CENTERS FOR DISEASE CONTROL AND PREVENTION PROFESSIONAL JUDGMENT FOR FISCAL YEAR 2008

SUBMITTED: APRIL 20, 2007

THIS PROFESSIONAL JUDGMENT WAS DEVELOPED IN RESPONSE TO A REQUEST BY THE CHAIRMAN, DURING THE HOUSE APPROPRIATION SUBCOMMITTEE ON LABOR, HEALTH AND HUMAN SERVICES, EDUCATION AND RELATED AGENCIES HEARING FOR THE CENTERS FOR DISEASE CONTROL AND PREVENTION, MARCH 2007

Protecting Health First: A National Imperative

CDC must act now to provide the leadership and the investment our nation needs in an effective health system; if we don't, our children may be the first generation in more than a century with a shorter expected lifespan than their parents. Americans want better healthcare delivery, and are waking up to the need to fundamentally transform our current system. But Americans also want better health. To achieve this, we must do more than improve our ability to safely and cost-effectively treat diseases; we must create a true **health system** that measures, values, and rewards health promotion and disease prevention as much or even more than disease care. We need a system that protects the health of people who are fortunate enough to enjoy good health, empowers and motivates those whose lifestyles, environment, or socioeconomic circumstances create health vulnerabilities to reduce their risks, and predicts and detects those with the earliest warnings of disease - a system that includes homes, schools, worksites, and communities in addition to healthcare settings, and one that engages the network of sectors and partners that have a stake in health as a communal resource. This document describes the urgent realities and the urgent threats we face and then "What CDC Must Do", "What CDC Must Know", and "What CDC Must Have" to address them.

Urgent Realities

My assessment of CDC's resource needs is based in part on my belief that **CDC must assert its scientific and programmatic leadership throughout the public health network to achieve this vision. We cannot afford to wait - we must act now to protect people's health and prevent the "urgent realities" that are robbing far too many Americans of the good health our biomedical advances would otherwise allow.** The number of people with preventable arthritis, cardiovascular disease, cancer, diabetes, mental health disorders, injuries, occupational and environmental exposures, and disabilities continues to get bigger as the prevalence of underlying risks, like obesity, increases and the number of older adults expands. Likewise, HIV infection, hepatitis, sexually transmitted diseases, tuberculosis, and other endemic infectious diseases create silent but deadly health threats, especially for the most vulnerable people in our society.

These conditions take an enormous toll on people's health-span, but they are also a major driver of escalating healthcare costs.

- America spends approximately 2 trillion dollars on healthcare, and most of this is for treatment of chronic diseases and their myriad complications; less than 2% of this amount is spent on preventing these conditions in the first place, even though at least 70% are preventable.
- The economic burden of chronic diseases threatens to overwhelm our financial resources, decreases the profitability of our businesses, and adversely impacts our ability to compete successfully in the global market.

Urgent Threats

But CDC must also expand and sustain its capability to address another health protection imperative – the imperative of preparedness for the "**urgent threats**" that have become more prominent in the dawn of the 21st century. Our new world has been characterized

as “flat”; more people in more countries are highly interconnected because they can access technologies, communication tools, and economic opportunities that a decade ago were not even imagined. Unfortunately, this flat world is also “small”; and as we have learned with SARS, terrorist attacks, disease outbreaks, and other threats to health can be globalized overnight. In this “flat” and “small” world, one thing is certain - the problems that affect people’s health and safety are big now, and likely to get even bigger in scale and impact. These problems include **extreme poverty** for approximately 1.1 billion people who are at high risk for malnutrition, vaccine preventable diseases, tuberculosis, HIV, malaria, neglected tropical diseases, and many other preventable conditions that are part of CDC’s portfolio of responsibilities. They also include **climate change** and the emergence of extreme weather patterns in communities around the globe; though the health effects of climate change are neither known nor predictable, there is certainly ample reason to be concerned if the patterns observed in the first years of this century continue. And of course **ideological extremism** and the conflict it engenders is now a frightening global force directly affecting some countries and indirectly affecting virtually all of them.

Any one of these extremes poses a significant challenge to people’s health, and the simultaneous intersection of all three is awesome: **terrorism, infectious diseases outbreaks and pandemics, and natural disasters** that affect a greater number of Americans and people around the globe are the likely outcomes for which CDC and its partners must prepare. These urgent threats can affect anybody, anywhere, at any time. And, as we saw with SARS, Hurricane Katrina, and the events of 9/11/01, these “health-threatening events” also threaten our economic and homeland security. Preparing people and communities is an imperative function of CDC and our public health network, but **requires a sustainable investment in our research, programs, and support to state, local, tribal, territorial, and international health agencies on the frontlines.** And again, the time for action is now. Lives are at stake – especially those of the most vulnerable people in our society.

