

**Meeting of the Board of Scientific Counselors, Office of Infectious Diseases
Centers for Disease Control and Prevention
Tom Harkin Global Communications Center
Atlanta, Georgia**

December 6, 2010

A one-day, open public meeting of the Board of Scientific Counselors (BSC), Office of Infectious Diseases (OID), was held on December 6, 2010, at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. In addition to Board members and CDC staff, the meeting was attended by representatives of several public health partner organizations (appendix).

The primary focus of the meeting was to obtain ideas, comments, and advice from the BSC on the first draft of the *CDC Framework for Preventing Infectious Diseases*. The meeting also included updates from the CDC Director and the Deputy Director for Infectious Diseases and reports on the H1N1 influenza response, the cholera outbreak in Haiti, and CDC activities to advance disease prevention through healthcare.

OPENING REMARKS

BSC Chair Dr. Rich Whitley called the meeting to order and was joined by CDC Deputy Director for Infectious Diseases Dr. Rima Khabbaz in welcoming participants and facilitating introductions. Dr. Khabbaz noted that the current charge to the BSC is to provide strategic advice to OID and CDC's three infectious disease national centers: the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), and the National Center for Immunization and Respiratory Diseases (NCIRD). OID plans to host two 1-day BSC meetings per year, with teleconferences held as needed, between the two meetings.

UPDATE FROM THE CDC DIRECTOR

Dr. Thomas Frieden, CDC Director, provided an overview of CDC's five public health priorities: promote excellence in surveillance, epidemiology, laboratory services; strengthen support for state, tribal, local, and territorial public health; increase global health impact; use scientific and program expertise to advance policy change that promotes health; and better prevent illness, injury, disability, and death.

Dr. Frieden described six domestic "Winnable Battles" for public health (<http://www.cdc.gov/winnablebattles/>), three of which concern infectious disease issues: HIV; Healthcare-Associated Infections (HAIs); and Nutrition, Physical Activity, Obesity, and Food Safety. Winnable battles for public health also include Motor Vehicle Injuries, Teen Pregnancy, and Tobacco. He also provided updates on three global health priorities: advancing the Global Polio Eradication Initiative (<http://www.polioeradication.org/>), expanding the use of insecticide-treated bednets to prevent malaria (http://www.cdc.gov/malaria/malaria_worldwide/reduction/itn.html), and reducing the global burden of HIV, through PEPFAR II activities (<http://www.pepfar2.org/about.html>).

Follow-up questions from BSC members and other meeting participants along with responses from Dr. Frieden are summarized as follows:

- With regard to a question about child survival initiatives, Dr. Frieden mentioned ongoing projects to expand the use of childhood vaccines; improve treatment of acute respiratory illness; increase the availability of oral rehydration salts to treat diarrheal diseases; and advance "clean cook stove" projects to reduce exposure to smoke and toxins from cooking fires.

- With regard to a question about preventing nutritional deficiencies that increase mortality from infectious diseases, Dr. Frieden mentioned current efforts to fortify common foods with micronutrients, in coordination with the Global Alliance for Improved Nutrition (<http://www.gainhealth.org/>). He noted that each episode of diarrheal or respiratory disease delivers a devastating blow to a child's nutritional status, and that these shocks can be minimized through immunization, better access to clean water, and better sanitation.
- Dr. Frieden also stressed that child survival and nutrition initiatives are essential components of the public health response to the earthquake in Haiti and the subsequent cholera outbreak (see update below). PEPFAR facilities have been used as cholera treatment centers and providers of community outreach. Other interventions may include providing clean cook stoves and/or safe water systems with bucket spigots to all Haitian households. Taken together, these public health activities will enhance not only child survival and nutrition, but also women's safety, indoor air pollution, environmental health, and economic development.

UPDATE FROM THE OID DIRECTOR

Dr. Khabbaz noted two amendments to the BSC charter:

- BSC membership has been expanded to include 17 "special government employee" members, 6 *ex officio* members representing the National Institutes of Health, National Vaccine Program Office, U.S. Department of Agriculture, U.S. Food and Drug Administration, and U.S. Department of Defense, and 7 non-voting liaison representatives, including representatives from other CDC advisory committees for infectious disease issues (e.g., immunizations, infection control), the Public Health Agency of Canada, and the Mexico Ministry of Health.
- BSC participation is no longer required in peer reviews, although CDC national centers are encouraged to seek expertise from individual BSC members in peer reviews of their programs.

Reinstated BSC members include Rich Whitley, Chair; Jim Hadler; and Bob Tesh. New appointments include Ruth Berkelman, Tracy Lieu, and Mathu Santosham. New liaison representatives include Rainer Engelhardt, Public Health Agency of Canada (PHAC); Carol Baker, Advisory Committee on Immunization Practices (ACIP); and Steve Ostroff, Healthcare Infection Control Practices Advisory Committee (HICPAC).

