

ONE HEALTH:

Improving Health in an Interconnected World *People-Animals-Environment*

EXECUTIVE SUMMARY OF THE *ONE HEALTH COMMISSION* SUMMIT

On Tuesday, November 17, 2009, the *One Health Commission* in partnership with the National Academies co-hosted a groundbreaking summit convening leading health science experts and policy makers across the human, animal, and ecosystem disciplines. The *One Health Commission* Summit raised awareness of the importance of transcending institutional and disciplinary boundaries to improve the health of people, animals, and the environment.

Speakers called for integrated solutions and collaborative leadership to address the significant challenges of a changing environment.

The One Health Commission Summit was dedicated to the late **Dr. Ronald M. Davis**, who worked to enhance collaboration between the human and veterinary medical professions as president of the American Medical Association. According to **Dr. Roger Mahr**, Chief Executive Officer of the *One Health Commission*, "It is most fitting today that we acknowledge the visionary leadership and collaborative spirit of Ronald M. Davis, M.D." Dr. Davis' leadership helped pave the way for the establishment of the One Health Initiative Task Force, the precursor to the newly formed One Health Commission.

The event commenced with an announcement from **Clyde Behney**, Deputy Executive Officer of the *Institute of Medicine*, who revealed the intent of the Institute of Medicine and National Research Council to conduct a study that will help shape the *One Health* vision at the national and international level.

"I'm very pleased to announce today that we have approval from our governing board...to begin working with the Commission to frame a major study on the next steps forward -- a roadmap to getting where we need to get in the area of *One Health*," said Mr. Behney.

A series of keynote addresses was delivered by senior officials at the *U.S. Department of Agriculture*, *College of Veterinary Medicine at The Ohio State University*, *Centers for Disease Control and Prevention*, *Food and Drug Administration*, and *Minnesota Department of Natural Resources*. These speakers called for integrated solutions and collaborative leadership to address the significant challenges of a changing environment populated by interconnected animal, human and ecosystem interactions.

"As we combat global pandemics, such as H1N1 influenza, it is imperative that health science professions, academia, government agencies, and non-governmental organizations act in unison across the human, animal and ecosystem sciences," said **Doug O'Brien**, Senior Advisor to the Secretary of the *U.S. Department of Agriculture*.

Following the keynote addresses, a panel of experts began a dialogue on the *One Health* approach and answered questions from audience members.

The *One Health Commission* Summit set the stage for the work of the *One Health Commission*, which was created to establish closer professional collaborations and educational opportunities across the health science professions and their related disciplines.



INSTITUTE OF MEDICINE ANNOUNCES STUDY ON *ONE HEALTH*

The Institute of Medicine study, announced at the *One Health Commission* Summit, will examine the interdependencies of human, animal, and ecosystem health, and assess the potential value to be gained through a collaborative approach towards improved health worldwide.

According to Clyde Behney, Deputy Executive Officer of the Institute of Medicine, "*One Health* is emerging as an important element of global health. The National Academies are committed to global health and providing a unique type of convening and advisory capacity for our nation. We hope to see that furthered with the consensus study."

The results of the study will be utilized to develop a strategic roadmap for public and private policies and initiatives that will be instrumental in shaping the implementation of the *One Health* vision.

Dr. Roger Mahr, Chief Executive Officer of the *One Health Commission*, indicated, "The Institute of Medicine study will afford the opportunity to develop an evidence-based rationale for *One Health*, and offer recommendations to guide the implementation of *One Health*, both domestically and internationally."

The Institute of Medicine study is scheduled to launch in early 2010, pending the acquirement of sufficient funding.



EXPERTS SHARE UNIQUE PERSPECTIVES ON *ONE HEALTH*



Doug O'Brien, Senior Advisor to the Secretary of the *U.S. Department of Agriculture (USDA)*, delivered the first keynote address, calling for an interdisciplinary approach to the studies of human, animal and ecosystem health. Mr. O'Brien discussed one of the USDA's highest priorities – monitoring the spread of the H1N1 influenza virus and H5N1 avian influenza globally. "These viruses highlight the fact that animals and people are linked," said Mr. O'Brien.

"USDA and the veterinary community have a rich history of applying veterinary principles to protect human health. Our approach has been broad and recognizes the importance of controlling certain human diseases at their source, which is sometimes in animals," he said.

To that end, the USDA has created a *One Health* Joint Working Group to address the increasing convergence of animals, humans and the environment. Mr. O'Brien encouraged members of the audience to create their own similar forums to encourage further collaboration and integrated leadership across the health sciences.

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Dr. Lonnie King, Dean of the *College of Veterinary Medicine at The Ohio State University*, provided an overview of the current state of *One Health* with a presentation titled, “*One Health: A New Paradigm To Address Today’s Triple Threat To Health.*” Dr. King identified three emerging issues leading to *One Health* challenges: a changing environment, vulnerable humans and carrier animals. “In the center when they come together is the creation of new infectious diseases, the perfect microbial storm,” he said.