What CDC Must Do:

<u>Establish Goals and Priorities</u>

People have never expected more from CDC than they do today. From “A to Z” – from anthrax to obesity to zoonotic disease outbreaks - the urgent health problems that we must address are large in scope and will likely increase, not decrease, in complexity over time. The stakes are very high and fast-enough action is imperative. We know our resources and our reach will never be commensurate with our aspirations, so we have committed to **focusing our efforts in priority areas** where we can have the biggest impact on people’s health and safety in the shortest possible time. We have engaged public health leaders, key partners, and the public in developing our goals and objectives to make our priorities clear. CDC’s Health Protection Goals balance our mission to address both urgent threats and urgent realities in four thematic areas (Healthy People in Every Stage of Life, Healthy People in Healthy Places, Global Health, and Preparedness). They reinforce Secretary Leavitt’s priorities and our nation’s Healthy People Goals. We

are aligning our current resources, our partnerships, and our collaborations to support achievement of these goals, and developing measures to make our progress transparent.

Achieve Results on the Frontlines of Public Health

The most powerful way to achieve national improvements in health is to target programs to those people who experience the greatest health disparities in their own community. In fact, for virtually every priority area in CDC's Health Protection Goals, success will depend on reducing or eliminating one or more major disparity in health status in one or more target populations. Through its research and many years of successful demonstration projects, CDC has supported projects that are effective in improving health and reducing many disparities, but, with a few exceptions, we have never been resourced to bring these programs to a scale to achieve the national impact we know is possible. **Not knowing what to do to solve a health problem is frustrating, but not being able to do what we know will work is tragic. We know what works, and in many cases we have prototypes that can be scaled up.**

To illustrate how better results could be achieved, CDC's REACH US (www.cdc.gov/reach) is one prototype of the kind that could be quickly expanded and adapted to bring innovative solutions to some health disparities to scale nationally. In 40 communities across the United States, CDC has funded community coalitions that design, implement, and evaluate community-driven strategies to eliminate health disparities in key health areas, such as heart disease, diabetes, breast and cervical cancer, immunizations, infant mortality, and HIV/AIDS among African Americans, American Indians, Alaska Natives, Asian Americans, Pacific Islanders, or Hispanics/Latinos. CDC provides technical support and modest financial support to help communities develop effective interventions, transition to sustainable local support, evaluate results, and disseminate strategies that work. Many of the REACH communities have chosen to target more than one health priority area and/or more than one racial/ethnic group, proving that **more holistic approaches to solving health problems than CDC's traditional disease-specific funding sources easily permit are desired by communities and can be successful**.

Likewise, WISEWOMAN, Steps to a Healthier US, our participatory community-based prevention research centers, and many similar projects effectively translate the research conducted by CDC, NIH, AHRQ, and academicians around our country. CDC has proven that - with community engagement, effective governmental public health leadership, multi-sector public, academic, and private partnerships, communication tools, and social marketing - **a modest investment can reduce or eliminate health disparities, improve health, and save lives**. We can rapidly deploy similar methods to address a wider set of health challenges among infants, children, adolescents, adults, and older adults to achieve our Health Protection Goals in many more communities and in specific environments (e.g. schools, institutions, homes, hospitals, churches, worksites, senior centers). **It is my professional judgment that bringing these successful approaches to scale in communities across our nation is the most cost-effective and rapid way to translate science into better health for our nation and to solve some of our most vexing health disparities.**

"Retail" Health Protection Information for Decisions

CDC created the new National Center for Health Marketing and the new National Center for Public Health Informatics to accelerate the information and communication sciences necessary for effective translation of health research into results that matter to people in diverse communities and locations. Adapting the new and emerging technologies that increasingly support people's decisions about less important issues must be applied to health protection. **The growing babble of junk science, unsubstantiated opinion, and distracting debate that occupies an increasing proportion of cyberspace makes CDC's highly trusted role in distinguishing credible health information all the more critical.** New media platforms define new intervention tools in and of themselves for younger and "cyber-sophisticated" people, but also can be used to initiate social interactions that pose personal risks to users. CDC must rapidly evolve the science of new media communication tools to remain relevant to our constituents, and exploit opportunities for novel prevention strategies.