CDC Organizational and Staff Changes

- The new CDC organizational chart includes the Office of Infectious Diseases (OID), three infectious disease national centers (NCEZID, Beth Bell, Director; NCHHSTP, Kevin Fenton, Director; and NCIRD, Anne Schuchat, Director), and the Influenza Coordination Unit (ICU, Steve Redd, Director). OID, ICU, and the infectious disease national centers work closely with the CDC Center for Global Health (CGH).
- New appointments include Lisa Rotz, Acting Director, Division of Preparedness and Emerging Infections (DPEI), NCEZID; Jane Seward, Acting Director, Division of Viral Diseases (DVD), NCIRD; and Cindy Weinbaum, Acting Associate Director for Science, NCIRD. New appointments at NCHHSTP include John Douglas, Chief Medical Officer; Stu Berman, Senior Advisor (Health Reform); Frederick Bloom, Acting Associate Director for Science; and Charlotte Kent, Acting Director, Division of STD Prevention.

FY 2011 Budget

- The President's budget request for CDC includes additional funding for Section 317 Immunization; Emerging Infectious Diseases; the National Health Safety Network (NSHN); food safety; HIV prevention; STD prevention; and viral hepatitis.

- The request also proposes decreases in funding for Section 317 state infrastructure; preparedness and response capabilities (including the elimination of anthrax activities); vectorborne diseases; and preparedness, detection, and control of infectious diseases (including antimicrobial resistance).

Awards and Recognitions

- Recent CDC awardees include Anne Schuchat (honored by the American College Health Association), Larry Pickering (American Academy of Pediatrics), and J. Michael Miller (American Society for Microbiology).
- The Influenza Division (ID), NCIRD, won the 2010 APHL Presidential Award for “extraordinary support to public health laboratories during the H1N1 response.” Other CDC offices that received honors include the Arctic Investigations Program, NCEZID (National Indian Health Board), the Division of HIV/AIDS Prevention, NCHHSTP (Phoenix Award), and the Division of Global Migration and Quarantine, NCEZID (National Association of Government Communicators).

Overview of Infectious Disease Activities

- **ICU:** Current ICU activities include addressing knowledge gaps identified during the H1N1 response (e.g., in regard to influenza transmission, upgrades to laboratory capacity, and the use of social media to enhance risk communications).
- **NCIRD:** NCIRD priorities include increasing vaccine coverage among pre-school children and teens and leveraging Section 317 Immunization funds provided by the 2009 American Recovery and Reinvestment Act to make sustainable improvements in immunization infrastructure (e.g., via laboratory training, enhanced communications, new reimbursement policies, and interoperability of immunization registries and electronic health records).
- **NCHHSTP:** Activities include reducing chronic viral hepatitis, improving treatment of drug resistant and latent TB, and refocusing attention on the domestic AIDS epidemic, in accordance with the *National HIV/AIDS Strategy* (<http://www.whitehouse.gov/sites/default/files/uploads/NHAS.pdf>). As described in the *2011-2015 NCHHSTP Strategic Plan*, priorities include program collaboration and service integration, prevention through healthcare (*see update below*), health equity, global health protection and systems strengthening, partnerships for prevention, and workforce development and capacity building (<http://www.cdc.gov/nchhstp/Publications/index.htm>).
- **NCEZID:** In addition to their activities highlighted as CDC “Winnable Battles” (HAI reduction and improved food safety), additional center priorities include zoonotic, vectorborne, and waterborne diseases; migration health; and “One Health” activities.

UPDATE ON INFLUENZA

Over a year ago, in late October, 2009, the H1N1 influenza pandemic reached its peak activity in the United States. ICU Director Dr. Steve Redd noted that CDC is currently evaluating lessons learned to improve pandemic preparedness and strengthen seasonal influenza vaccination.

Overriding issues during the H1N1 response included adapting response procedures based on planning for a pandemic caused by a highly virulent virus to the reality of the H1N1 virus, which caused mild-to-moderate disease in most of those infected. Other major issues included insufficient vaccine supplies early in the pandemic (with sufficient supplies achieved in December, 2 months after the peak) and the need to provide intense, frequent, and responsive communication to the public over a period of months.

In terms of next steps, current CDC priorities include improving ability to detect and characterize novel influenza viruses; improving procedures for timely disbursement of funds to state and local governments and for efficient distribution of countermeasures; and shortening the timeline for producing vaccines. Challenges to moving forward include the current economic downturn, which limits resources, and the perception that pandemic preparedness is no longer a priority.

Dr. Redd noted that a strong seasonal influenza vaccination program provides the foundation for a strong pandemic response. Dr. Anne Schuchat, Director, NCIRD, reported that a record number of vaccine doses—approximately 162 million, or nearly 50 million more doses than in previous seasons—have been distributed during the 2010-2011 influenza season, particularly to children. However, many unused doses remain.

