions. SAMHSA conducts surveillance and implements regulations on minors' access to tobacco. Other agencies with roles in tobacco policy are the Federal Trade Commission (with oversight of the testing protocol for tar and nicotine yields in cigarettes and the monitoring and regulation of advertising practices), USDA (through their work with tobacco farming communities), Department of Commerce (regarding the manufacturing sector and related businesses), Treasury Department (with customs and taxation issues), and EPA (regarding issues related to secondhand smoke). State and local governments, non-governmental organizations (e.g., American Cancer Society, Robert Wood Johnson Foundation), and healthcare providers also play important roles in efforts to reduce tobacco use. CDC works with community-based programs, health communication campaigns, and schools to prevent and reduce smoking among youth. It is important to note that marketing and other factors (e.g., tobacco advertising, industry pricing patterns, glamorization of tobacco use in the popular media) can counteract efforts to reduce tobacco use.

Community-Based Prevention Research

The PRCs work through established partnerships among state and local health departments, community-based organizations, and other stakeholders to conduct research on a particular theme. For example, CDC is working with NIH's Office of Extramural Research on NIH's Women's Health Initiative, mentioned previously. The PRC program's mission is "connecting science and practice through a network of academic, public health, and community partnerships for scholarly, community-based prevention research, research translation, and education."

Diabetes

CDC and NIH provide federal leadership for the development, coordination, and implementation of the National Diabetes Education Program (NDEP). CDC has primary responsibility for: coordinating the NDEP Partnership Network of more than 200 organizations, coordinating several of the 10 NDEP planning workgroups, and administering the NDEP community interventions component. CDC collaborates with IHS and other organizations to conduct the research and training activities of the National Diabetes Prevention Center (NDPC). The NDPC was established to address the serious diabetes epidemic in American Indians. CDC's state-based diabetes control programs partner with community health centers to improve the health status of persons with diabetes who receive care at these sites. CDC also collaborates with state health departments, American Diabetes Association, American Public Health Association, Juvenile Diabetes Research Foundation, American Association of Diabetes Educators, and managed-care organizations in the control of diabetes and its complications.

Arthritis

CDC and its principal partners, Arthritis Programs in state health departments and the Arthritis Foundation, are working to increase awareness of arthritis and its impact, and to increase appropriate self management behaviors that have been shown to be effective in reducing pain and improving function. CDC also works with the Arthritis Council of the Chronic Disease Directors

Association, and the State and Territorial Directors for Health Promotion and Public Health Education to achieve these program goals.

Cancer Registries

CDC works in conjunction with the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) registry program on several cancer related topics. This collaboration, established through a formal Memorandum of Understanding, allows a more coordinated national cancer surveillance effort that builds upon and strengthens the existing infrastructure, improves the availability of high quality data for measuring the nation's cancer burden, and advances the capacity for surveillance research. The CDC also collaborates with the American Cancer Society (ACS), American College of Surgeons (ACoS), North American Association of Central Cancer Registries (NAACCR), and National Cancer Registrars Association. These groups have formed a consortium, the National Coordinating Council for Cancer Surveillance, that encourages and facilitates voluntary reporting of cancer cases from federally supported facilities to state registries. CDC helps states and organizations use cancer surveillance data to describe the disease burden, evaluate cancer control activities, and identify populations at high risk for certain cancers.

Heart Disease and Stroke

CDC has a signed memorandum of understanding with the American Heart Association (AHA), Centers for Medicare and Medicaid Services (CMS), Office of Disease Prevention and Health Promotion (ODPHP), National Institute of Neurological Disorders and Stroke (NINDS), and the National Heart, Lung, and Blood Institute (NHLBI). The purpose of the Partnership formed by this Memorandum is “to catalyze progress toward the goals and targets set forth in the *Healthy People 2010* Heart Disease and Stroke focus area, and improve the health of our communities and our nation.” CDC also partners with the National Stroke Association to increase the awareness of stroke, disabilities and to enhance national stroke surveillance activities. CDC also collaborates with the Health Resources and Services Administration (HRSA) to improve cardiovascular performance measures through improved care delivery systems, increased access, and decreased health disparities among the medically under served populations in federally qualified health centers. Additionally, CDC partners with the Veteran's Administration to develop and institute a system of enhanced computerized clinical reminders, which provides feedback on risk factor control and suggests treatment changes to encourage compliance with cardiovascular clinical guidelines. Also, the CDC partners with the American College of Cardiologists (ACC) and the Association of Black Cardiologists (ABC) to enhance provider compliance with guidelines and encourage collaboration with state health departments.

Nutrition, Physical Activity and Obesity

CDC focuses on several strategies to decrease obesity and chronic disease rates by increasing physical activity and good nutrition, mainly through partnerships. Major partnerships on physical activity include the Robert Wood Johnson Foundation's initiative on environmental and policy influences on physical activity, American College of Sports Medicine, U.S. Department of Transportation, National Parks Service, President's Council on Physical Fitness and Sports, and the National Association for Sports and Physical Education. Key nutrition and obesity partnerships include the U.S. Department of Agriculture, National Institutes of Health, American Cancer Society, Produce for Better Health Foundation, American Academy of Pediatrics, and CDC Prevention Research Centers.

3. Health Statistics

CDC collaborates with the HHS Data Council, the National Committee on Vital and Health Statistics, representatives from the states, users of CDC data in the public and private sectors, and other federal agencies. Close cooperation with state vital statistics offices ensure timely reporting of data.

4. HIV, STD, and TB Prevention

HIV/AIDS

CDC works closely with other HHS agencies, including HRSA, SAMHSA, and NIH, to coordinate efforts to address HIV. CDC works with HRSA to evaluate access to care and the extent to which states have been effective in reducing perinatal HIV transmission and provides data necessary for HRSA's care and treatment programs. CDC collaborates with SAMHSA and NIDA on issues related to transmission of HIV in the injecting drug use population. A working group has been established to address healthcare issues in correctional institutions. Development and implementation of the plan to eliminate racial and ethnic health disparities is an interagency effort within HHS. CDC will expand partnerships with USAID, UNAIDS cooperating agencies (WHO, UNICEF, UNDP, UNFPA), sister agencies in HHS, other federal agencies, and an anticipated 15 U.S.-based non-governmental organizations working in HIV prevention in Global AIDS countries and regions.

Sexually Transmitted Diseases

CDC works with partners to educate health professionals and the public about the importance of STD prevention, the importance of protective healthcare-seeking and personal sexual behaviors, and the impact of STDs on the health of Americans, particularly women and infants, adolescents, and minority populations. Two major foci of national STD efforts are prevention of STD-related infertility and syphilis elimination.

Infertility Prevention Program

CDC and the Office of Population Affairs (OPA), Indian Health Service (IHS), and Association of Public Health Labs (APHL) work collaboratively with family planning, STD, and primary-care programs to provide surveillance, screening, treatment, laboratory, and program-relevant research activities to inform and help in the implementation of infertility prevention activities for uninsured and under-insured women.

Syphilis elimination

At least 30% of federal grant funds are provided to non-governmental agencies and organizations that represent and serve affected populations. Among the many national and local partners working to implement syphilis elimination efforts are NIH, HRSA, SAMHSA, NIJ, APHL, and the American Social Health Association (ASHA). Collaborative efforts include: providing technical guidance on clinical services, implementing research and demonstration projects, and promoting collaboration among local affiliates/constituents on elimination efforts. One such example is the Community Health Outreach Education Services (CHORES) collaboration led by HRSA to develop a comprehensive health promotion, health education, and disease prevention program to be integrated into primary care. Five sites selected from CDC-designated high-morbidity areas will focus on implementing prevention into primary care programs and community involvement.

Tuberculosis

CDC works with state, large city, and territorial health departments to deliver TB prevention and intervention activities designed to reduce the incidence of TB and eventually eliminate the disease.

CDC works with the HHS Advisory Council for the Elimination of Tuberculosis (ACET), the National TB Controllers Association, American Lung Association, American Thoracic Society (ATS), and Infectious Diseases Society of America to set guidelines, recommendations, and policies related to TB prevention, control, and elimination. CDC is working with the Federal TB Task Force to develop a federal action plan in response to the Institute of Medicine (IOM) report, *Ending Neglect: The Elimination of Tuberculosis in the United States*. CDC works with NIH and FDA to develop new diagnostic and treatment tools and better vaccines. Through contracts with academic institutions and public health departments and interagency agreements (with the Veterans Health Administration), CDC formed a consortium for clinical trials research (currently evaluating the new TB drug, rifapentine) and a consortium for epidemiological and operational research. Internationally, CDC collaborates with USAID, World Health Organization (WHO), and others through efforts such as the Stop TB Initiative and through assistance to specific countries.

5. Immunization

CDC collaborates with HRSA, CMS, FDA, NIH, and others in achieving immunization objectives.

6. Infectious Diseases

To accomplish its mission of protecting the public from infectious disease threats, CDC collaborates with a number of agencies and organizations. Examples of partners and some selected activities include: CSTE (assist states with pandemic influenza planning activities); APHL (enhance state laboratory capacity by providing long-term laboratory training); National Institutes of Health (NIH); Food and Drug Administration (FDA) (food safety programs), USDA (food safety programs), Department of Interior (U.S. Fish and Wildlife), Department of Justice (U.S. Immigrations and Naturalization Service), Department of State, and Department of Treasury (U.S. Customs). To accomplish HCV prevention objectives, CDC collaborates with the National Association of State AIDS Directors (NASAD), National Minority AIDS Council (NMAC), American Social Health Association (ASHA), Pacific Islands Health Officers Association (PIHOA), American Liver Foundation (ALF), Hepatitis Foundation International (HFI), and Indian Health Service (IHS).

