



12-14 June 2012 • Denver, Colorado

EXECUTIVE SUMMARY

One Health: Environmental Health Considerations for Global Emerging Infections Conference

In June 2012, the United States Northern Command (USNORTHCOM), with support from the Armed Forces Health Surveillance Center (AFHSC) and the Center for Disaster and Humanitarian Assistance Medicine (CDHAM) sponsored a conference on the concept of “One Health,” and the inter-relationship between human health, animal health, and the environment. This conference was a continuation of last year’s event, with a particular focus on the environmental health impacts on infectious diseases.

Specific objectives of the conference were:

- Enhance awareness on how environmental factors contribute to emerging or reemerging infectious diseases.
- Educate participants on environmental health aspects during emergency and contingency responses.
- Improve understanding of current and developing environmental hazard detection technologies.
- Present current trends in preventative measures.
- Build upon previous years’ partnering capabilities.

The conference was attended by approximately 90 individuals from the Mexico, Canada, and the United States. Organizations in attendance included Mexico’s secretariat of agriculture (Secretaria de Agricultura, Ganaderia, Desarrolla Rural, Pesca y alimentación (SAGARPA)), Mexican Navy (Secretaria de Marina (SEMAR)), Canadian Military Forces, Canadian Food Inspection Agency, US Department of Health and Human Services – Assistant Secretary of Preparedness and Response, US Southern Command, Defense Threat Reduction Agency, US Department of Agriculture Animal and Plant Health Inspection Service, Johns Hopkins University Applied Physics Laboratory, University of Florida, University of North Carolina at Charlotte, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Western University of Health Sciences, Joint Program Executive Office for Chemical and Biological Defense, Armed Forces Pest Management Board, Naval Medical Center San Diego, U.S. Department of Interior, U.S. Geological Survey National Research Program, Walter Reed Army Institute of Research, University of Maryland School of Nursing, and the US National Aeronautics and Space Administration.

CAPT David Shiveley, US Northern Command Surgeon, opened the conference with a presentation on how to approach diseases from the perspective of One Health by looking at the real-life example of dengue; he highlighted how the infectious disease spans human, environmental, and animal health aspects and requires a One Health approach in surveillance, community education and treatment.



Dr. Michael Walter, Office of Health Affairs, U.S. Department of Homeland Security (DHS), gave the keynote speech titled, “Biosurveillance to Strengthen Global Health Security: Taking a One Health Approach.” In his keynote address, Dr. Walter gave a brief overview of the DHS’ BioWatch program, of which he is the lead program manager. Dr. Walter discussed some of the strengths and challenges of the BioWatch program, an air filtration program set up for detection of pathogens released as part of potential bio-terrorist events. The program has been implemented not only in many major US cities, but also at major sporting events and social gatherings. Dr. Walter discussed challenges in ongoing response and recovery and the ways that BioWatch can potentially contribute to information that is already collected through routine animal and health surveillance initiatives in the United States.

The remainder of the conference was divided into half day themes: environmental factors contributing to emerging and infectious diseases; environmental factors in disease vectors, food security, and water security; emerging & cross-border pandemic influenza/infectious disease threats of US-Canada-Mexico; current and emerging detection capabilities; and, finally force health protection and emergency response. The quality of information exchanged during these sessions and the overall enthusiasm of all the presenters towards a One Health approach was very encouraging. Each of the sessions was followed by a panel discussion, which resulted in fruitful discussion between engaged participants and subject matter experts on the panels.

Some highlights of the conference included an interesting presentation on impacts of weather on disease vectors and a project titled “VectorMap,” which geospatially and temporally models distributions of disease-causing vectors. Another presentation on “economically motivated adulteration” or “food fraud” also highlighted the importance of food protection and security in the One Health approach. Two presentations on the North American Plan for Animal and Pandemic Influenza, from both the US and Canadian perspectives, highlighted the importance of interagency and international collaboration when battling infectious diseases that can easily cross borders of North American countries. Finally, a presentation on the latest advances in protecting US troops from vector-borne disease provided participants with an entomologist’s perspective of Force Health Protection. The presentation also provided experts in the humanitarian assistance field with the latest advances in military prevention measures.

The conference ended with a charge for participants to take the One Health approach with them to their home stations in order to better integrate the various agencies within North American and across international borders on human, animal and environmental health issues. The US Northern Command was able to cement productive relationships garnered at last year’s event with several international partners. Partners were able to update conference participants on successes and challenges to the One Health approach within their agencies over the past year. Future engagements will continue with the One Health concept, which is still in its infancy, but is gaining attention from policy and decision makers who increasingly understand the need for cross-agency and cross-discipline collaboration on infectious disease control.