Dr. Schuchat mentioned that evaluations are underway to determine the best use of school-based vaccination programs; the most efficient surveillance strategies; and the most effective use of social media in disseminating information to the public. CDC is also assisting HHS in reviewing investments for the Public Health Emergency Medical Countermeasure Enterprise (PHEME) project, and assisting NIH, FDA, and DoD, in improving influenza vaccine development and production.

Dr. Schuchat requested guidance and advice from the BSC members on budget issues, health reform opportunities and challenges, global response capacities and vulnerabilities, post-pandemic momentum and staff fatigue, and vaccine production and marketing. Comments and discussions by board members after the presentation included the following:

- The importance of continuing influenza surveillance activities and maintaining a strong workforce capacity. In the current economic environment, states are unlikely to fund new surveillance efforts.
- Challenges that states and CDC experienced in modifying surveillance plans during the pandemic in order to answer key questions to guide the public health response (e.g., about fatality rates, clinical severity, risk factors for severe disease, and viral transmissibility).
- Concerns about possible weakening of incentives for the pharmaceutical industry to continue producing new vaccines, given the large number of unused vaccine doses and difficulties in moving from egg-based to cell-culture-based production. Insufficient market incentives for the development of new antiviral drugs are also a problem.
- The ongoing need for
 - Detailed characterization of clinical cases during pandemics
 - Strengthened healthcare and community partnerships.
 - Better education of the public about the burden of influenza and the value of immunization. The availability of real-time information about the efficacy of vaccines—which was available in the U.K. through its national health records—can encourage people to get immunized.
 - Faster collection and dissemination of data on vaccine effectiveness, especially in children. Dr. Schuchat noted that the limited number of influenza cases so far this season has hampered the ability to measure vaccine effectiveness. It was suggested that data from immunization registries and medical records from healthcare organizations might help with rapid assessment of vaccine effectiveness, especially in young children.
 - Ongoing research to develop new vaccines and adjuvants and to speed vaccine production. In the future, faster vaccine production could alleviate vaccine supply problems and shortfalls issues—which also occur during seasonal influenza vaccination programs.
 - Encouragement of school-based vaccination campaigns for children (which have been in use since the polio era) and of mandatory influenza vaccination of U.S. healthcare workers.
- Consideration of influenza issues related to animals:
 - During the H1N1 pandemic, some pigs acquired H1N1 from humans. The USDA Center for Veterinary Biologics approved commercial H1N1 vaccines for use on swine farms.
 - Good communication is needed among industry partners, USDA, and the public health sector to ensure that food producers and processors know what steps to take when zoonotic viruses are detected in animals.

In regard to a question about ways to facilitate emergency development of diagnostic tests (e.g., through Premarket Notification 510K; <http://www.fda.gov/medicaldevices/deviceregulationandguidance/howtomarketyourdevice/premarketnotifications/premarketnotification510k/default.htm>), Dr. Redd noted that what works best may depend on the situation. In 2009, mechanisms were already in place to obtain rapid FDA clearance of an influenza assay specific for the H1N1 virus and to manufacture and distribute test kits to public health laboratories within a few weeks. BSC ex officio member Dr. Jesse Goodman noted that FDA is very aware of emergency response issues, some of which pose interesting scientific challenges (e.g., evaluating the utility of using common platform technologies to produce different vaccines and identifying ways to assess diagnostic technologies designed to detect unknown pathogens).

UPDATE ON CHOLERA IN HAITI

Dr. Eric Mintz, Chief of the Diarrheal Diseases Epidemiology Section, CDC Department of Global Health, reported on the response to the 2010 cholera outbreak in Haiti. Haiti, a nation of 10 million people, has the lowest GDP and highest infant mortality rate in the Western Hemisphere, as well as the least access to clean water and good sanitation.

Haiti's January 2010 earthquake killed more than 200,000 people and displaced more than a million. As part of the post-earthquake recovery effort, the PEPFAR-supported CDC Haiti Office assisted the Haiti Ministry of Public Health and Population (MSPP) in expanding disease surveillance, providing technical support to the National Public Health Laboratory (LNSP), and enhancing rapid testing and culture capability for multiple diseases, including cholera.

On October 19, 2010, MSPP was notified of cases of acute watery diarrhea, and an outbreak of cholera was confirmed by MSPP and LNSP on October 21. Although cholera had not been documented in Haiti for more than a century, unsafe drinking water, inadequate sanitation, and the presence of refugees or displaced persons are all risk factors for cholera. Cases included persons with severe dehydration and death among all age groups. The CDC Cholera Laboratory characterized the outbreak strain in terms of toxin type and drug sensitivities. The strain is indistinguishable from strains found in South Asia and elsewhere.