7. Occupational Safety & Health

Through NORA, partnerships have continued between CDC and over 500 organizations to ensure the NORA agenda is implemented. With stakeholder and partnership input, CDC is better positioned to address the toll of workplace injury, illness and death and is assured of having an appropriate research agenda. CDC continues to recruit new partners in occupational safety and health to further engage new stakeholders and increase the knowledge base.

8. Public Health Improvement

Eliminating Disparities— Development and implementation of the plan to eliminate racial and ethnic health disparities is an interagency effort in HHS. CDC collaborates with the National Institutes of Health, the Administration on Aging, the Office of the Secretary, Agency for Health Care Research and Quality, and HRSA, in implementing REACH 2010.

9. Public Health Practice

Since 1997, the Public Health Practice Program Office (PHPPO) has established an ongoing partnership between Centers for Disease Control and Prevention (CDC) and several national public health (PH) organizations to support special projects that translate the 10 essential PH services

into practice. In 2001, the focus of this partnership changed to improve the nation's public health infrastructure. These partner national public health organizations include: American Public Health Association (APHA); Association of State and Territorial Health Officials (ASTHO); National Association of County and City Health Officials (NACCHO); National Association of Local Boards of Health (NALBOH); National Network of Public Health Institutes; and Public Health Foundation (PHF).

These organizations collaborate with various Centers/Institute/Offices in a wide area of special projects and activities, including:

- Core activities to improve each partner's infrastructure.
- Refine, field-test, and encourage the use of public health system performance standards.
- Improve the competency of the public health workforce.
- Improve public health communications and information technology systems.
- Ensure the availability of leadership development programs.
- Review/modify priorities for improving the performance of public health organizations, the workforce, and/or communications and information technology systems.
- Improve the nation's community public health assessment and planning systems.
- Conduct and/or publish research to strengthen the science base of public health practice.
- Translate advances in human genetics into public health practice.
- Improve the capacity of public health agencies to develop and strengthen infectious disease prevention and control programs.
- Improve the development of environmental and occupational public health policy, improve the competency of environmental and occupational public health workers, and broaden and improve the practice of environmental and occupational public health.
- Improve the capacity of public health agencies to respond effectively to chemical and/or biological terrorism.
- Improve the practice of chronic disease prevention and control.
- Improve the capacity of public health agencies to develop and strengthen tobacco prevention and control policies and programs.
- Improve the capacity of public health agencies to implement and/or expand injury prevention and control efforts.
- Improve the understanding and use of law by public health systems as a tool for effective practice.

In addition to accomplishing the objectives of individual special projects, these cooperative agreements have fostered closer collaboration among organizations that represent the nation's public health decision-makers and practitioners.

CDC facilitates workforce development and targeted training for the public health workforce in conjunction with a variety of public health partners. In collaboration with the Association of Schools of Public Health, CDC has initiated a national network of Centers for Public Health Preparedness (CPHPs) to strengthen emergency preparedness at the front lines by linking academic expertise and assets to state and local health agency needs. Since inception in 2000, the CPHPs, in collaboration with state and local partners, have prepared more than 180 educational products; trained more than 200,000 public health and healthcare professionals; and developed an inventory of faculty expertise and assets available for local, regional, and national emergencies.

In addition to the CPHP initiative, CDC partners with the Association of American Medical Colleges (AAMC) to implement projects aimed at linking the disciplines of public health and medicine. Examples of joint efforts include integrating genetics in medical school curricula and initiating the design of regional public health-medicine education centers. CDC's Public Health Training Network (PHTN) is a collaboration of CDC, HRSA, VA, FDA, Department of Agriculture, the Association of Schools of Public Health, and recent partners such as AHA and AMA. PHTN is a distance learning system that takes training to the learner. PHTN uses a variety of instructional media ranging from print-based to videotape, satellite, Internet-based, and multimedia to meet the training needs of the public health workforce nationwide.

10. Terrorism

CDC's primary partners in developing national capacity for terrorism preparedness and response are state and local health departments. In addition, CDC works with a variety of federal agencies, academic institutions, and non-governmental organizations, such as Association of Public Health Laboratories (APHL), Food and Drug Administration (FDA), U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID), National Association of County and City Health Officials (NACCHO), National Governors Association (NGA), National Emergency Management Association (NEMA), Infectious Disease Society of America (IDSA) and the Department of Veteran's Affairs (VA). Examples of some of CDC's collaborative activities include: 1) interagency agreement with the Department of Veterans Affairs for procurement of pharmaceuticals and medical supplies that comprise the National Pharmaceutical Stockpile; 2) cooperative agreement with APHL for coordination of the Laboratory Response Network; 3) contract with Acambis for the development of a new smallpox vaccine; and 4) cooperative agreements with the National Institute for Standards and Technology, the U.S. Army Soldiers Biological and Chemical Command, and the Occupational Safety and Health Administration for the development of respiratory protection standards. Additionally, the National Protective and Personal Technology Laboratory was established, under the National Institute for Occupational Safety and Health. This lab will develop standards and approval processes for respirators to protect against hazardous agents, including chemical and biological weapons of terrorism.

CDC is also partnering with business groups to insure that the private sector is also prepared to deal with public health emergencies.

Appendix D — Data Verification and Validation

Data verification and validation help to ensure that the data CDC uses to assess performance is of sufficient quality. The following data systems have been referenced in the CDC Performance Plan as sources for data used in assessing program implementation and effectiveness.

I. Data Systems

1. Behavioral Risk Factor Surveillance System

In 1984, CDC initiated the Behavioral Risk Factor Surveillance System (BRFSS), a unique, state-based surveillance system designed to collect prevalence data on behavioral risks and conditions that affect health. States conduct monthly telephone surveys using a standardized questionnaire to determine the distribution of behavioral risk factors. Survey responses are forwarded to CDC, where the data are aggregated and published at year's end. The BRFSS provides flexible, timely, and ongoing data collection that allows for state-to-state and state-to-nation comparisons. Participating states use data derived from the BRFSS to identify demographic variations in health-related behaviors, target services, address emerging and critical health issues, propose legislation for health initiatives, and measure progress toward state and national health objectives. The system's broad network of information gathering also enables states to evaluate their disease prevention and health promotion efforts.

The BRFSS survey instrument is a three-part questionnaire developed jointly by CDC and the states:

1. *Core component:* The *fixed core* is a standard set of questions asked by all states on demographic characteristics and behaviors that affect health (e.g., tobacco use, alcohol consumption). The *rotating core* includes two sets of questions, each asked in alternating years by all states, that address different topics. The *emerging core* consists of up to five questions that typically focus on late-breaking issues. These questions are added to the core for one year and evaluated at year's end to determine their potential value in future surveys.
2. *Optional CDC modules:* These are sets of questions on specific topics (e.g., smokeless tobacco use, arthritis) that states can opt to include in their questionnaires.
3. *State-added questions:* These questions are developed or acquired by participating states and added to their questionnaires.

Each year, states and CDC agree on the content of the core components and optional modules. For ease of comparability and use, many of the questions are taken from established national surveys. More than 30 validity and reliability studies attest to the quality and validity of data derived from the BRFSS.

2. Clinical Laboratory Improvements Act of 1988 (CLIA)

The Clinical Laboratory Improvements Act of 1988 (CLIA) is designed to ensure the sound and scientific development of new laboratory methods. CLIA includes standards that must be met before certification of a laboratory method. These standards include an exacting series of internal and external evaluations. Among the internal checks is the development of a detailed procedures manual for each method. Manuals must be verified and approved by senior laboratory personnel who were not directly involved in the development of the method. CLIA also provides detailed specifications for quality control and calibration of laboratory equipment. Further internal control is

provided through regular review from a designated Quality Assurance Officer tasked with ensuring that generally accepted international scientific standards are being followed in the development of the method. External evaluation and control are provided through regular on-site inspections by statutorily approved, independent inspection teams. Inspectors review the internal procedures established by the organization to ensure compliance with CLIA standards. To date, CDC has passed all on-site CLIA inspections.

3. Group B Streptococcal Disease Surveillance, part of the Active Bacterial Core Surveillance (ABCs)

In 1989, CDC initiated active surveillance for group B streptococcal (GBS) disease as part of the Active Bacterial Core Surveillance (ABCs) system, an active surveillance system for several pathogens that cause invasive disease. Surveillance was conducted in five geographic areas that were awarded contracts after a competitive request for proposals. In 1994, active surveillance for GBS disease was included as a core activity of the newly established Emerging Infections Program (EIP) network, a cooperative agreement program that addresses important public health issues related to infectious diseases. In 1999, the EIP network comprised eight states; all participated in ABCs and conducted active surveillance for invasive GBS disease.

Specific objectives for GBS disease surveillance are to: 1) assess the impact of CDC prevention guidelines published in May 1996, 2) determine the extent to which continuing cases of early-onset GBS disease are preventable through current prevention strategies, 3) identify serotypes responsible for disease to guide vaccine development, 4) evaluate progress in the elimination of serotype b disease, 5) detect possible emergence of disease due to other capsular types, and 6) determine possible preventable reservoirs of the bacteria. Data collection focuses on disease occurrence. State surveillance officers contact personnel in all microbiology laboratories that process bacterial cultures from sterile sites to find cases of GBS. Laboratory audits are also conducted semi-annually to detect possible under-reporting. Data are transmitted electronically from the EIPs to CDC's ABCs team on a monthly basis. Annual surveillance reports are made available on the Internet at the ABCs website. Laboratory testing of isolates collected as part of surveillance is performed in reference laboratories. Electronic files containing results of laboratory testing of each state's isolates are fed back to that state on a monthly basis.