Build and Exercise the Preparedness Network

The nation and world look to CDC and our public health network to rapidly detect, investigate, respond to and control emerging health threats, including those associated with microbes, natural disasters, and chemical and radiation events. Our nation's preparedness has greatly benefited from government investments in terrorism and pandemic influenza preparedness but recent events illustrate that vulnerabilities remain and highlight the need for even greater capacity, speed and coverage across our public health network. Glaring gaps that require new and sustained support for us to achieve our preparedness goals in areas include:

Pathogen Detection

- pathogen discovery methods that allow CDC to accelerate the complete genomic and phenotypic characterization of unknown or re-emerging pathogens, including their susceptibility to antimicrobials
- point-of-care rapid diagnostic tests for viral, bacterial, mycobacterial, and fungal pathogens to allow early detection of exposures and enable early treatment of affected people
- upgrades to convert slow, imprecise and labor-intensive laboratory methods into efficient, reproducible, rapid and scalable approaches to detecting infectious, environmental and occupational exposures, similar to leaps we recently made in our ability to detect and characterize botulinum and anthrax toxin through mass spectrophotometry and resources to cascade these capabilities to state and local laboratory networks

Environmental health preparedness

- Anticipate and prepare systems to monitor potential health consequences of climate change, and strategies to minimize harm to humans and public health systems if and when they do occur
- Enhance CDC and public health preparedness for terrorism threats related to radiologics, chemicals, and explosions

Global Health Protection

CDC is a major partner in our nation's frontline against emerging international health threats. CDC's **Global Disease Detection** program, in partnership with host country governments and the WHO, is a key component of this effort and forms the foundation of a transnational detection, prevention and response network to address emerging health threats including pandemic influenza. With current funding levels, CDC has established 5 regional response Centers, but needs 18 – three in each WHO region - to complete the network and properly protect the nation. The existing Centers have already proven their effectiveness and impact on detecting and responding to outbreaks including avian influenza, aflatoxin poisoning, Rift Valley fever, Ebola and Marburg virus outbreaks, and many other serious infectious diseases and environmental health threats. The Centers also provide a platform for regional training, surveillance, research, and health diplomacy activities that help promote sustainable health development in the targeted regions.

CDC is a major global source of technical and scientific support to categorical disease control programs supported by USG, WHO, health ministries, PEPFAR, the Global Fund, and many other health organizations. Our investment is modest and highly leveraged, but our capacity in most critical areas has been eroded by budget attrition and increases in the costs of science, travel, and infrastructure support in the past few years. We need to continue and expand operational research to assure that investments the USG and others are making in international health are state-of-the science and optimized to achieve results in the field. Critical areas that urgently need support include:

- operational **malaria** research to assure that the President's Malaria Initiative is executed in the most cost-effective and sustainable way
- HIV/AIDS international research in support of PEPFAR, (including studies of oral chemoprophylaxis of HIV infection, development of HIV vaccines and topical microbicides, prevention of mother-child transmission of HIV, and implementation of biomedical prevention interventions such as male circumcision), hepatitis vaccine and control measures
- resources to eradicate polio and reduce deaths from measles are needed because of sharp increases in the price of **polio and measles** containing vaccines, and because of unmet demand for measles containing vaccine in countries with high measles disease burden
- new resources are needed to direct technical assistance activities to countries with high burden of **tuberculosis** and at highest risk from extremely drug resistant TB (**XDR-TB**), research to develop shorter, less toxic drug regimens, improved diagnostics and vaccine development, along with partnership efforts with WHO and International Union Against Tuberculosis and Lung Disease (IUATLD)
- Support for CDC's operational research and technical support is needed to leverage point-of-use and community-based approaches to reduce disease through **ensuring safe water** and to improve basic sanitation and hygiene at the individual, family and community level, and with appropriate investments would move toward bringing these initiatives to scale
- Technical support is needed to leverage global programs for **unintentional injury prevention;** motor vehicle deaths and other injuries account for a growing proportion of global morbidity

What CDC Must Know:

Our Nation's Health Status and Statistics

CDC's mission-critical health statistics and similar data systems are currently on life support. Investments have simply not kept pace with expenses and technologic advances that support the ongoing information compass for local, state and national decisions about the health of the population and the operation of the healthcare system. Without adequate funding, CDC will be unable to maintain the current scope and quality of data collection and timeliness of data releases. With enhancements beyond those essential to continuity of existing programs, CDC would:

- Provide timely, accurate estimates of **high priority health measures** including health insurance coverage and monitor the success of CDC Health Protection Goals, including critical information about subgroups at risk for health disparities
- Expand and enhance the National Health and Nutrition Examination Survey (NHANES), the nation's principal source of data on comprehensive population health, to:
    - Provide vital information about the relationship between health behaviors, genetics, and the environment and help achieve the Secretary's "Personalized Health Care" initiative for gene-based medical care
    - Enable individual communities to assess health of their populations by extending NHANES survey methodology to "Community HANES";
- Produce real-time electronic birth and death statistics for tracking priority initiatives in prevention, cancer control, out of wedlock births, teen pregnancy, and countless others areas, and also help prevent immigration, identity, and benefit fraud, as called for in Intelligence Reform legislation;
- Collect information critical to reformulating the nation's health system to focus on prevention and on the effectiveness of interventions through enhancements to the National Health Care Surveys which track changing patterns of health care delivery and monitor adoption of electronic health records by health providers.