By October 31, the MSPP established a National Cholera Monitoring System, with technical assistance from the Pan American Health Organization (PAHO), CDC, and the Cuban Medical Brigade. In November, a case-control study conducted by CDC confirmed that disease was spreading through drinking water. Recommendations were made for continued distribution of products for household water treatment; continued distribution of oral rehydration salts (ORS), which can be drunk at home; and continued health education and messaging.

With proper care, including rapid treatment with ORS or intravenous hydration, the mortality rate from cholera should be less than 1%. A study of cholera deaths in hospitals and in the community found that the most common barrier to seeking care was lack of knowledge about cholera. To ensure that deaths from cholera are rare, the study recommended increased efforts to educate the public about the symptoms and fast progression of cholera and the need to drink ORS and seek healthcare immediately. The study also recommended training healthcare workers to recognize severe dehydration and treat it appropriately. During an outbreak, health facilities should be readily accessible by all Haitians and have adequate treatment supplies and staff.

Ongoing CDC activities to assist MSPP include establishing a train-the-trainer course in clinical management of cholera and conducting environmental testing for cholera in water samples from the harbor water, drainage canals, and the Artibonite River, as well as in shellfish and finfish. Ongoing

activities to aid Haiti include expanding treatment capacity, enhancing the supply system for treatment supplies, and expanding water/sanitation/hygiene (“WASH”) activities.

Comments, questions, and discussions from BSC members and Dr. Mintz included the following:

- Vaccines: As soon as cholera was suspected, CDC began vaccine discussions with a number of partners, including PAHO, the International Vaccine Institute (IVI), and WHO, and, through them, the vaccine manufacturers. Because of the challenges of supplying the vaccine to Haiti and administering it to the target population, the decision was made to focus on immediate responses such as treatment and surveillance; however, vaccine remains an option and could be integrated into cholera prevention plans.
- Addressing issues affecting water supply systems. The epidemic provides an opportunity to leverage resources to improve Haiti’s water and sanitation infrastructure. CDC has permanent staff assigned to the WASH cluster in Port-au-Prince and has worked extensively on point-of-use and household water treatment issues. Since the 2010 earthquake, CDC has been assessing potential long-term improvements and hopes to work in the small rural communities affected by the outbreak by helping develop community water systems and improve sanitation options.
- Healthcare-associated transmission. Healthcare-associated transmissions are not often observed with cholera, but some cases might have occurred. While many of the physicians, nurses, and others caring for cholera patients acquired cholera, it is believed that they were infected through the same drinking water or foods that had infected patients and others in the community.

UPDATE ON PREVENTION THROUGH HEALTHCARE

Dr. Chesley Richards, Director, Office of Prevention Through Healthcare (OPTH), reported that the United States spends \$1.95 trillion per year on healthcare, with 84 % going towards care of persons with chronic conditions and 3% going toward public health. Nevertheless, U.S. performance is poor on basic measures of healthcare management. Dr. Richards suggested that a healthcare system that maximizes health should emphasize health information systems that are oriented toward prevention; healthcare management procedures and workflows that support prevention; patient empowerment activities that help individuals prevent disease and disability; and insurance policies that reward safety, disease prevention, and effective chronic disease management.

OPTH was established to help CDC work more effectively with healthcare systems to link medical care and community health. Examples of OPTH activities include working with partners to

- Develop recommendations for clinical preventative services that should be covered by medical insurance
- Develop measures for meaningful use of medical health records
- Work with the National Committee for Quality Assurance (NCQA) and the National Quality Forum (NQF) to identify disease prevention practices that improve healthcare quality.
- Work with the Centers for Medicare & Medicaid Services (CMS) to develop 1) recommendations for Medicare and Medicaid policies that help prevent disease and improve healthcare quality; 2) the 10th Scope of Work for CMS Quality Improvement Organizations; 3) a Health Risk Appraisal as a standardized way to assess an individual’s future health risks (e.g., for use by Medicare beneficiaries).

Examples of infectious disease issues at the “nexus of healthcare policy and science” include the following:

- **HAI reduction.** HAIs can be reduced using facility-based interventions (e.g., handwashing, use of disinfectants, improved procedures for catheter insertion and removal). One policy question is how best to move forward, in terms of addressing specific HAIs (e.g., surgical site infections) or as part of a broader push to improve healthcare safety and healthcare quality.
- **Childhood vaccination.** Childhood immunization rates are high, but plateauing. One challenge for pediatricians is the financial burden of maintaining large vaccine stocks in their offices. In today’s constrained funding environment, a basic policy question is whether increasing payment for vaccine administration is the most cost-effective tool for maintaining or increasing immunization rates.