Routine laboratory audits to ensure the completeness of data collection represent a tremendous strength of the system. Each month, CDC staff review data and transmit potential errors to state personnel for evaluation. Performance standards for active surveillance have been established in each site to permit aggregation of data collected via somewhat different approaches. Detailed instructions for completion of case report forms ensure consistency across sites. State surveillance officers and CDC's ABCs team hold monthly conference calls to address logistical and technical aspects of the system and meet annually to review and update protocols, present special studies, and discuss innovations. Site visits are currently conducted on an as-needed basis, but annual site visits are planned.

Easy access to the data is provided through a website that includes the basic protocol and one-page yearly surveillance reports for each pathogen. Additional information on GBS is available on a website focused on that infection, with many materials targeted to pregnant women or healthcare providers and public health workers concerned with pregnant women.

The principal limitation of GBS disease surveillance through the ABCs is that it is not conducted throughout the United States. Substantial geographic variation in the incidence of invasive GBS disease has been noted, and it is unclear whether states outside ABCs areas have experienced changes in the incidence of GBS disease that are comparable to those noted in the surveillance areas. One way of addressing this limitation is to increase the availability of ABCs methods and tools. Through the website and frequent publications, CDC is attempting to provide other state health departments with information that can help them assess whether the efforts involved in conducting invasive GBS disease surveillance, particularly for early-onset disease in infants <7 days, are feasible in their locales.

4. Integrated Resources Information System

CDC's Integrated Resources Information System (IRIS) is a collection of applications to assist management in budget, staffing, and project planning, tracking, and reporting. The IRIS budget application provides detailed budget information by CDC component. It allows managers to view budget reports grouped by a variety of options. IRIS staffing is a view-only application designed to allow users to quickly access personnel data reports and project employee salaries for a specified time period. The projects application allows managers to plan, track, and manage various types of projects. This application provides access to project data, resources, and administrative functions. All information for a project must be maintained in the IRIS projects component to ensure consistency and reliability of data. The IRIS reports application is the data retrieval and reporting component.

5. National Health and Nutrition Examination Survey

The National Health and Nutrition Examination Survey (NHANES) is a program of studies to assess the health and nutritional status of adults and children in the United States. Started in the early 1960s, NHANES is the only national source of objectively measured health data capable of providing accurate estimates of both diagnosed and undiagnosed medical conditions in the population. Findings from the survey are essential for determining rates of major diseases and health conditions and for developing public health policies and prevention interventions. The survey screens 15,000 households per year and selects 3,500. From this sample, 5,000 persons are interviewed and examined annually. Samples are recruited from 15 counties or clusters of counties each year. Samples comprise sufficient numbers to provide reliable estimates by gender and age group for non-Hispanic whites, Mexican Americans, and African Americans.

Data are collected via health interview, physical examination, and clinical and laboratory tests. Interviews are conducted in respondents' homes. Physical examinations are performed in specially designed mobile examination centers that travel to survey locations throughout the country. These centers allow for the collection of data on chronic conditions, nutritional status, medical risk factors, dental health, vision, illicit drug use, blood lead levels, food safety, and other factors that are not possible to assess by use of interviews alone. The medical team consists of a physician, dentist, medical and health technicians, and dietary and health interviewers; trained bilingual staff conduct the household interviews. An advanced computer system using high-end servers, desktop PCs, and wide-area networking is used to collect and process all NHANES data, nearly eliminating the need for paper forms and manual coding operations. Household interviewers use notebook computers with electronic pens for data collection in the field. Data collected in the mobile examination centers are automatically transmitted via a frame relay network into central databases. Survey information is available to CDC within 24 hours of collection.

Information from NHANES is disseminated through an extensive series of publications and articles in scientific and technical journals. Survey data are also available on CD-ROM and computer diskettes. In previous years, data were available for analysis approximately 31 months after collection. A goal is to improve the timeliness of data dissemination. The computerized system has already substantially improved access to the data from the field.

A comprehensive quality assurance program is instituted before data collection begins, with appropriate training that requires significant practice time for the health examiners and interviewers. Training focuses on hands-on experience rather than didactic methods. During data collection, health examiners and survey staff meet regularly to discuss operations, updates, and problems. Staff are retrained as needed.

NHANES relies on both passive and active monitoring systems for operational and content-related quality control. Passive quality control uses automated computer procedures for detecting data anomalies. After careful analysis, appropriate activities can be undertaken to resolve any data collection issues. Active quality control relies on examiner feedback to identify and evaluate problems and select remedies. NHANES primarily relies on physical measurements from well-established biomedical procedures. In most instances, these measurements represent the gold standard data against which self-reported data might be validated for other subjective data collection modalities. New technologies under consideration are evaluated to determine if they provide valid estimates of the condition, risk factor, or measurement for which they are being used. The evaluation might include a scientific literature review, expert workshop, or validity study.

6. National Health Interview Survey

The National Health Interview Survey (NHIS) is the principal source of information on the health of the civilian, non-institutionalized population of the United States. The purpose of the NHIS is to monitor the health of the U.S. population through the collection and analysis of data on a broad range of health topics. A strength of the survey is the ability to display these health characteristics by many demographic and socioeconomic factors. NHIS data are used widely throughout HHS to monitor trends in illness and disability and to track progress toward achieving national health objectives. The data are also used by the public health research community for epidemiologic and policy analysis.

The NHIS is a cross-sectional household interview survey. Sampling and interviewing are continuous throughout each year. Households chosen for interviews are a probability sample representative of the target population. NHIS data are collected annually from approximately 43,000 households including about 106,000 persons. Survey participation is voluntary, and the confidentiality of responses is ensured. The annual response rate is >90% of eligible households in the sample.

The NHIS has three modules:

- *The basic module* remains largely unchanged from year to year and allows for trend analysis. Data from more than one year can also be pooled to increase the sample size for analytic purposes. The basic module contains a family core, a sample adult core, and a child core through which data are collected on the family unit and from one randomly selected adult and child.
- *Periodic modules* collect more detailed information on some of the topics included in the basic module.
- *Topical modules* respond to new data needs as they arise.

Data are collected through a personal household interview conducted by staff employed and trained by the U.S. Bureau of the Census according to procedures delineated by CDC. Data are reviewed and analyzed extensively to ensure their validity and reliability. The survey sample is designed to yield estimates that are representative and that have acceptably small variations.

Before the actual survey, cognitive testing is performed by CDC's Questionnaire Design Research laboratory, and pretests are conducted in the field. Once collected, data are carefully edited, checked, and compared to data from earlier surveys and/or independent sources. Staff members calculate descriptive statistics and perform in-depth analyses, which result in feedback on the analytic usefulness of the data.

In the past, it has taken approximately 26 months for the survey data to be released for a given year. Improving the timeliness of NHIS data is a GPRA performance measure.

7. National Hospital Discharge Survey

The National Hospital Discharge Survey (NHDS), conducted annually since 1965, is a national probability survey designed to meet the need for information on characteristics of inpatients discharged from non-federal, short-stay hospitals in the United States. The NHDS collects data from a sample of approximately 300,000 inpatient records acquired from a national sample of about 500 hospitals. The NHDS provides national and regional estimates of U.S. inpatient hospital utilization by the demographic characteristics of patients discharged, conditions diagnosed, and surgical and non-surgical procedures performed. Approximately 95% of eligible sample hospitals respond to the survey.

The NHDS uses two data collection methods: 1) a manual system in which hospital staff or staff of the U.S. Bureau of the Census abstract data from medical records, and 2) an automated system in which CDC purchases machine-readable medical record data from commercial organizations, state data systems, hospitals, or hospital associations. Approximately 40% of hospitals provide data through the automated system. Data are generally available about 17 months after collection. Timeliness is being addressed as part of the GPRA effort.

An ongoing quality control program helps to ensure the accuracy of NHDS data. NHDS data have been found to be a good reflection of information found in medical records. What is not known is the degree to which medical record information reflects actual performance.

8. National Immunization Survey

The Childhood Immunization Initiative (CII) is one of many federal, state, and local programs mounted to raise vaccination levels in young children. The CII established a 1996 goal of increasing vaccination levels for 2-year-old children to at least 90% for measles-mumps-rubella, diphtheria and tetanus toxoids and pertussis vaccine, oral poliovirus vaccine, and *Haemophilus influenzae* type b vaccine. In addition, the CII established a goal for 1996 to increase vaccination levels for 2-year-old children to at least 70% for three or more doses of hepatitis B vaccine.

The National Immunization Survey (NIS) is used to assess progress towards these goals. NIS data provide current, population-based, state and local estimates of vaccination coverage produced by a standard methodology. Quarterly data are collected via household interviews in 50 states, the District of Columbia, and 27 urban areas. Interviews are conducted by telephone with randomly selected households. Each quarter, CDC calculates estimates of vaccination coverage levels and makes valid

comparisons of state efforts to deliver vaccination services. CDC uses NIS data to evaluate progress towards national vaccination goals and to identify states with the highest and lowest immunization rates.

To ensure the accuracy and precision of coverage estimates, immunization data for surveyed children are also collected through a mail survey of their pediatricians, family physicians, and other healthcare providers. The parents and guardians of NIS-eligible children are asked during the telephone interview for consent to contact children's medical providers. Types of immunizations, dates of administration, and additional data about facility characteristics are requested from immunization providers identified during the telephone survey of households. NIS estimates of vaccination coverage therefore reflect a comparison of information provided by both immunization providers and households.