Research for Results: New Innovations and Interventions

Enormous investments in biomedical research have created new knowledge about the causes of illness, allowed us to diagnose and treat an astonishing array of medical conditions, and have identified some effective prevention interventions. **But for these new discoveries to truly benefit people in all communities, they must be translated into effective decisions and tools to support the needs of a diverse constituency of people at the frontline of health protection, and right now the evidence to guide this process is all too often lacking**. For example, from 1991 – 2005, there were over 800,000 studies published on clinical trials, cohort studies, and case-control studies, compared to only 9,000 (100 times less!) with a focus on translation of knowledge, such as intervention studies, or health education studies. Understandably, many of these areas are not priorities for NIH and AHRQ, and do not "fit" into the traditional biomedical science funding mechanisms.

CDC must expand and refocus its intramural research agenda to target the information it needs to achieve our Health Protection Goals. We must also reach outside our traditional boundaries to a much broader set of scientists, agencies, and sectors, and fully engage

academics, partners, practitioners, and the public in the process of defining the most critically important unmet research needs, especially those which are related to knowledge dissemination and translation to community applications. In FY 2007, CDC received over 400 letters of intent for its announcements that focused on this translation research, but expects to be able to fund less than 10% of the qualified applications. We have a similar experience with our Centers of Excellence programs and our academic training grants.

What CDC Must Have:

Resources to restore core mission capabilities to baseline

CDC's resources have grown since 2001, but that growth has been uneven. Understandably, the need to respond to urgent threats - bioterrorism, SARS, pandemic influenza preparedness – has prompted priority investments to protect our nation and contribute to global health. However, this growth masks the erosion of our discretionary resources for our urgent realities—chronic diseases, injury, infections, environmental health, occupational health, and disabilities – that affect Americans everyday. **The "purchase power" of many of these programs has declined by at least 12-14% since 2001 (using the Biomedical Research and Development Price Index developed by the Department of Commerce), and for some, the loss has been even greater.** We need to catch up - to restore these programs to at least their baseline level of support in order for CDC to successfully sustain its workforce and achieve its core mission and goals. Areas that need immediate attention include:

- Core funding for non-terrorism and non-influenza emerging infectious diseases science has eroded, leaving us many millions behind where we were five years ago, when adjusted for inflation. Programs for rabies, rotovirus, food safety, special pathogens like Ebola virus, and many others need immediate support if they are to sustain their baseline capabilities. We're losing ground with sexually transmitted diseases and tuberculosis just as we face a new global outbreak of extremely drug resistant TB (XDR-TB) and resurgence in syphilis in the United States in certain groups.
- Investment in CDC's efforts to fight obesity has been reduced, while the epidemic continues to mount, and we have been unable to provide the national leadership our country needs

Resources to Support our Workforce

CDC's workforce is a national treasure. As described by the GAO, the combination of increasing national and international competition for emerging experts, the growing salary gap between senior federal leaders and managers compared to persons in academia and industry, and the aging of the federal workforce is creating a mandate for immediate investment in federal workforce development across our nation, and CDC is no exception. The problem is replicated throughout the entire public health system - 40% of the nation's public health workforce will be eligible for retirement in the next 5 years and many states are already experiencing chronic shortages of epidemiologists, nurses, laboratorians, program staff and managers. CDC must have a capable, agile workforce that can learn, adapt, and perform — often at an extremely rapid pace, and must also do

more to support the training and development of its state and local counterparts. CDC is initiating a Strategic Human Capital Management Plan that will require investments in Workforce Planning, Leadership & Knowledge Management, Diversity, and Talent Management through Fellowship training programs, pipeline programs, expansion of electronic learning capability, and expanded support for the CDC Corporate University in-house development and training for existing personnel.

