

**2009 Meeting  
Geneva, 7-11 December 2009**

**Meeting of Experts  
Geneva, 24-28 August 2009**

Item 5 of the provisional agenda

**Consideration of, with a view to enhancing international  
cooperation, assistance and exchange in biological  
sciences and technology for peaceful purposes, promoting  
capacity building in the fields of disease surveillance,  
detection, diagnosis, and containment of infectious diseases**

## **UNITED STATES GOVERNMENT EFFORTS TO SUPPORT GLOBAL CAPACITY FOR DISEASE SURVEILLANCE AND RESPONSE**

Submitted by the United States of America

### **I. Overview**

1. The United States recognizes that it is essential for the world community to be able to rapidly detect, respond to and contain infectious disease or other public health events of international concern that occur anywhere in the world. The rapid detection and containment of biological threats, whether of natural, accidental, or intentional origin, is crucial both for the health of populations as well as the security interests of states. Since rapid detection and reporting of events is vital to mounting an effective response, to containing the spread of disease, and to limiting morbidity and mortality, a weakness in the surveillance system for infectious disease events in any one country is potentially a risk to all countries.

2. The United States is committed to supporting a coordinated and connected system to detect and respond to the disease threat. This commitment is demonstrated through our support of the World Health Organization (WHO) International Health Regulations (IHR (2005)), and our belief that building core capacity for surveillance, detection, reporting, and response around the world helps all populations. This not only enables a coordinated global response to public health emergencies of international concern (whether natural or intentional), but also strengthens every nation's ability to provide basic public health functions for its people. The focus of the Biological and Toxin Weapons Convention (BWC) Meeting of Experts this year provides an important opportunity to discuss different approaches for strengthening disease surveillance

capacity, the types of assistance that are required for reaching core capacity (as defined by the IHR (2005)), and the global resources that currently exist to accomplish these goals.

3. The U.S. Government, through our departments and agencies, is actively engaged in assisting countries around the world with improving capacity for disease surveillance, detection, reporting, and containment of public health emergencies. These efforts assist our partner countries to improve health outcomes for their populations. They also further the mission of the BWC's Article X, through our emphasis on providing assistance and transferring technology to nations in need. In the following section, we discuss some of the larger projects that address surveillance, detection, and response, and provide specific examples of programs supported by the U.S. Government. This is by no means a comprehensive list, but is intended to provide a broad picture of our activities.

## **II. Examples of U.S. Government Global Assistance in support of Disease Surveillance, Detection, and Response**

### Surveillance and Detection

4. The U.S. Government has multiple agencies involved in promoting and assisting strong surveillance and detection capabilities around the world. We accomplish this by providing training programs for epidemiologists, establishing data collection systems, building and enhancing laboratory analysis capacity, promoting life science research and development of detection tools, and enhancing communication networks for reporting.

5. Led by the Centers for Disease Control and Prevention (CDC) of the Department of Health and Human Services, the U.S. supports surveillance and training programs in coordination with Ministries of Health around the world, to develop a highly skilled global workforce capable of epidemiologic surveillance and investigation, and laboratory analysis. The CDC's Global Disease Detection Program is actively engaged in developing and strengthening global disease surveillance capacity. The program is designed to serve all of the World Health Organization regions, with centers in China, Egypt, Guatemala, Kazakhstan, Kenya, and Thailand. These centers serve as regional resources to assist host countries and neighboring nations in detecting and confirming the pathogens involved in disease outbreaks. Since 2006, these centers have transferred the technology to allow for local diagnostic confirmation for more than 78 pathogens previously not detectable in the host countries, and have discovered 37 pathogens that were either new to the region or to the world.

6. A key component of the Global Disease Detection Program is training. Through the Field Epidemiology Training Program component more than 175 global health leaders have been trained through an in-depth two-year program, and more than 24,000 participants around the world have been trained in epidemiologic methods through workshops and exercises. The U.S. Department of Agriculture (USDA) is also working to develop workforce expertise. For scientists in the agricultural sector, USDA-sponsored training has addressed general topics of laboratory capacity to conduct infectious disease surveillance, diagnostics, and control (focused in South Asia, Southeast Asia, and North Africa), disease specific training at regional sites (e.g., South America, the Caribbean and Central America) as well as bringing veterinarians to the U.S. for foreign animal disease training.