9. National Vital Statistics System

Vital statistics are often the most complete and continuous information available to public health officials at the national, state, and local levels. The National Vital Statistics System is responsible for the nation's official vital statistics. The registration of vital events – births, deaths, marriages, divorces, fetal deaths – is a state function, and vital statistics are provided through state-based registration systems. Since 1902, the federal government has obtained use of the records for statistical purposes through cooperative arrangements with the responsible agencies in each state. Standard forms for the collection of data and model procedures for the uniform registration of events are developed and recommended for state use through cooperative activities of the states and CDC. CDC also provides training and instructional materials to the states as part of ongoing technical assistance.

The purpose of collecting the data is to monitor trends over time through vital life events. Vital records and reports originate with private citizens, such as the family affected by the events, physicians, or funeral directors. By law, birth registration is the direct responsibility of the hospital of birth or the attendant at the birth. In the absence of an attendant, the parents of the child are responsible for registering the birth. Although procedures vary from hospital to hospital, personal information is usually obtained from the mother; medical information may be obtained from the chart or from a worksheet completed by the birth attendant. Reporting requirements vary from state to state; in general, the completed certificate must be filed with the state or local registrar within 10 days of birth. Published data represent all counties and places of 10,000 or more population. Electronic files include data for states, counties, large cities (population of 100,000 or more), and metropolitan statistical areas.

By law, death registration is the direct responsibility of the funeral director or person acting as such. The funeral director obtains the data required, other than the cause of death, from the decedent's family or other informant. The attending physician provides a best medical opinion about the cause and manner of death; later this information is coded by the state or CDC according to uniform codes. Demographic information is also recorded. If no physician was in attendance or if the death was due to other than natural causes, the medical examiner or coroner investigates the death and provides the cause and manner. Reporting requirements for death vary, but in general the completed certificate must be filed within 3 to 5 days of the death. Published data include all counties and places of 10,000 or more population. Electronic files include data for states, counties, large cities (population of 100,000 or more), and metropolitan statistical areas.

Fetal deaths are also reported through the National Vital Statistics System. All fetal deaths of 20 weeks or more gestation that occur in the United States are recorded. A linked birth/infant death file allows for the analysis of demographic and health characteristics from certificates of live births in combination with causes of death and other data from death certificates of infants who died before their first year of life. The linked file set includes information on all the infants who died in the United States each year, as well as information on all live births. An additional file includes information on death records not linked to birth certificates. The match rate is about 97%-98%. Data are organized by calendar year.

Provisional and final estimates of the number of marriages and divorces are obtained from each state able to provide these figures. Since data are not available from all states, national divorce rates are not produced. Detailed characteristics of marriages and divorces have not been available since 1996.

Vital statistics data are collected using uniform procedures and are accurate and consistent. The data are reported as soon as they are analyzed by CDC staff. Monthly provisional numbers and rates are published in the *National Vital Statistics Reports*. These figures are based on approximate counts of the number of events that occurred in a given state; an estimation procedure is used to convert these occurrence estimates into state-specific estimates of the number and rate of resident events. Preliminary data collected through the National Vital Statistics System are made available to the public approximately 10 months after the end of the collection year. Data are presented for a 12-month period and are published semi-annually in the *National Vital Statistics Reports*. Final data are released about 18 months after collection via *National Vital Statistics Reports*, public use data tapes, CD-ROM, Series Reports, the Internet, and journal articles. Use of electronic products have greatly increased the accessibility of the data and reduced the costs to researchers and other users.

The data collected through the National Vital Statistics System represent all registered vital events in the United States and adequately represent the true rates of events. To record more accurately birth and death information, new birth and death certificates are being designed through a collaborative effort with states, researchers, and other interested parties. The revised certificates reflect changing data needs and emerging public health applications; they will be implemented in 2003.

10. Sentinel Surveillance for Chronic Hepatitis C

Although a large number of persons in the United States are chronically infected with HCV and many will develop chronic liver disease, the burden of disease has not been well characterized. There is no ongoing surveillance, and few population-based studies have been conducted from which to determine the incidence and prevalence of chronic liver disease and the relative proportion of cases attributable to viral hepatitis and other etiologies. To begin to collect this information, CDC established a pilot surveillance system for chronic liver disease in 1998. The data-collection system has three components:

- *A standard interview questionnaire*, developed by CDC, is used by all sites to ensure comparability of data and facilitate aggregation of data as appropriate. The instrument includes questions from other established surveillance systems and from previous studies of chronic liver disease. Questions focus on demographic characteristics, clinical information, quality of life issues, and exposures and risk factors.

- *A standard form* is used to abstract clinical and laboratory information from the patient's clinical chart. This information, collected consistently across sites, includes data needed to determine disease etiology, treatment history, medication use, and other relevant clinical information.
- *A serum sample* is collected and sent to CDC to identify serologic markers for viral hepatitis.

An important characteristic of the pilot is its comprehensiveness. For the first time, all patients with chronic liver disease in several geographic areas are being identified using a common methodology, with consistent information collected in all sites. The goal is to expand the use of the methodology and data collection instruments to other sites throughout the United States to develop a comprehensive picture of the occurrence and characteristics of chronic liver disease and to monitor trends.

Although quality assurance and quality control instruments are still under development, several validation studies have been conducted. To assess the completeness of reporting, CDC conducted a survey of primary care practitioners and a review of all first-time liver biopsies. These studies indicated that overall surveillance was comprehensive and was successful in identifying the vast majority of patients in the target population. A review of a randomly selected subset of charts failed to reveal any significant errors in chart abstraction. To assess the overall validity of the study, early preliminary results have been compared to the few existing relevant data. This evaluation, demonstrating that the incidence of newly diagnosed chronic liver disease has increased in recent years, is already contributing to CDC's efforts to estimate more accurately the burden of illness from chronic liver disease.

11. U.S. Sentinel Physician Surveillance for Influenza

Established in 1982, the U.S. Sentinel Physician Surveillance for Influenza is one of four primary sources of influenza surveillance data. The sentinel physician surveillance system is an active system of surveillance conducted from October through May. Each week during that period, several hundred volunteer physicians around the country report the total number of patients seen and the number of those patients with influenza-like illness by age group.

During the 1997-98 influenza season, 27 states and the District of Columbia elected to participate in a pilot program to upgrade the sentinel physician surveillance system. The pilot merged CDC's national sentinel surveillance system and state-based systems into one integrated system based on common methodologies and standards. During the 1998-99 influenza season, the enhanced sentinel physician surveillance system was expanded to include 40 states and the District of Columbia, and an Internet reporting system was developed. States are responsible for establishing, recruiting, and maintaining state-based sentinel physician groups and for ensuring that data are collected and transmitted regularly to a central data repository at CDC, which is updated daily. CDC is responsible for coordinating the system nationally, maintaining the reporting systems, processing and analyzing the data, and maintaining the Internet site. Efforts to improve the system are continuous.

Sentinel physicians can report data via any of three methods: 1) Internet reporting, 2) touchtone phone reporting, or 3) facsimile transmission with manual entry of data. A program developed by CDC integrates the three sources of data and uploads the data to the Internet site. Data are available daily to each state coordinator. A summary of influenza activity is available to the general public each week.

CDC has undertaken a continuous process to simplify use of the system, clarify case definitions, and offer multiple options for input and access. With daily updates and weekly summaries, the information is extremely timely and pertinent for decision making. CDC epidemiologists analyze the data for outlying information and perform routine checks for coherence. State coordinators routinely check the timeliness of reporting and troubleshoot problems at the local level. Guidelines are provided to sentinel physicians for optimal timing of specimen collection for virologic testing on certain patients. There is no way to ascertain that the data on influenza-like illness is free of error, but, as the number of participating sentinel physicians increases, the potential consequences of errors decrease. Given that sentinel surveillance provides an index of current influenza activity, consistent reporting by a stable group of physicians is imperative for data reliability. Increasing sentinel physician sites and sentinel physician participation in each state would greatly increase the validity of the data.

12. Youth Risk Behavior Surveillance System

CDC established the Youth Risk Behavior Surveillance System (YRBSS) in 1990. One of the components is a national school-based survey that was first conducted in 1990 and has been repeated biennially since 1991. The national Youth Risk Behavior Survey (YRBS) measures six categories of priority health risk behaviors that contribute to the leading causes of mortality and morbidity among youth and adults in the United States: 1) behaviors that may lead to violence and unintentional injuries; 2) tobacco use; 3) alcohol and other drug use; 4) sexual behaviors that contribute to HIV infection, other sexually transmitted diseases and unintended pregnancy; 5) unhealthy dietary behaviors; and 6) inadequate physical activity.

The YRBS is administered in the spring to nationally representative samples of students in grades 9-12 attending both public and private schools. Professional data collectors, trained specifically for the YRBS, are used as field staff to ensure standard administration procedures. The YRBSS uses a three-stage cluster sample to select schools and classes of students within schools. African-American and Hispanic students are oversampled to provide accurate estimates for these subgroups in each survey cycle. By combining data from multiple survey cycles it is also possible to obtain accurate estimates for Asian and Native American youth. The sample size totals approximately 14,000 students per survey. School response rates average 76%; student response rates average 88%.

The YRBS questionnaire is designed for self-administration with a computer-scannable booklet. The questionnaire has been modified as needed to address emerging public health problems. A reliability study of the questionnaire conducted in 2000 demonstrated that students reported health risk behaviors reliably over time. Psychometric work has demonstrated that the questionnaire yields accurate and high-quality data. Standardized data editing and cleaning procedures improve data accuracy and consistency. Data are released within 12 months of data collection and are made available to the public via the Internet.