Discussion areas from BSC members included the following:

- Vaccine coverage rates are likely to decrease if pediatricians do not administer certain vaccines because of payment issues. Pilot programs at the state and local levels can help guide national policy in this area. For example, some New England states are developing legislation that requires healthcare insurers to pay for vaccines and provide all vaccines at no cost to the provider.
- Two major areas where public health can play a significant role include 1) eliminating inefficiency, waste, and safety problems like HAIs in the healthcare system itself; and 2) addressing underlying determinants of health (e.g., obesity leading to hypertension and diabetes).

FOCUSED DISCUSSION: THE CDC INFECTIOUS DISEASE FRAMEWORK

An overview of the draft *CDC Framework for Preventing Infectious Diseases* had been provided as part of a BSC teleconference on November 15, 2010, and OID has begun to receive written feedback from partner groups. The *Framework* is designed to update CDC’s approach to combating infectious diseases, incorporating scientific, technological, and health-policy changes, as well as new opportunities to promote health and prevent disease. It is also a chance to rethink our processes and strategies at a time of limited resources. The draft *Framework* is organized around five agency-wide CDC priorities as they apply to infectious diseases:

1. Strengthen infectious disease surveillance, epidemiology, and laboratory science
2. Support state, tribal, local, and territorial health departments in preventing endemic diseases and addressing new and re-emerging threats
3. Advance global initiatives to reduce infectious diseases and prevent international disease spread
4. Promote nationwide policies that enhance prevention and control of infectious diseases
5. Advance domestic infectious disease initiatives by implementing high-impact interventions

Dr. Joanne Cono, OID Special Advisor for Science, served as the convener for a focused discussion to gain input, ideas, and guidance on the first draft of the Framework. BSC members and meeting participants were organized into four breakout groups (A-D) to discuss the draft *Framework* according to the above five priorities. Dr. Cono reviewed the questions posed to each group, and noted that OID is also accepting written comments on the document until December 17.

Breakout Group Discussions. Discussion questions for the four groups included the following:

- 1) How do you envision a document such as this could be used to help you—and the public health community as a whole—meet the challenges and opportunities of the current economic, policy, and/or social environments?
- 2) Regarding the priorities under discussion in your break-out group: a) what's missing, especially in terms of new ideas or partnerships; and b) what additional outcomes should we drive toward?

GROUP A

Group A focused primarily on Priorities #1 and #2. Discussion topics and participant comments/suggestions included the following:

General Comments

- CDC's previous emerging infections plans^{1,2} drove public health action at CDC and state/local health departments, but they are out-dated.
- As a CDC document, the *Framework* focuses on the public health aspects of combating infectious diseases. While it primarily provides a roadmap for CDC activities, it is also intended to be useful to CDC partners.
- Efforts are needed to ensure that the *Framework* is designed to
 - Highlight the potential decline of the nation's public health infrastructure and the need to preserve and strengthen the public health core. Strong core public health functions provide the surge capacity needed during emergencies.
 - Emphasize partnerships. Core activities and surge capacity are based on relationships. CDC needs to provide public health leadership during emergencies but must depend on partners for surge capacity, especially in "interweaving" clinical and public health activities.
- While today's economic environment is challenging, with many health departments cutting back, the economic situation shouldn't drive the document because the situation will change. The document should be aspirational and inspirational.
- CDC and health departments must be good stewards of public resources, making optimal use of new ideas, IT tools, and alliances.

Comments on Priority #1: Strengthen infectious disease surveillance, epidemiology, and laboratory science

- More specifics and examples are needed. For each item, need to specify more clearly who does what.
- Techniques like data-mining are not as important as basic surveillance activities (e.g., clinical case reporting).
- Strengthening expertise is not sufficient. We should stress action and public health practice.
- More emphasis is needed on
 - Improved communication of surveillance information to partners and to the public. Dissemination of surveillance data is an important part of the core public health surveillance function.
 - Role of astute clinicians in disease surveillance. Clinicians would benefit from training to detect and report notifiable diseases and unusual events.
 - Roles of diagnostic laboratories in disease surveillance, characterization of pathogens, outbreak responses, and test development and evaluation.
 - Filling gaps in epidemiologic knowledge about disease emergence, prevention, and control—both for public health and healthcare.
 - The problem posed by the lack of specimens available for public health purposes, as fewer specimens are tested in diagnostic laboratories.
 - The need for new diagnostic tests (e.g., a standard serologic test for pertussis), and the need to do better with tools already available.

¹ CDC. Addressing emerging infectious disease threats: a prevention strategy for the United States. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, 1994.

² CDC. Preventing emerging infectious diseases: a strategy for the 21st century. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, 1998.

- Roles of private sector and FDA in diagnostic test development and role of CDC in validating diagnostic tests for field use and public health use
- The role of CDC in advancing translational research as an important unmet need.