Resources for Mission Support

The Leadership and Management line includes the costs for Director's Offices in each constituent National Center, CDC Offices of the Director, Coordinating Centers/Offices, and the cross-cutting offices (i.e., chief of science, enterprise communications, workforce and career development, strategy and innovation, etc.). This budget line funds CDC's programmatic administrative and management needs. Of particular concern is the need to catch up with the escalating cost of doing science. Not only are requirements for instrumentation and workforce support increasing, but also the cost of managing and supporting science in this environment of increasing regulation is on the rise. Key areas of critical need include:

- **Open access to CDC's research publications** for other scientists and the public (rapid, free, and unrestricted online access) to CDC sponsored, peer reviewed research and access to 'data in progress' among scientists, especially during emergencies like SARS
- Support for personnel and information systems for costly mandatory regulatory requirements for research - to properly execute new and ongoing federal regulations, including those that protect the rights and welfare of people who participate in research, ensuring that we do not overburden the public with requests for federally sponsored data collections, and protecting the privacy of individuals when records are maintained by a federal agency
- Support for humane care and use of research animals and animal care facilities

In order to remain competitive with other scientific organizations, both governmental and public sector, and retain CDC's talented workforce, CDC must invest in creating safe and secure workplaces. If funding was available in accordance with the professional judgment amount, we would be able to accomplish the following activities directly related to continuing our excellent public health research: replace or modernize antiquated and overcrowded facilities, particularly labs; address health and safety concerns; address physical security concerns; and preserve taxpayer investment in new facilities.

The Business Services Support budget activity includes funding for critical public health support operations including procurement and grants, financial management, health and safety activities, security, and information technology services. It also includes costs of operations at CDC, such as rent, utilities, and telecommunications. We have learned the lesson that failure to properly invest in business services systems not only interferes with our effectiveness but also creates unnecessary problems for our workforce.

FY 2008 PROFESSIONAL JUDGMENT REQUEST
CENTERS FOR DISEASE CONTROL AND PREVENTION
BUDGET TABLE
(DOLLARS IN THOUSANDS)

Budget Activity/Description	FY 2007 Enacted	FY 2008 PJ Increase	Total [1]
Infectious Diseases [2]			
Budget Authority	$1,791,437	$313,250	$2,104,687
PHS Evaluation Transfers	*$12,794*	*$0*	*$12,794*
Subtotal, Infectious Diseases -	$1,804,231	$313,250	$2,117,481
Health Promotion	$959,662	$158,150	$1,117,812
Health Information and Service			
Budget Authority	$88,418	$64,250	$152,668
PHS Evaluation Transfers	*$134,235*	*$0*	*$134,235*
Subtotal, Health Information and Service -	$222,653	$64,250	$286,903
Environmental Health and Injury Prevention	$288,104	$84,000	$372,104
Occupational Safety and Health			
Budget Authority	$167,028	$39,000	$206,028
PHS Evaluation Transfers	*$87,071*	*$0*	*$87,071*
Subtotal, Occupational Safety and Health -	$254,099	$39,000	$293,099
Global Health [3]	$334,038	$65,500	$399,538
Public Health Research (PHS Evaluation Transfers)	*$31,000*	*$0*	*$31,000*
Public Health Improvement and Leadership (PHIL)	$189,808	$44,250	$234,058
Preventive Health & Health Services Block Grant (PHHSBG)	$99,000	$10,000	$109,000
Buildings and Facilities	$134,400	$115,600	$250,000
Business Services Support [4]	$344,338	$25,250	$369,588
Terrorism	$1,541,300	$80,500	$1,621,800
Total, L/HHS/ED (includes supplementals) -	*$5,937,533*	*$999,750*	*$6,937,283*
Total, L/HHS/ED (includes PHS Evaluation Transfer and supplementals) -	*$6,202,633*	*$999,750*	*$7,202,383*
PHS Evaluation Transfers (non-add)	*$265,100*	*$0*	*$265,100*
Agency for Toxic Substances and Disease Registry	*$75,212*	*$0*	*$75,212*
Vaccines for Children	$2,905,330	$0	$2,905,330
User Fees	$2,226	$0	$2,226
Total, CDC/ATSDR Program Level -	*$9,185,401*	*$999,750*	*$10,185,151*

[1] The base is the FY 2007 Enacted level.

[2] The Infectious Diseases budget activity has been realigned to reflect the new Coordinating Center for Infectious Diseases organizational structure.

[3] Funding does not include transfers to CDC from the Department of State Office of the Global AIDS Coordinator ($607.9 million in FY 2006), as part of the President's Emergency Plan for AIDS Relief.

[4] Funding in 2007 for Business Services Support includes a comparability adjustment of -$0.039 million for activities that were jointly funded in prior years, and are financed centrally in the General Departmental Management account in the FY 2008 Budget.