II. CDC Program-Specific Data Verification and Validation

1. Birth Defects, Developmental Disabilities Prevention, and Disabilities and Health

For the goal to prevent birth defects and developmental disabilities, the performance measures use data from CDC's Behavioral Risk Factor Surveillance System, the National Birth Defects Prevention Network, the number of maternal interviews entered into the National Birth Defects Prevention

Study, the Alliance for Research in Child Health Epidemiology, and the count of specific types of studies funded by CDC.

For the goal to improve the health and quality of life of Americans with disabilities, the performance measures are simple counts of programs, publications, and data from a database maintained by the Directors of Speech and Hearing Programs for State Health and Welfare Agencies.

2. Chronic Disease Prevention and Health Promotion

Early Detection of Breast and Cervical Cancer

CDC uses the Minimum Data Elements (MDEs) to report on all GPRA measures. States, territories, and tribal organizations (NBCCEDP grantees) submit MDEs electronically twice a year (October 15 and April 15) to a data management contractor, who analyzes the data and submits a data file to CDC. These files are made available in July and January. NBCCEDP grantees are provided 9.5 months after the initial screening date to gather diagnostic and treatment information for submission and an additional 3 months are needed for the contractor to prepare the analysis. The data management contractor analyzes the data by March and sends the report to CDC. All data collected and submitted by NBCCEDP grantees have indicators to assess completeness. Data are also assessed against established clinical standards.

Tobacco

CDC monitors cigarette use among youth and reports performance on a biennial basis using the Youth Risk Behavior Survey (YRBS), which is a component of the YRBSS (see Appendix A.2). Three additional surveys, the National Household Survey on Drug Abuse (NHSDA) the Monitoring The Future (MTF) Survey, and the National Youth Tobacco Survey (NYTS), provide complementary data for examining trends and understanding youth-related tobacco issues. The NHSDA is conducted annually by SAMHSA; the MTF is conducted annually by the University of Michigan's Institute for Social Research; and the NYTS is currently conducted by the American Legacy Foundation, but will transfer to CDC in 2004.

Community-Based Prevention Research

Data are available from grantee progress reports and will be verified through site visits and publications. CDC program consultants validate information received through site visits and telephone consultations. No data lags are expected.

Heart Disease & Stroke

CDC will evaluate stroke registry capacity via annual state reports, deaths from heart disease and stroke via death certificate data from states, and uncontrolled high blood pressure data from HRSA.

Diabetes

CDC verifies performance through quarterly state reports and periodic site visits. For efforts in American Indian/Alaska Native populations, data are verified via program reports and documentation of support. The BRFSS collects data on receipt of annual eye and foot exams in persons with diabetes.

Arthritis

CDC collects and evaluates data on state-based arthritis programs via annual state program reports and site visits.

National Cancer Registries

Participating states are expected to collect information on at least 95% of cancer cases diagnosed or treated in their state each year. NPCR funded states are required to incorporate NAACCR standards for data quality and format. States report de-identified cancer case data annually to a CDC contractor. In addition, CDC receives regular reports from each state that summarize progress of completeness, timeliness, and quality of registry data. NPCR staff also prepare annual internal evaluations of program progress.

Variations in states' capacities (planning or enhancement status) and initial funding year result in differences across reference years used for calculating registry data completeness. NAACCR has established a process by which states can apply for certification to ensure that member registries are collecting useful and high-quality data. Member registries are evaluated yearly and provided confidential feedback. Data for FY 2001 will be available in June 2002 for reporting.

HIV Prevention among School-aged Youth

Data are collected on a biennial basis (during odd-numbered years) through CDC's YRBSS, a system designed to focus attention on priority behaviors among youth that are associated with the most important health problems (see Appendix B). The YRBSS was developed in partnership with federal agencies, state departments of education and health, scientific experts, and survey research specialists. The YRBSS includes separate national, state, and local school-based surveys of high school students. A recent study provides evidence that this adolescent survey has good reliability in measuring health behavior. Baseline data from the 1995 YRBSS are used because: 1) they were the most recent data available when the original measures were created, and 2) they will allow a more accurate illustration of trends in sexual behaviors over time.

Nutrition/Physical Activity and Obesity

CDC plans to collect and evaluate state data on nutrition and physical activity programs via annual state program reports, site visit reports, and a program evaluation database.

3. Environmental Health

Environmental Health Laboratory/Biomonitoring

All analytical methods developed must be certified under the Clinical Laboratory Improvements Act of 1988 (CLIA).

Data systems at CDC's Environmental Health Laboratory monitor laboratory performance under CLIA. CDC also conducts quality assurance activities internally to confirm results and ensure their validity. CLIA-approved methods are used to analyze levels of environmental chemicals published in the *National Report on Human Exposure to Environmental Chemicals* that are measured in specimens obtained from the National Health and Nutrition Examination Survey (NHANES). The use of CLIA-approved methods is verified by senior staff as well as by internal quality assurance officers. The sample size and control mechanisms for the *Report* have been established as part of NHANES.

Asthma

Data verification is based on required reporting by grantees. CDC project officers will verify that states are fulfilling the requirements of cooperative agreements through routine monitoring of the grants process. CDC epidemiologists will review all statistical and surveillance data to ensure appropriate application of statistical and epidemiologic methods.

4. Health Statistics

CDC will verify performance via contractor reports, pretest reports, meeting proceedings, publications, and website records.

5. HIV, STD, and TB Prevention

HIV/AIDS Data Collection Systems

CDC uses multiple data collection systems to monitor HIV trends and prevention programs. The HIV/AIDS Reporting System (HARS) collects case reports of HIV-infected persons in state and local health departments. AIDS case data are available from all states and territories using uniform name-based collection methods (–no names or personal identifiers are sent to CDC; these are maintained only at the local level). Although completeness of reporting of diagnosed AIDS cases varies by area and patient population, studies indicate that reporting in most areas is more than 85% complete. Reporting of AIDS deaths is estimated to be more than 90% complete. In contrast, HIV data collection systems vary between areas (e.g., name-based code, coded identifier, name-to-code, data collection systems). CDC is conducting validation and evaluation studies of these systems to determine the quality of data generated by them. Currently, trends in HIV diagnoses for adults and adolescents are available only from 25 states which have implemented name-based HIV case reporting (using methods similar to those for AIDS case reporting) since at least 1994.

The period of time between a diagnosis of HIV or AIDS and the arrival of a case report at CDC is called the “reporting delay” (40% of AIDS cases are reported to CDC within 3 months of diagnosis, 80% within 1 year). In order to provide the best estimates of trends in incidence, HIV and AIDS surveillance data are analyzed by the date of diagnosis and are mathematically adjusted in more recent periods to adjust for reporting delays and incomplete information on some cases. CDC requires a minimum of 18 months after the end of a calendar year to provide accurate estimates of trends for through that year. For example, calendar year 2000 data will be available in the summer of 2002.

In addition to the HARS data, CDC has supplemental surveillance systems to collect in depth information on HIV/AIDS cases and prevention programs. The Supplement to HIV/AIDS Surveillance (SHAS) project collects interview information from recently reported HIV/AIDS cases ≥ 18 years of age in 16 state/local health department jurisdictions on their sex and drug using behaviors, access to and adherence to care, and utilization of prevention interventions. The Adult and Adolescent Spectrum of HIV Disease (ASD) study collects longitudinal medical record review data on antiretroviral therapy, clinical care, and outcomes from HIV-infected persons receiving care in selected medical facilities in 9 areas; most of these facilities are publicly-funded. The HIV Counseling and Testing System (CTS) collects the number of tests performed, demographic and characteristics, test results, and utilization of post test counseling services in publicly-funded sites in all states. Surveillance reports and in depth analyses of data from these systems are available upon request from CDC.

Sexually Transmitted Diseases

STD incidence and prevalence data (hardcopy and electronic) undergo ongoing verification and validation procedures including quarterly reports back to project areas comparing reporting across all data sources, trend information, percentage unknowns for clinical fields, edit checks and updates, as well as constant communication via fax, phone, and e-mail with project staff. PID hospitalization data is collected through the National Hospital Discharge Survey conducted by the National Center

for Health Statistics, and PID initial visits to physicians is collected through the National Diagnostic and Therapeutic Index by IMS America, Ltd. Additional feedback is provided to project areas via annual publications and reports.

Prevention of STD-Related Infertility: Data on the prevalence of chlamydial infection in defined populations have been useful in monitoring disease burden and guiding screening programs. In particular, CDC monitors trends in prevalence among women enrolled in the U.S. Department of Labor National Job Training Program and among women screened for chlamydia attending family planning clinics. These programs provide crucial information on the prevalence of chlamydia in high-risk populations, i.e., young sexually active women. Data from these programs indicate that: 1) chlamydia is geographically widespread (in nearly all states, chlamydia positivity exceeded the *Healthy People 2010* objective of 3%), and 2) younger women (<24 years of age) consistently have higher chlamydia positivity than older women. Chlamydia screening is not as widespread for men. Chlamydia prevalence was 4.7% among men aged 17-37 years who were screened at entry in the U.S. Army in 1999-2000. Although these prevalence data are not entirely comparable because of differences in the performance characteristics of screening tests and variations in screening criteria, they provide important information on the continuing high burden of disease. The data also allows monitoring of chlamydia in multiple venues and populations that is critical to understanding the true burden of disease.