Comments on Priority #2: Support state, tribal, local, and territorial health departments in preventing endemic diseases and addressing new and re-emerging threats

- Regarding the section on developing core capacities:
 - Suggest using cost-benefit (or “quality vs. cost”) analyses to evaluate public health services and outcomes
 - Promote adoption by private clinical laboratories of IT tools for electronic laboratory reporting. (Most large laboratories already have these tools.)
 - Develop model state public health laws. (State-based decision-making was discussed during the H1N1 response.)
- Regarding the section on making public health practices a routine part of U.S. health care:
 - Clinical prevention practices are key.
 - The U.S. Preventive Services Task Force recommends which preventive services should not require an insurance co-pay. CDC can play an important role in providing the evidence base for these decisions.
 - Emphasize partnerships with IDSA and the medical community. Include patient care issues.
 - Describe what CDC can do to advance healthcare quality
- Regarding the section about reducing health disparities:
 - Health departments and community partners need guidance, tools, and resources for collecting data and measuring health disparities.
 - Emphasize role of partners in policy development and implementation

Areas needing more emphasis in the document include:

- Public health communications
- Lab IT tools
- Pathogen discovery
- Policy issues related to IT tools and AR drug development
- Cross-cutting issues that concern both infectious and chronic diseases (e.g., obesity as a risk factor for severe illness from respiratory infection)
- Social norms and social determinants of health

GROUP B

Group B focused primarily on Priorities #1, 2, and 5. Discussion topics and participant comments/suggestions included the following:

General Comments

- The document is broad and non-specific. Previous emerging infectious disease documents (described in footnotes 1 and 2 above) were more detailed and provided a better roadmap. The document needs specific achievable action items and activities.
- The document should provide more direction regarding resource shifting and/or new areas of focus. A strategic plan might still be possible, even in a time of decreased funding.
- The document is not useful for communicating with policy-makers. More examples and prioritization are needed to make the document useful beyond CDC.
- The use of stories and examples might be a good way to illustrate accomplishments, directions, and needs
- The document isn’t “new and different” though it does state overarching principles.

- The vision statement (“a world safe from infectious diseases”) is too vague. An alternative might be a vision of how to combat infectious diseases in an era of resource constraints and reorganization.
- The document should emphasize what is most important for stability and sustainability (e.g., the Epidemiology and Laboratory Capacity cooperative agreement (ELC) and the Emerging Infections Programs (EIPs). Describe current changes and trends and what must be re-tooled to sustain infectious disease programs. Provide examples of what happens when public health programs are eliminated.

Additional emphasis is needed in these areas: Antimicrobial resistance, new vaccines, the impact of animal health on human health, workforce training, and health disparities/health equities/social determinants of health.

Comments on Priority #1: Strengthen infectious disease surveillance, epidemiology, and laboratory science

- Emphasize the need for a cross-cutting, nationwide electronic surveillance system. Point out what is new and different as compared to what has been done for decades
- Emphasize the importance of ELC and EIPs
- Address the need to analyze and interpret the information that is collected from rapid tests and other diagnostic innovations
- Disease surveillance, epidemiology, and laboratory science are major issues and might be better addressed as separate priorities

Comments on Priority #2: Support state, tribal, local, and territorial health departments in preventing endemic diseases and addressing new and re-emerging threats

- The advancement of “prevention through healthcare” must take into account costs to healthcare providers, in terms of time and money.
- Except as part of the ELC and EIPs, most health departments do not have the resources to conduct research. They must focus on core functions.
- CDC should develop *model* laws and policies for use by the states.

Comments on Priority #5: Advance domestic ID initiatives by implementing high-impact interventions

- The priority areas are very broad. Although this allows all infectious diseases to be covered, it also involves a lack of detail and specificity.
- The *Framework* should be linked to center-specific initiatives and plans
- Should safe water be a priority in a domestic ID framework?

GROUP C

Group C considered major questions about the purpose and usefulness of the draft *Framework* and also provided comments on Priorities 3-5. Discussion topics and participant comments/suggestions included the following:

Questions and General Comments

- What is the anticipated time frame for the *Framework* document, 4 or 5 years?
- The *Framework* should align with Dr. Frieden’s priorities and with the priorities of the public health community as a whole. CDC should obtain additional consultation with stakeholders, including state and local health departments, professional societies, and partners in academia and industry.
- Examples of the cost-savings and cost-effectiveness of infectious disease programs should be included.

How can the *Framework* help advance public health?

- By finding synergies that advance public health priorities and avoid duplication and waste (keeping in mind that some redundancies may enhance response capacity)
- By identifying critical public health infrastructure that should be maintained and strengthened
- By emphasizing important areas such as HAIs, health IT tools, and medical countermeasures
- By identifying programs that provide cost-savings (e.g., a recent study that confirmed the cost-effectiveness of a program that links HIV prevention and treatment of homeless persons with provision of housing)
- By describing the medical and societal costs that would be incurred if cuts were made to major programs and investments (e.g., if vaccines were not provided to uninsured children).
- By providing a “positive public health agenda” that clearly describes what is important, independent of budget considerations.