7. The CDC and the Federal Bureau of Investigation (FBI) continue to develop and enhance international initiatives to promote capabilities for identifying, assessing, and investigating potential biological events arising from intentional threats to public health. The initiative, known as Joint Criminal and Epidemiological Investigations, promotes workshops and joint training between law enforcement/security agencies and public health to share information, assess potential bioterrorism threats, and investigate/prevent the intentional use or spread of disease. Under this program, the FBI and CDC have worked closely with international partners in the G8 and the Asian Regional Forum to conduct regional workshops, as well as bilateral efforts in key nations. In addition, FBI and CDC continue to support INTERPOL's Bioterrorism Prevention Program in efforts to train law enforcement and public health investigators in biological threat identification and response.

8. The Department of Defense, through the Biological Threat Reduction Program (BTRP), has worked to establish integrated systems of disease surveillance and response. The BTRP has concentrated on supporting activities in the former Soviet Union, integrating efforts to provide partner countries with disease detection, diagnosis, and reporting capabilities that allow these nations to determine whether an outbreak is of threatening origin. BTRP activities further assist host nations in the effort to characterize the extent of the outbreak and respond appropriately. BTRP is also expanding a common global infrastructure for the surveillance and reporting of disease outbreaks and epidemiology with the Electronic Integrated Disease Surveillance System (EIDSS). BTRP efforts have been expanded to other parts of the world, with priority assistance being provided to countries in South Asia and Southeast Asia, the Middle East, and North Africa.

9. Also part of the Department of Defense is the Global Emerging Infections Surveillance and Response System (GEIS), which promotes and facilitates preparedness for emerging infections, through data collection and analysis, strengthening laboratory capacity, supporting basic research, and providing field epidemiology and laboratory services around the world. In 2008, the GEIS program conducted surveillance and response activities with 39 partners in 111 countries and improved laboratory infrastructure at 52 sites in 29 countries.

10. Many U.S. agencies (State, Defense, Energy, Agriculture, Environmental Protection, CDC, National Institutes of Health, and the Department of Health and Human Services) work closely with the International Science and Technology Center (ISTC) and the Science and Technology Center Ukraine (STCU) Programs in Russia and Ukraine to provide collaborative basic research on animal diseases, vaccine development, and infectious disease monitoring throughout the countries of the former Soviet Union. For example, joint research is being funded by the Department of Energy's Global Initiatives for Proliferation Prevention program in Russia, Kazakhstan and Ukraine to improve diagnostic tests for economically important transboundary animal diseases. New tests for Foot and Mouth Disease, Rinderpest, Brucellosis, Newcastle Disease, Aujeszky's Disease and Avian Influenza (H5N1) have been validated and are being deployed. Tests for other animal pathogens are undergoing validation against field and culture collection strains.

11. Yet another effort to enhance disease surveillance global capacity is the Department of State's Bio-security Engagement Program (BEP), which works with scientists in Eurasia, Southeast Asia, South Asia, the Middle East, North Africa and Latin America. Examples of BEP efforts include providing support to mobile high-containment laboratories in Africa and

developing infectious disease surveillance capacity through regional networks in Southeast Asia such as The International Group for Epidemiology and Response (TIGER). BEP has also facilitated avian influenza strain sharing between Russian and WHO collaborating laboratories, and supported the U.S.-Mexico border surveillance program that helped identify the novel 2009 influenza A (H1N1).