Increases in reported chlamydial infections during the 1990s reflected the expansion of chlamydia screening activities, use of increasingly sensitive diagnostic tests, an increased emphasis on case reporting from providers and laboratories, and improvements in the information systems for reporting. In parts of the United States where large scale chlamydia screening programs have been instituted, prevalence of the disease has declined substantially. However, many women who are at risk for this infection are still not being tested, reflecting the lack of awareness among some healthcare providers and the limited resources available to support screening. Chlamydia screening and reporting are likely to expand in response to the Health Plan Employer Data and Information Set (HEDIS) measure for chlamydia screening of sexually active women 15 through 25 years of age. HEDIS measures are used to report on the performance of medical care provided through managed care organizations.

In efforts to reduce the prevalence of chlamydia among high-risk women under age 25, CDC does not have activities targeted specifically to Job Training Program participants. However, CDC includes data provided by the U. S. Department of Labor because the data are an important component of assessing burden of disease. National Job Training Program participants, who are required to be screened for chlamydia at program entry, represent an important high-risk population CDC is trying to reach, young sexually active women. Continued expansion of chlamydia screening should lead to a continued reduction of the burden of disease among women, including National Job Training Program participants. For economically disadvantaged women aged 16 to 24 years who entered the National Job Training Program from 27 states, and Puerto Rico, in 2001, the overall prevalence was 10.6%. Given that there has been little or no change in the prevalence of chlamydia among the National Job Training Program participants, and given that CDC does not have activities specifically targeting the National Job Training Program, the target has been adjusted to 10% for 2002 and 9% for 2003 and 2004.

In 2001, CDC achieved the goal of reducing chlamydia prevalence among women attending family planning clinics. Unlike the measure that uses data from the U.S. Department of Labor's National

Job Training Program, this measure reflects the performance of long-standing, widespread CDC-supported screening programs. The median state-specific positivity was 5.6% for women aged 15 to 24 years screened at selected family planning clinics in all states and outlying areas. In selected prenatal clinics in 22 states and Puerto Rico, the chlamydia prevalence was 7.4%. After adjusting trends in chlamydia positivity to account for changes in laboratory methods and associated increases in test sensitivity, chlamydia test positivity among women decreased in five of 10 HHS regions from 2000 to 2001, increased in four regions, and remained the same in one region. Although chlamydia positivity has declined in the past year in some regions, continued expansion of screening programs to populations with higher prevalence of disease may have contributed to the increases in positivity seen in other regions.

As CDC continues to expand its efforts, data from the family planning clinics is crucial not only in measuring performance but also in guiding future efforts. Effective interventions have been demonstrated, but they are not reaching all those in need. Achieving future declines in chlamydia prevalence hinges upon efforts to: 1) expand chlamydia screening and treatment services so they are easily available to both men and women; 2) increase awareness about chlamydia testing and treatment services at private clinics and doctors' offices; and 3) expand health promotion activities.

Gonorrhea

The United States experienced a 73.9% decline in the reported rate of gonorrhea in the country from 1975 to 1997. The rate increased in 1998, but the rates of reported gonococcal infections have since been steady (128.5 in 2001, 129.0 in 2000, 132.3 in 1999, and 131.9 in 1998). The 2001 rate exceeds the *Healthy People 2010* objective of 19 cases per 100,000 persons.

Although reported rates of gonorrhea were once substantially higher among men than women, that gap has narrowed. This is most likely due to increased screening in women. Because women are more likely to be asymptomatic than men, cases in women are less likely to be identified and reported. The overall gonorrhea rate in U.S. females in 2001 was similar to the rate in 2000 (128.2 and 126.7, respectively). The gonorrhea rate in men was similar with 130.9 and 128.4 cases per 100,000 males in 2000 and 2001, respectively. Among women aged 15-44, the 2001 rate was 286 per 100,000, exceeding the target rate of 250. In 2001, 15- to 19-year-olds had the highest rate (703.2 cases per 100,000 females) of gonorrhea among women. Among men, rates (563.8 cases/100,000 males) were highest among 20- to 24-year-olds. Profound racial disparities persist for gonorrhea, with 2001 reported rates among non-Hispanic blacks about 27 times higher than among whites and Hispanic rates almost 3 times higher than rates among whites. This disparity most likely reflects differences in access to prevention and treatment services.

Although increased screening, use of more sensitive diagnostic tests, and improved reporting may account for a portion of increase in the recent past, true increases in disease in some populations and geographic areas also appear to have occurred. The southern states continue to have the highest gonorrhea rates of any region. Reasons may include poverty levels and access to quality healthcare and preventive services. Future declines in gonorrhea prevalence will require efforts to 1) increase public and provider awareness of the problem, 2) increase screening and treatment in high-risk populations, and 3) expand health promotion and prevention.

Pelvic Inflammatory Disease (PID)

The decrease in the incidence of PID is possible evidence of intensified nationwide screening and treatment efforts for chlamydia, a principal cause of PID. The incidence of hospitalization

for PID among women aged 15-44 decreased from 127 per 100,000 women in 1999 to 120 per 100,000 women in 2000, achieving the 2000 target of 125 per 100,000 women. These decreases in hospitalizations may also be attributable to an increasing trend of outpatient management for PID and increased use of oral treatments.

The reported number of initial visits to physicians' offices for PID through the National Disease and Therapeutic Index (NDTI) has generally declined from 1993 through 2001 but is still higher than the 2001 target of <225,000 visits.

Accurate estimates of PID and tubal factor infertility from gonococcal and chlamydia infections are difficult to obtain. Definitive diagnosis of these conditions often requires complex surgical or other diagnostic tests. Most cases of PID are treated on the basis of interpretations of clinical findings, which vary among practitioners. In addition, the settings in which care is provided can vary considerably over time. For example, women with PID who would have been hospitalized in the 1980s may be treated in outpatient facilities today. Future declines in the incidence PID will hinge in part upon expansion of screening and treatment programs for chlamydia and gonorrhea as well as expansion of health promotion efforts that increase both public and provider awareness.

Syphilis Elimination

Syphilis is extremely concentrated geographically. Approximately 80% of U.S. counties have already eliminated syphilis, and 94% have a syphilis rate of ≤ 4 per 100,000. Over 50% of syphilis cases in 2001 were reported from 21 counties. Syphilis remains an important problem in the South and in some urban areas in other regions of the country.

Although provisional data from 2001 indicates continued progress, syphilis elimination efforts are challenged by increases among MSM in areas throughout the country. For example, a gradual increase in syphilis among men who have sex with men (MSM) has been reported from several U.S. cities, including Los Angeles, Seattle, Chicago, Miami, and New York City, possibly reflecting an increase in risk behavior in this population associated with increased wellness and well-being afforded by the availability of new, highly-effective antiretroviral therapy for HIV infection. From 1998 to 2001, outbreaks of early syphilis (including P&S and early latent) have been reported from these cities.

The outbreaks in these five cities have been characterized by high rates of HIV co-infection. Although the total number of cases identified so far among MSM is relatively small, these outbreaks present a new challenge to attaining the national syphilis elimination objective of reducing the number of reported P&S syphilis cases to fewer than one thousand. Syphilis remains one of the most glaring examples of racial disparities in health, with 2001 rates among African Americans 16 times those among white Americans, down from a 64-fold differential at the beginning of the last decade. This racial disparity (16:1) is extreme compared to most other health outcomes including AIDS (9:1), infant mortality (2.5:1), and deaths attributable to heart disease (1.5:1). Rates for Hispanics increased by 31.2% from 1997 to 2001. Communities burdened by poverty, racism, unemployment, low rates of health insurance, and inadequate access to healthcare are often disproportionately affected by syphilis. CDC aims to continue reducing this racial disparity in 2004.

Reduce the incidence of congenital syphilis

The lack of syphilis serologic testing and treatment during pregnancy remains the major reason that congenital syphilis persists in the United States. Each positive test in a child is considered a medical

emergency with immediate health services follow-up. The absence of testing is often related to complete lack of, or late initiation of, prenatal care. In 2001, 441 cases of congenital syphilis were reported to CDC, a rate of 11.1 cases per 100,000 live births. Now below the 2001 target of 12/100,000, this rate reflects a 59% decline in the number of cases since 1997 (1078 to 441 cases).

Tuberculosis

Information on the percentage of TB patients reported in 2004 who complete TB treatment within 12 months will be available in June 2006. The last TB cases reported on December 31, 2004 will not have their 12-month treatment period completed until December 31, 2005. Then, 6-9 months are needed to tabulate, complete, verify, and report the data. This information is obtained from the national TB Surveillance System.

Information on the percentage of TB cases reported in 2004 with initial positive cultures and drug susceptibility results will be available by June 2005. This information is obtained from the national TB Surveillance System.

CDC recently revised the national reports for the data that addressed the following two measures: (1) Increase the percentage of contacts of infectious cases who are placed on treatment for latent TB infection and complete a treatment regimen; and (2) Increase the percentage of other high-risk infected persons who are placed on treatment for latent TB infection and complete a treatment regimen. For the first measure, the definition for contacts changed from contacts of “infectious cases” to “sputum smear-positive cases”. The new system came on-line in CY 2000; the data for 1999 will not be representative because of the transition that occurred. The data for 2000 will not be submitted by the states until August 2002. Because the methods and definitions of reporting are substantially revised in the new system, data analysis will not yield results for these measures until after August 2003. Because of the change in definitions, program performance will appear to drop between 1998 to 1999, but the data are not comparable.

Information on the completion of treatment for latent TB infection for contacts of smear-positive cases who are started on treatment in 2004 will be available in mid-2006. Depending on the regimen used, it takes 2-9 months to complete treatment. Therefore, some patients will not complete treatment until December 31, 2005. Approximately 6-9 months are allowed to tabulate, complete, verify, and report the data. This information is obtained from the national Aggregate Reports for TB Program Evaluation.