How can we meet new challenges and opportunities over the next 4 years?

- The *Framework* could be used to
 - Identify core public health activities and make sure that systems (also tools and knowledge) are in place to respond to new disease threats as they arise
 - Answer important questions about core public health capacities (e.g., can we use systems/sites for multiple surveillance efforts?)
 - Make the case for infectious disease infrastructure as a whole, rather than for defining programmatic needs. Having a broad-based *Framework* would provide flexibility and support overall preparedness for new and re-emerging infectious diseases.
- Side-bars with positive examples of where things are going could be included. It might also be useful to give examples of what would happen if public health investments were not made.
- Make it clear that the *Framework* is intended to expand beyond public health partners to include many groups and sectors.
- Emphasize CDC’s role in providing the evidence base for public health policies and programs, and identify areas where more scientific data is needed. Replace words like “promote” by explaining that CDC will provide the science base to advance policy interventions that CDC cannot implement on its own.

How can we make sure the *Framework* is forward looking?

- By emphasizing opportunities for infectious/chronic disease prevention
- By including more information on behavioral interventions and the social epidemiology of infectious diseases
- By showing how infectious disease activities will help strengthen other public health system and programs (e.g., those related to global health and emergency preparedness).

Comments on Priority #3: *Advance global initiatives to reduce infectious diseases and prevent international disease spread*

- More emphasis is needed on
 - understanding and preventing new and emerging zoonotic diseases
 - immigrant, refugee, and travelers’ health
- Conduct case studies or identify best practices of public health action (e.g., examples from PEPFAR)
- Strengthen relationships with global health partners in North America and find synergies among global health assets operated by the U.S. government and by other governments and organizations (“not just sharing space, but sharing science”)
- Make the language more action-oriented, while recognizing that CDC collaborates with other groups on many of these actions

Comments on Priority 4: Promote nationwide policies that enhance prevention and control of infectious diseases

- More emphasis is needed on
 - CDC’s role in establishing the evidence base for policy development. Consider developing a policy research agenda.
 - CDC’s role in working with regulatory agencies to provide the evidence base for resolving regulatory issues that impact public health.
 - The role of health agencies in implementing health policies at the state and local levels. If there is a policy vacuum at the national level, states may take actions without evidence or that are not helpful for public health.
 - The use of demonstration projects and comparative effectiveness studies

Comments on Priority #5: Advance domestic ID initiatives by implementing high-impact interventions

- A strong evidence base is key to implementing policy interventions that will have greatest public health impact. CDC might consider supporting an independent review to assess interventions and identify those that are high-impact and most effective.
- Include more emphasis on
 - CDC’s role in identifying opportunities to change social norms and behaviors related to infectious disease transmission.
 - Communications research on how to change behaviors and how to translate scientific findings into behavioral interventions. What can we learn from the attitudes of groups that reject immunization or other public health practices?
 - Risk communications
 - Partnerships with groups like the Substance Abuse and Mental Health Services Administration (SAMHSA) to reach affected populations
- Make sure that the “winnable battle” terminology is used in a way that is understandable outside of the public health community.
- The potential for elimination is a factor specific to infectious diseases. Would be good to mention campaigns to eliminate specific infectious diseases.
- The list of anticipated outcomes should be broken up and included within each priority area.

GROUP D

Group D focused primarily on Priorities #3, 4, and 5. Discussion topics and participant comments/suggestions included the following:

General Comments:

- Include additional partners, especially for disease surveillance activities (e.g., veterinarians)
- CDC could collaborate with partners to survey stakeholders to obtain broader input on the Framework (e.g., what they find useful and where they see gaps).

Comments on Priority #3: Advance global initiatives to reduce infectious diseases and prevent international disease spread

- CDC’s International Emerging Infectious Programs (IEIPs), now included as Global Disease Detection Regional Centers (<http://www.cdc.gov/globalhealth/gdder/gdd/regionalcenters.htm>), other CDC-supported laboratory networks, and PEPFAR country offices are valuable global assets.
- Much more could be done to rapidly decrease rates of diarrheal disease and pneumonia in developing countries. Some countries might benefit from technical support on the use of vaccines (e.g., “universal vaccine recommendations) and on evaluating impact when new vaccines are

introduced (e.g., via an ACIP-like group such as the WHO Strategic Advisory Group of Experts on Immunization; <http://www.who.int/immunization/sage/en/>), as well as from financial support from GAVI.