12. U.S. participation in the global effort to confront Avian Influenza and Pandemic Influenza (AI/PI) has been coordinated by the State Department's Avian Influenza Action Group. This has included a broad range of activities, from training, provision of laboratory and field equipment and personnel, assistance in strengthening international organizations (IOs) and individual governments to assist planning and response to pandemic threats and to prepare for/respond to Avian and, later, novel H1N1 influenza viruses. The U.S. is the largest overall donor for international AI/PI assistance, with a cumulative pledge of \$949 million as of the last international pledging conference in October 2008. The cumulative U.S. Government pledge accounts for almost 31 percent of the overall international donor pledges of \$3.07 billion. So far the U.S. government has provided over \$16 million in international assistance to address the novel H1N1 outbreak.

13. The U.S. supports basic research around the world to facilitate the development of regional expertise, better diagnostics, treatments, and identification of novel pathogenic strains. The National Institutes of Allergy and Infectious Diseases (NIAID) at the National Institutes of Health support research on influenza throughout Southeast Asia, and provide funding for collaborations between U.S. scientific institutions and international researchers. The Department of Defense Naval Medical Research Units (NAMRU) provide technical assistance and host capacity-building activities, supporting research on numerous pathogens, such as influenza, tuberculosis, dengue, malaria, and chikungunya. Overall, the United States has enabled new pathogen discovery around the world, including 34 new pathogens discovered through the Global Disease Detection Program, with 5 discovered by NAMRU in the past year.

14. In addition to supporting the development and strengthening of core capacity for international disease surveillance and detection, the U.S. is heavily engaged in containment and mitigation of disease threats once they have emerged. The CDC's Global Disease Detection Program (GDD) has responded to more than 430 disease outbreaks and other health events since 2006. Personnel from the CDC and other U.S. agencies are also active participants in WHO's Global Outbreak and Alert Response Network (GOARN), working globally to detect, respond to, and mitigate the consequences of public health events. The U.S. contributes to global stockpiles of medical countermeasures and has provided bilateral assistance of antiviral agents, as well as personal protective equipment and other medical supplies that enable nations to respond to emerging threats in a safe and efficient manner.

### **III. Partnerships**

15. This paper includes specific examples of U.S. efforts to support disease surveillance, detection and containment around the world, but we emphasize that our commitment to enhancing global capacity for this important task is greater than these few examples. We work closely with partner countries, international organizations, private sector companies and non-profit civil society groups to address this mission. Our commitment is based on the belief that every nation must be able to detect and respond to public health threats, regardless of origin,

either independently or with the global community's assistance. The world is interconnected and public health threats do not respect borders. Therefore it is the international community's obligation to assist when it is able, by developing core capacity for surveillance and response. The United States sees IHR (2005) as the mechanism for global cooperation and collaboration in this arena and will continue to use the IHR (2005) as the guiding framework for our endeavors in assisting the global community with enhancing surveillance and response capacity. We will continue to work towards these goals, as well as the goals articulated by President Obama in support of the United States' global health initiative, to strengthen health systems around the world. These actions benefit all populations, and work to enhance our collective security.

16. For more information about specific U.S. programs, please see the following websites:

- (i) Statement by President Obama on the Global Health Initiative:  
[http://www.whitehouse.gov/the\\_press\\_office/Statement-by-the-President-on-Global-Health-Initiative/](http://www.whitehouse.gov/the_press_office/Statement-by-the-President-on-Global-Health-Initiative/)
  - (ii) Biosecurity Engagement Program: <http://www.bepstate.net>
  - (iii) CDC, Global Disease Detection Program: <http://www.cdc.gov/cogh/gdd.htm>
  - (iv) CDC, Division of Global Public Health Capacity Development:  
<http://www.cdc.gov/cogh/dgphcd/>
  - (v) U.S. Department of Agriculture:  
[http://www.aphis.usda.gov/international\\_safeguarding/index.shtml](http://www.aphis.usda.gov/international_safeguarding/index.shtml)
  - (vi) Biological Threat Reduction Program:  
<http://www.dtra.mil/oe/ctr/programs/index.cfm>
  - (vii) Global Emerging Infections Program: <http://www.geis.fhp.osd.mil/>
  - (viii) U.S. Agency for International Development:  
[http://www.usaid.gov/our\\_work/global\\_health/](http://www.usaid.gov/our_work/global_health/)
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