To address this threat, Dr. King called for *One Health*, which he characterized as the “shift to intervention and prevention from surveillance,” in which challenges are “faced collectively, and not in individual silos and disciplines.” Dr. King outlined his recommendations to implement the *One Health* vision, including the improvement of infrastructures, integration of surveillance strategies and diagnostics, increased investment in research and development, greater focus on prevention and improved workforce training.



Rear Admiral Ali Khan, Acting Director of

The National Center for Zoonotic, Vector-Borne, and Enteric Diseases at the Centers for Disease Control and Prevention, spoke on the topic of “*One Health in Action.*”

Rear Admiral Khan reported that as of November 8, 2009, the World Health Organization reported over 503,000 confirmed cases of H1N1 and at least 6,260 deaths from the influenza. He identified key factors in the influenza’s emergence, including microbial adaptation, changing ecosystems, international travel and commerce, and human susceptibility to infection. Dr. Khan underscored the importance of “recognizing and addressing disease emergence at the interface of animals, humans and environmental health.”

He also called for “looking beyond humans to expand opportunities for disease detection, control and prevention.”

To that end, Dr. Khan outlined five key steps for success:

1. **Leadership:** create a global initiative for targeted *One Health* activities
2. **Investment:** develop a worldwide surveillance and response system
3. **Integration:** develop diagnostic platforms for use in humans, animals and the environment
4. **Research:** create new tools to identify pathogens and approaches for integrating information systems
5. **Respectful Partnerships:** secure partnerships across sectors in the U.S. and abroad

Dr. Joshua Sharfstein, Principal Deputy Commissioner of the *Food and Drug Administration*, stated there are tremendous overlays between human, animal and environmental health. To illustrate this point, Dr. Sharfstein discussed the interconnectedness of the food supply among humans and animals. He said, “There is one food supply, be that animal food or human food. It’s hard to imagine safeguarding one without the other.”

He cited as evidence the recent cases of melamine contamination and the spinach outbreak, which impacted both humans and animals through the food supply. Based on these examples, Dr. Sharfstein concluded, “It’s impossible to consider animal and human health separately.” He closed with a call for a *One Health* approach through greater collaboration across fields.



David Schad, Director of the *Division of Fish and Wildlife at the Minnesota Department of Natural Resources*, concluded the morning keynote session with a discussion of emerging *One Health* issues impacting wildlife. Mr. Schad addressed the current situation in Michigan, where bovine tuberculosis has migrated between the deer and cattle populations. Through active surveillance programs, the Department of Natural Resources was able to stop the transmission of tuberculosis from deer to humans. However, this effort costs Michigan an estimated \$25 million dollars per year.

Mr. Schad also highlighted several instances in which diseases once undetected, like hemorrhagic disease in the Northern U.S. and blue tongue disease in Europe, have expanded to new regions and now occur with alarming frequency. According to Mr. Schad, “We can’t predict the impact that some of these emerging diseases will have on our ecosystem. An emerging disease that seems to only impact wildlife could have wide-ranging effects on the environment.”

150 leaders and professionals in the fields of science and medicine were present for the One Health Commission Summit.

PANEL OF EXPERTS INITIATES DIALOGUE ON *ONE HEALTH*

Moderated by **Dr. Albert Osbahr III**, a panel of experts shared their diverse perspectives on human, animal and environmental health, and then engaged the audience in a dialogue on *One Health*. The panel was comprised of:

Dr. Allen Dearry, Director of the *Office of Environmental Public Health* and Associate Director of the *National Institute of Environmental Health Sciences*, who presented the “NIEHS Perspective on *One Health*”

Dr. Marguerite Pappaioanou, Executive Director of the *Association of American Veterinary Medical Colleges*, who discussed “Achieving an Effective *One Health* Workforce: Challenges and Opportunities”

Dr. Karen Becker, Senior Veterinary Public Health Advisor for *USAID, Africa Bureau*, who discussed “*One Health* Action in Africa: Improving Animal Health Systems for Public Health, Food Security and Economic Development”

Angela Kreps, President of the *Kansas Bioscience Organization*, who addressed “How Kansas and the Kansas City Region Are Working Together in Human, Animal and Plant Science Innovation”



Rear Admiral Ali Khan, Acting Director of the *National Center for Zoonotic, Vector-Borne, and Enteric Diseases at the CDC*

Dr. Elizabeth Lautner, Director of the *National Veterinary Services Laboratories at the USDA*

ABOUT *ONE HEALTH* COMMISSION



One Health Commission represents a call for collaboration and leadership across multiple disciplines and institutions at the local, national and global level to achieve optimal health for people, domestic animals, wildlife and the environment. The Commission incorporated as a nonprofit organization on June 29, 2009. Initial funding for the creation of the *One Health Commission* includes a grant provided by The Rockefeller Foundation.

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