STATEMENT OF SENATOR JON KYL
CHAIRMAN
SENATE SUBCOMMITTEE ON TERRORISM, TECHNOLOGY, AND HOMELAND SECURITY
SENATE JUDICIARY COMMITTEE

"RAPID BIO-TERRORISM DETECTION AND MANAGEMENT"

11 MAY 2004

Overview

Earlier this year, the Subcommittee on Terrorism, Technology, and Homeland Security examined ways to protect the nation from cyber attacks and from attacks against our seaports. Today, we will examine a new method that would improve our ability to detect and respond to a bio-terrorist attack.

In recent days, the media has noted the "ever-evolving threat of bioterrorism" and "the catastrophic consequences of a successful large-scale bioterror attack."[1] And earlier this year, President Bush said, "Armed with a single vial of a biological agent . . . small groups of fanatics, or failing states, could gain the power to threaten great nations, threaten the world peace. America, and the entire civilized world, will face this threat for decades to come. We must confront the danger with open eyes, and unbending purpose."[2]

One promising way to confront this danger is a medically based bio-attack detection and warning system, which could detect and monitor infections from biological attacks and quickly communicate the results across the country.

Background & Project Zebra

Health providers often cannot quickly distinguish between infection caused by a bio-terrorist attack and infection caused by routine causes. They must rely on a series of sequential, inefficient actions that delay a prompt response. In a bio-terrorist attack, delayed diagnosis allows contagion to spread. Healthcare providers need a way to determine immediately whether a person has been exposed to a bio-terrorist agent or a naturally occurring infection. Project Zebra is a solution.

Project Zebra was developed by a consortium of some of the country's leading scientists and industrial entities to establish a diagnostic test to enable medical personnel

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[1] *Offensive against Bioterrorism*, WASH. TIMES, April 30, 2004, at A22.
[2] President George W. Bush, February 11, 2004, quoted in *Biodefense for the 21st Century*, at 1.

distinguish between infections caused by bio-threat agents from those routinely found in patients. I should note that it is called Project Zebra because physicians in training are traditionally taught that the most common diseases occur most commonly — that "When you hear hoof beats, think of horses, not zebras." The dilemma in bio-defense is, of course, how to detect "the Zebra" — the rare bio-weapons pathogen amidst the medically common germs that cause most infectious diseases.

Project Zebra would improve the ability to detect and respond to bio-terrorist attacks. Early detection would mean faster diagnosis — and faster diagnosis would (1) save lives, (2) optimize the treatment selection, and (3) enable the rapid triage of at-risk populations, which would reassure the worried, thereby reducing the risk of public panic.

Witnesses

The subcommittee will hear from four experts.

Dr. Paul Keim

Dr. Paul Keim is the Director of Pathogen Genomics at TGen and the Cowden Endowed Chair in Microbiology at Northern Arizona University. He has been recognized as one of our top microbiological researchers with his election to the American Academy of Microbiology. During the 2001 anthrax letter attacks, Dr. Keim served the country by diverting his laboratory and personal efforts to the DNA analysis of the anthrax strain from the letters, and his work resulted in one of the most tangible forensic leads in the Amerithrax investigation. Dr. Keim's laboratory has a database of 450 unique types of anthrax, based on the world's largest collection of anthrax strains that exist anywhere in the world.

Dr. Harvey Meislin

Dr. Harvey Meislin is the head of the University of Arizona Department of Emergency Medicine, and is a professor at the University of Arizona College of Medicine. He is the President of the American Board of Medical Specialties. Dr. Meislin received his bachelor of science degree in chemistry from Purdue University, and his medical degree from Indiana University.

Dr. David Relman

Dr. David Relman is the Associate Professor of Medicine and of Microbiology & Immunology at Stanford University School of Medicine; and Chief of Infectious Diseases at the Veterans Affairs Palo Alto Health Care System, Palo Alto, California. He has published over 140 peer-reviewed articles, reviews, editorials and book chapters on

pathogen discovery and bacterial pathogenesis. He received the Senior Scholar Award in Global Infectious Diseases from the Ellison Medical Foundation in 2002, and the Squibb Award from the Infectious Diseases Society of America in 2001. Dr. Relman received his bachelor of science degree in biology from the Massachusetts Institute of Technology, and his medical degree from Harvard Medical School.

Dr. Jeffrey Trent

Dr. Jeffrey Trent is President and Scientific Director of the recently formed Translational Genomics Research Institute (TGen) in Phoenix, Arizona. He was formerly the Scientific Director of the National Human Genome Research Institute (NHGRI) at the National Institutes of Health (NIH), and also served as Chief of its Cancer Genetics Branch. Dr. Trent has received his undergraduate degree from Indiana University, and received his masters of science and Ph.D. degrees in genetics from the University of Arizona.

Conclusion

We have a distinguished panel of witnesses before us today. I am interested in examining with them how to make the nation safer through a medically based bio-attack detection and warning system, which could detect and monitor infections from biological attacks and quickly communicate the results across the country. Rather than attempting, at great cost, to set up sensors across the nation, which many believe would not be feasible, Project Zebra would quickly determine whether symptoms of patients presenting themselves to emergency rooms were the result of normal diseases or from biological agents.

The Secretary of Homeland Security, Tom Ridge, recently said that the "potential catastrophic consequences that the use of a biological weapon could have on our country obviously makes it a critical vital area of . . . homeland security concerns."[3] And the Deputy Secretary of Defense recently said:

> [T]he American people must appreciate the magnitude of the danger that we face from possible biological terrorism. The threat is real. It is deadly serious. As horrible as it was to have thousands of innocent Americans killed on our own territory on that tragic day, that is nothing compared to what terrorists could do with the biological weapons that we know they have been actively seeking. In many ways, biological weapons may be ideally suited for the methods and purposes

[3] Tom Ridge, April 28, 2004, at http://www.defenselink.mil/transcripts/2004/tr20040428-depsecdef1383.html.

> of terrorists. A mass attack with anthrax or some other biological agents could bring about civilian casualties and catastrophic damage to our economy on a scale far beyond even that which we experienced on September 11th, as devastating as that was.[4]

These comments are chilling — but they drastically point to the need for technology, such as the one being developed by Project Zebra, that will help the nation detect and respond to a bio-terrorist attack.

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[4] Paul Wolfowitz, April 28, 2004, at http://www.defenselink.mil/transcripts/2004/tr20040428-depsecdef1383.html.