Information on the percentage of complete reporting of surveillance data items for TB cases reported in 2004 will be available by June 2005. This information is obtained from the national TB Surveillance System.

TB morbidity data and related information submitted via the national TB Surveillance System are entered locally or at the state level into CDC-developed software. The software contains numerous data validation checks. Data received at CDC are reviewed to confirm their integrity and evaluate completeness. Routine data quality reports are generated to assess data completeness and identify inconsistencies. These reports are shared with the reporting areas and discussed during site visits.

Data submitted via the national Aggregate Reports for TB Program Evaluation are checked for accuracy and inconsistencies. Problems are resolved by CDC staff working with state and local TB program staff. During regular visits to state, local, and territorial health departments, CDC staff review TB registers and other records and data systems and compare records for verification and

accuracy. At the end of each year, data are again reviewed before data and counts are finalized and published.

6. Immunization

Data is obtained from a variety of sources, including the National Notifiable Disease Surveillance System (NNDSS), CDC, EPO; the National Congenital Rubella Syndrome Registry (NCRSR), CDC, NIP; the Active Bacterial Core Surveillance (ABCs), Emerging Infections Programs, CDC, NCID; and the National Health Interview Survey (NHIS), CDC, NCHS.

7. Public Health Improvement

REACH

Grantees will report on the development of implementation and evaluation plans, which will be reviewed by CDC staff. Site visits and data acquired by the CDC grant reporting system are also used. No data lags are expected. The measure will be verified by the CDC grant reporting system.

Appendix E — Performance Measurement Linkages

I. Approach to Performance Measurement

CDC and partners are concerned with a spectrum of health issues, including infectious diseases, chronic conditions, adverse reproductive outcomes, environmentally related conditions, occupationally related health events, and injuries. This array of health conditions and outcomes requires a variety of intervention strategies for populations, in addition to clinical preventive services for individuals. CDC engages in extensive dialogue with partners, communities, and the public to identify and implement intervention strategies that address the specific needs of diverse populations. Examples include the provision of prophylactic measures (e.g., vaccination, post-exposure prophylaxis), educational services (e.g., dissemination of public health messages, counseling), inspection of food establishments, and control of disease outbreaks. For these activities, the rational development of public health policy depends on public health information.

A variety of CDC data systems provide the science base for identifying health problems, designing interventions, and monitoring program performance (See Appendix D). These data systems face considerable challenges in addressing each of these three areas. For the most part, data systems that were designed to support scientific objectives are now becoming important for the monitoring of performance. Challenges in obtaining data to monitor performance under GPRA include the following:

1. As GPRA measures are refined over time, data systems to produce data with a frequency that corresponds to the periods during which performance is measured.
2. As health system changes, historical data series may not continue to produce needed data. For example, the move toward managed care may make medical information increasingly proprietary and impede access to data for research and statistical purposes. Similarly, changes in relationships among healthcare providers and laboratories may make public health surveillance based on case reports more difficult. At the same time, these changes present opportunities for new data-system partnerships.
3. Data systems will need to produce information of sufficient quality and precision to detect relatively small changes in performance indicators. This may require investments in larger sample sizes for surveys and new technologies for improving data quality. Continuing research will be required to establish the data systems and underlying evaluation approaches to assess causes (program interventions) and effects (outcomes) for performance monitoring.
4. Many national data systems are the source of GPRA measures for CDC and other health programs. These systems must be assessed and upgraded to remain current with the public health infrastructure. Resources to ensure the maintenance and strengthening of these data systems are included in the FY 2005 CDC budget request and need to be continued.
5. Because many CDC and HHS programs are implemented at state and local levels, it will be increasingly important to obtain reliable, systematic data at these levels for monitoring of program implementation, performance, and outcomes.

Ascertaining what information is needed and how to collect it is a complex issue. Information for action must be useful to public health programs at local, state, and national levels. CDC and partners use at least seven categories of information to understand and address disease, injury, and disability using the public health model. These categories of information include:

- Reports of health events affecting individuals.
- Vital statistics on the entire population.
- Information on the health status, risk behaviors, and experiences of populations.
- Information on potential exposures to environmental agents.
- Information on public health programs.
- Information useful to public health but obtained by organizations not directly involved in public health practice.
- Information on the healthcare system and its impact on health.

Reports of health events

Reports of cases of diseases of public health importance form the basis for many CDC programs. The National Notifiable Disease Surveillance System (NNDSS) seeks reports on all cases of >40 conditions in the United States. To minimize the burden placed on those who report the data, CDC limits the amount of information collected for each case. NNDSS data are used to monitor disease trends, evaluate public health programs, and identify unusual occurrences of conditions that may require further epidemiologic investigation at the local level.

For some public health purposes, effective action requires additional details on each case. Supplemental data collection systems have therefore been developed for some of the diseases reported to NNDSS. These systems may be less comprehensive in terms of populations represented but provide more detailed information on characteristics of the occurrence of disease. For example, cases of hepatitis are reported weekly to NNDSS for publication in the *Morbidity and Mortality Weekly Report (MMWR)*. In addition, the Viral Hepatitis Surveillance Project collects data on risk factors for different types of viral hepatitis in selected geographic areas. These data have been used to document the importance of behaviors associated with sexual activity and drug use as risk factors for transmitting hepatitis B virus and to target education and vaccination programs.

Control of some conditions requires more detailed information than can be obtained feasibility from a large group of clinicians or institutions. Networks of selected healthcare providers have therefore been organized to meet these targeted information needs. For example, CDC's Sentinel Event Notification System for Occupational Risks (SENSOR) targets groups of healthcare providers as a component of a comprehensive approach for obtaining data on which to base efforts to prevent workplace-related morbidity. The National Nosocomial Infections Surveillance System (NNIS) receives reports from a selected group of hospitals on the incidence and characteristics of hospital-acquired infections. Data from this system have been instrumental in alerting health authorities to the emergence of antibiotic-resistant strains of bacteria, which in turn has led to the development of recommendations for the appropriate use of antibiotics.

Vital statistics

Vital records (e.g., births, deaths) are the primary source of some of the most fundamental public health information. Data on teen births, access to prenatal care, maternal risk factors, infant mortality, causes of death, and life expectancy are among the staples of public health information provided by vital statistics. Vital statistics are often the most complete and continuous information

available to public health officials at the national, state, and local levels; the timely availability of these data is critically important.

In the United States, the legal authority for vital registration rests with the states and territories. CDC's National Center for Health Statistics (NCHS) produces national vital statistics by collecting data from the vital records of the states. NCHS works with the states to ensure a uniform national data base through the promotion of standard data collection forms and data preparation and processing procedures and also provides partial financial support for state systems.

Health status, risk factors, and experiences of populations

Since the determinants of many health problems are behavioral, environmental, or genetic, health agencies need information that is not readily available from medical records on the prevalence of various types of behavior and on access to care. Thus, regularly conducted surveys of the general population are needed for public health. These surveys range from large-scale assessments of the general population to assessments targeted at high-risk (i.e., particularly vulnerable) populations. This need is particularly acute at the state and local levels. Surveys provide information on: 1) baseline health status, 2) morbidity, 3) prevalence of behavioral risk factors, 4) use of healthcare services and identification of underserved populations, and 5) potential for exposure to toxic agents. Information generated from the surveys is used in developing prevention and control programs and in ensuring adequate delivery of health services.

Potential exposure to environmental agents

Information on exposures to environmental agents can be used in evaluating the risks to health from noninfectious diseases, injuries, and certain infectious diseases. For example, measurement of airborne particulates is useful in assessing risks related to pulmonary disorders such as asthma and lung cancer. Information on vectors that may carry agents of infectious disease is important in evaluating the risk for acquiring such infections.

Program information

Data needed to operate public health programs include the number of clients served and the costs of services rendered. These data are useful to public health officials in assessing the effectiveness of public health programs, comparing programs, documenting the need for continuing a particular program, and maintaining accountability for tax dollars spent.

Information from other organizations

Data useful for public health are currently or potentially available from organizations whose functions may not be related to those of CDC and state and local health departments. Data from the Bureau of the Census, for example, are needed for both the reliable computation of rates and the proper adjustment of rates for comparison over time or in different geographic areas. The Environmental Protection Agency (EPA) compiles environmental air-monitoring data to assess compliance with standards for air pollutants established by the Clean Air Act. Data collected through this system are used by public health officials for hazard alerts when pollutants exceed federal standards and in studies of the effects of air pollutants on morbidity associated with respiratory diseases. The Occupational Safety and Health Administration (OSHA) and the Bureau of Labor Statistics compile data on the occurrence of work-related injuries and illnesses and exposure to hazards in the workplace, which can be used for surveillance and research. The Department of

Transportation operates the Fatal Accident Reporting System, used in public health to assess risk factors for motor-vehicle-related injuries and deaths. Crime statistics gathered by the Federal Bureau of Investigation (FBI) assist in evaluating the public health impact of intentional injuries, and the Consumer Product Safety Commission collects data on injuries related to consumer products.

Information on the healthcare system

Information is also needed on the healthcare system and the health impact resulting from changes in the system. CDC provides a great deal of information to monitor the capacity of the healthcare system, utilization of the system, and access to health insurance and services by the American people. These data include: inventories of healthcare providers; patterns of utilization of health services such as hospitalization rates and uptake of new technologies; and access to healthcare and barriers (both financial and non-financial) to access.