- The actions included in this section should be prioritized. They are comprehensive, with lofty anticipated outcomes, but without information on implementation. If this is not a strategic document, it should include implementation steps. If it is a strategy document, it should include characteristics and principles (e.g., cost-effectiveness) that can be used to prioritize actions.
- The document could help define the traditional versus the evolving global mission of CDC, e.g., what are CDC's unique roles in global health efforts?
- Efforts are needed to determine how CDC's many global activities can be better (and more strategically) coordinated and aligned with WHO activities
- More emphasis is needed on
 - Coordination and idea exchange with other organizations and agencies (including local and community-based groups in other nations)
 - Sustainable infrastructure building
 - Criteria for evaluating progress in achieving global health goals, recognizing the needs and priorities of other nations
 - Development of international surge capacity guidelines for controlling fast-moving epidemics
- Include examples of successful and sustainable programs (perhaps in an appendix).

Comments on Priority 4: Promote nationwide policies that enhance prevention and control of infectious diseases

- More emphasis is needed on
 - Partnerships to improve development and dissemination of public health messages to different audiences
 - Strategies for changing social norms
 - Health literacy and public health education in schools. Communications should be its own objective.
- While a strong science base is required to support public health policies, incentives drive changes in behaviors. Incentives to promote laboratory reporting are also essential.
- CDC's National Healthcare Safety Network (NHSN) is an effective tool in HAI reduction and in gathering data to drive policy change. In the future, NHSN might be expanded to cover other microbial threats and additional venues, working with a wider group of partners (e.g., commercial laboratories).
- Language that emphasizes partnerships should be used in describing activities where CDC input is needed but CDC is not the primary implementer. Use language that avoids the impression that policies are new, rather than evolving or being strengthened.
- More emphasis is needed on
 - Engaging third-party payers in public health campaigns
 - Chlamydia, HPV, and chronic conditions
 - Policies to reduce health disparities in underserved populations
 - Use of data sets from large healthcare organizations in disease surveillance
- Include examples of successful programs (as noted for Priority #3) and reference other plans and strategies

Comments on Priority #5: Advance domestic ID initiatives by implementing high-impact interventions

- More emphasis is needed on
 - Vulnerable populations and high-risk groups
 - Maintaining public health expertise and infrastructure for controlling vectorborne diseases
 - The public health roles of state and local laboratories

- The relationship between infectious diseases and chronic conditions
- CDC engagement with groups concerned with healthcare quality and safety (e.g., the National Committee for Quality Assurance and The Joint Commission)
- Maintaining broad-based CDC infectious disease capacities and expertise as a national resource as state funding for public health decreases

CONCLUDING REMARKS

In closing, Dr. Khabbaz thanked the BSC members for the rich discussion and feedback on the *Framework* document. The proposed date for the next BSC/OID meeting is May 18-19, 2011.

APPENDIX

Meeting Participants

BSC Members

Carol Baker
Gail Bolan
Franklin Cockerill, III
Rainer Engelhardt
Michael Fleenor
Bruce Gellin
John Gittleman
Jesse Goodman
Larry Granger
James Hadler
Carole Heilman
Duane Hospenthal
Samuel Katz
Marcelle Layton
Stephen Ostroff
Elissa Passiment
Julio Sotelo
Ronald Stall
Robert Weinstein
Richard Whitley
Mary Wilson (on the phone)

Partners and Public Visitors

Anita Barry
Joanne Bartkus
Anna Buchanan
Rosemary Humes
Lilly Kan
Tracy Ann Lieu
Sarah Long
Ruth Lynfield
Pat McConnon
Leslie McGorman
Christy Phillips
Susan Rehm
Mathuram Santosham

Recorder

Amy Johnson, Cambridge Communications

CDC Staff

Elise Beltrami
Carolyn Black
Doug Browne
Evelyn Cater
Joanne Cono
Karen Deasy
Kim Distel
John Douglas
Teresa Durden
Kevin Fenton
Amy Feuss
Tom Gomez
Tom Hearn

Rita Helfand
Shoranda Ifill
Sharon Katz
Charlotte Kent
Rima Khabbaz
Alexandra Levitt
Tonya Martin
Alison Mawle
Marian McDonald
Wilton Menchion
Eric Mintz
Steve Monroe
Gina Mootrey

Robin Moseley
Jan Nicholson
Ted Pestorius
Bob Pinner
Kristin Pope
Steve Redd
Cheri Rice
Chesley Richards
John Ridderhof
Anne Schuchat
Melinda Wharton
Sarah Wiley

I hereby certify that to the best of my knowledge, the foregoing minutes of the proceedings of the meeting of the Board of Scientific Counselors, Office of Infectious Diseases, on December 6, 2010, are accurate and complete.

/S/

Robin Moseley, M.A.T.
Designated Federal Officer, BSC, OID

2/24/15

Date