II. Linkages with Budget, Cost Accounting, Information Technology Planning, Capital Planning, and Program Evaluation

Clinger-Cohen Act

CDC has implemented the requirements under the Clinger-Cohen Act of 1996 (CCA) for information technology (IT) capital investment planning, monitoring, and performance measurement. The Information Technology Investment Review Board (ITIRB) process has been established and was released CDC-wide on January 5, 1999, via the CDC Intranet. CCA compliance became a component of the CDC budget planning process for the FY 2001 budget. Major IT investments associated with budget initiatives required the development of a Capital Asset Plan and Business Case (Exhibit 300) as part of the submission.

Also in compliance with CCA, CDC has developed several components of the agency's information technology architecture, such as certain health data standards, networking and telecommunications architecture, information security, and the majority of the agency's administrative procedures. More extensive work on other core business processes, information flows, process and data models is ongoing.

In addition to efforts in the implementation of CCA, CDC has a well-integrated GPRA and IRM Strategic Plan that aligns IT products and services with CDC's ever-changing mission needs and directions. The IRM strategic goals, strategies and performance measures support the mission, mission goals, and CDC's GPRA performance plan.

III. Linkages with the President's Management Agenda

CDC has been actively pursuing goals and improvements related to the President's Management Agenda (PMA) for some time. For example, from 1997 to 2001, CDC decreased its proportion of administrative positions by 6%. CDC has historically focused on keeping the agency market-based and efficient by having about 6,000 service contractor staff engaged to conduct commercially-oriented responsibilities. In 2000, CDC also established its Fiscal Management Excellence Initiative, which has further enhanced its efforts to improve fiscal performance. In FY 2002, CDC had a less than 1% variance between allotted agency FTE levels and actual FTE usage, thus, effectively integrating strategic workforce planning with budget and program execution. CDC is also organized to address effectively and lead PMA issues in several ways. For example, CDC has established a

Management Council to help concentrate management attention on the PMA, and has appointed a full-time, executive leader to coordinate activities and articulate the interdependence among the initiatives.

Strategic Management of Human Capital

Strategic Management of Human Capital is a priority for CDC, which has established a number of specific and measurable goals to address Strategic Management of Human Capital issues.

Specifically, CDC's goals are to

- Reduce the number of organizational layers to four.
- Implement the CDC Business Services Consolidation Plan.
- Consolidate all budget execution functions.
- Increase supervisory ratios.

CDC eliminated all fifth level organizational units by December 31, 2003. In addition, CDC will continue to strengthen supervisory ratios as an indicator of delayering and restructuring effectiveness. CDC is continuing to work to address further workforce restructuring issues. For example, CDC has implemented a variety of strategies to improve efficiencies and transition staff from administrative and management positions to frontline mission-direct positions.

Examples of these CDC-wide efforts, include the following:

- Restructuring administrative activities to reduce by 15% the number of staff working in these functions.
- The widespread use of Team Leaders to help CDC gain maximum use of personnel and resources.
- Consolidating Information Technology (IT) infrastructure activities under the CDC Chief Information Officer and reducing by 15% the number of staff working in this area.
- Consolidating travel, professional training, and graphics to realize efficiencies.

Increased Competitive Sourcing

CDC has successfully achieved the Competitive Sourcing goals established in the PMA. This includes refining the FAIR Act inventory each year to reflect the differentiation between commercial and inherently governmental work conducted at CDC. In addition, CDC developed competitive sourcing plans for FY 2002 and FY 2003, which set forth the strategy to conduct studies or directly convert 5% in FY 2002, and 10% in FY 2003, of the commercial-type positions. CDC fully achieved the FY 2002 and FY 2003 goals. For FY 2003, CDC is on track to conduct public-private competitions for about 340 FTEs listed in its FAIR Act inventory as performing commercial work for FY 2004.

Improved Financial Management

CDC continues to make great strides in this area. For the past 6 years, CDC has received or contributed to an unqualified opinion on the financial statements performed by independent auditors. A new HHS-wide financial management system, the Unified Financial Management System (UFMS), will be implemented to replace five legacy accounting systems currently used across CDC. The current accounting system is based on software that is 17 years old and requires substantial, labor-intensive effort. CDC and HHS kicked off the implementation of the CDC segment of the UFMS development in October 2002. CDC completed quarterly financial statements in FY 2003. CDC will continue to improve its financial management operations by

following the guidelines set down by PricewaterhouseCoopers and GAO in their November 2000 reports by following CDC's Financial Management Excellence Initiative. For example, CDC has implemented a Financial Management Certificate Program to build fiscal excellence. In addition, CDC has implemented a new method to allocate indirect costs in FY 2002 that directly links users of services with the cost of providing those services.

Expanded E-Government

CDC continues to be a leader in E-Gov initiatives by

- Contributing to government-wide E-Gov initiatives (i.e., e-Vitals, consolidated health informatics [CHI], e-Travel, e-Grants, Geospatial Information One Stop, SAFECOM, and GOVBENEFITS) with an initial 16 CDC programs represented covering \$4.4 billion.
- Aligning with E-Gov directions in other ways such as implementing technologies with external partners to reduce data exchange burdens by adopting industry standards, such as ebXML.
- Contributing to HHS initiatives (i.e., the HHS Enterprise IT Strategic Plan, UFMS, Enterprise Human Resources and Payroll [EHRP], HHS enterprise information security, and others).
- Refining and maturing its IT capital planning process that now identifies 230 IT investments and 16 capital investments for FY 2003 all of which received a score of 4 out of 5 by OMB. Capital planning analyses have improved rigor in enterprise architecture, security, and fiscal discipline.
- Complying with the Government Paperwork Elimination Act (GPEA) ahead of the October 2003 deadline by making data collections and disseminations enabled electronically.
- Continuing to enhance the CDC Web presence as the authoritative trusted source of public health information for healthcare providers, public health officials, the media, and the public. Over 9 million visitors per month make CDC's website one of the most frequently visited government websites. SARS concerns resulted in over 17 million different visitors in April 2003. Key improvements underway to make the site more citizen-centric by making improvements in use, navigation, searching, interactivity, personalization, and enriching and expanding content in a consumer-oriented presentation.

Enhanced Budget and Performance Integration

CDC continues to work diligently in this area on several fronts. This work has spanned the organization, and has included staff from planning and budget offices, the procurement and grants office, and virtually every program across CDC. Accomplishments this year are listed below.

Annual Plan/Report Submission

CDC's annual performance plan and report has been revised substantially. The plan has been revised in accordance with detailed guidance from HHS. Significant changes and improvements to the plan included:

- Inclusion of an executive summary that reinforces the link between the performance plan and the budget request while highlighting past, present, and future performance.
- Inclusion of an introduction to the performance plan and report summarizing performance measures, including number of outcome measures and a "Summary of Measures" chart for FY 2000–2005 performance measures.
- Revision of program analyses to delineate more clearly measures with accomplishments.
- Provision of a more meaningful referencing system wherein performance measures are related to the budget request, *Healthy People 2010*, HHS Strategic Plan Goals, and the President's Management Agenda, and inclusion of program highlights supporting these activities.

- Inclusion of OMB recommendations for CDC programs reviewed for the FY 2004 and FY 2005 PART assessments.
- Improvement in the quality and comprehensiveness of appendices. These improvements included a more coherent discussion of our partnership and coordination activities, as well as enhancements to our data verification and validation section of the plan.
- Inclusion of detailed full cost information providing enhanced budget information for performance measurements.

Program Outcomes

The FY 2005 Performance Plan maintains 109 measures, 47 of which are outcome measures. The revised FY 2004 Plan contains 46 outcome measures, a 19% increase in outcome measures over the FY 2003 submission. The FY 2003 Performance Report indicates that we achieved 81 of 98 (83%) reported performance measures. CDC continues to revise performance information to focus on outcome-oriented goals and measures and to develop efficiency measures.

Program Effectiveness

In 2002, OMB identified the following five CDC programs to complete the FY 2004 PART process: Immunization 317 Program, National Breast and Cervical Cancer Early Detection Program, National Diabetes Control Program, Domestic HIV/AIDS Prevention Program, and Health Alert Network. Final ratings for the programs are

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|---|--------------------------|
| ● Immunization 317 Program | Adequate |
| ● National Breast and Cervical Cancer Early Detection Program | Results not demonstrated |
| ● National Diabetes Control Program | Results not demonstrated |
| ● Domestic HIV/AIDS Prevention Program | Results not demonstrated |
| ● Health Alert Network | Adequate |

The range of PART qualitative ratings are, in descending order, “Effective, Moderately Effective, Adequate, Results not Demonstrated, and Ineffective.” More than half of the federal programs reviewed were rated “Results not Demonstrated;” 14.5% are rated “Adequate” and only 6% are evaluated “Effective.”

CDC has developed milestones for each program to address specific weaknesses identified by OMB during the review process. More information about CDC’s progress toward meeting the milestones is found in CDC’s *FY 2005 Justification of Budget Estimates*. CDC will continue to address OMB’s recommendations. All programs identified as “Results Not Demonstrated” had deficiencies related to long-term outcomes. These programs are planning and, or, are currently conducting activities to make long-term goals more outcome-oriented and ambitious with new baselines and targets.

In 2003, OMB selected two additional programs for the FY 2005 PART assessments: the State and Local Terrorism Preparedness Program and the Agency for Toxic Substances and Disease Registry. The two new programs received ratings of “Results not demonstrate” and “Adequate,” respectively. Each program has developed and is implementing strategies to demonstrate to OMB improved program performance and effectiveness. In 2004, CDC has begun preparing potential programs for the FY 2006 OMB reviews by conducting training and mock reviews of selected programs.