COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
U.S. HOUSE OF REPRESENTATIVES

HEARING CHARTER

Biobanking: How the Lack of a Coherent Policy Allowed the Veterans Administration to Destroy an Irreplaceable Collection of Legionella Samples

Tuesday, September 9, 2008
10:00 a.m. to 2:00 p.m.
2318 Rayburn House Office Building

Purpose

On December 4, 2006, a set of biological materials that was a primary support for work on *legionella*, the bacterium causing Legionnaire's Disease, was destroyed at the Veterans Administration (VA) Medical Center in Pittsburgh, Pennsylvania. This occurred even as the process to transfer the collection to a University of Pittsburgh laboratory for further use in research was underway. It was also the last act of an acrimonious process that had seen the closure of its host, the Special Pathogens Laboratory (SPL), some four months earlier. The closure of this lab puts all hospital patients, especially the elderly, severely sick children--all those with compromised immune systems--at greater risk because this was one of the top hospital infection laboratories in the nation.

The purpose of this hearing is to make public the findings of a Subcommittee investigation of this case. The Subcommittee's findings highlight the need for improved policies on biospecimen management.

Witnesses

Panel 1

Dr. Victor Yu, *Professor of Medicine, University of Pittsburgh*
Dr. Janet Stout, *Director, Special Pathogens Laboratory*

The collection of materials destroyed at Pittsburgh was the work of Doctors Yu and Stout, who have, during the last three decades, become world-recognized experts in identifying Legionnaire's Disease. Dr. Stout is widely recognized for her work in developing methods to keep *legionella* out of water supplies at hospitals and nursing homes. Dr. Yu has an international reputation for his work on infectious diseases in hospitals, of which Legionnaires' Disease is a common type. Dr. Stout had a meeting scheduled the morning after the destruction of the collection (December 5, 2006) to remove personal identifying data from the specimens, a necessary step prior in the transfer process.

Dr. David Snydman, *Chief, Division of Geographic Medicine and Infectious Diseases, and Attending Physician in Infectious Diseases, Department of Medicine, Tufts Medical Center*

Dr. Snydman has collaborated with Dr. Yu on infectious disease research, and will provide an expert perspective on the value of the lost materials. He was also instrumental in bringing the loss of the collection to the attention of the scientific community, and calling for an independent review of the actions by administrators at the Veterans Administration Pittsburgh Healthcare System (VAPHS).

Panel 2

Dr. Jim Vaught, *Deputy Director, Office of Biorepositories and Biospecimen Research, National Cancer Institute (NCI)*

Dr. Vaught has been directly involved in the development of biospecimen management policies in his position at the NCI, helping to develop the "best practices" guide published by the Institute in June 2007. He was assigned to the task force that assisted in a review and update of National Institutes of Health (NIH) policies in 2006. He has also been participating as an NIH representative on an Office of Science and Technology Policy working group on scientific collections that is finishing a draft report on the state of all federal scientific collections.

Dr. Janet K. A. Nicholson, *Senior Advisor for Laboratory Science, Coordinating Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC)*

CDC is a federal agency that faces questions of biospecimen management constantly, as the collection of those materials is critical to the identification of disease. Dr. Nicholson will testify on her agency's methods for dealing with the issues raised by the collection and proper management of biospecimens. She will also discuss the policies governing operations at the CDC's major central repository, CASPIR.

Panel 3

Michael Moreland, *Director, Veterans Integrated Services Network 4, Department of Veterans Affairs*

At the time the collection was destroyed, Mr. Moreland was the Director of the VAPHS (he was in the process of being promoted to lead the VA's regional office). Mr. Moreland oversaw the decision to close the SPL and instituted a Board of Investigation to examine allegations of financial impropriety against Dr. Yu. He is alleged, though there is no written record, to have personally ordered the destruction of the collection.

Dr. Mona Melhem, *Associate Chief of Staff and Vice President, VAPHS Clinical Support Service Line*

Dr. Melham supervises the clinical activities at the Pittsburgh VA Healthcare System, which include the Clinical Microbiology Laboratory at the hospital. It was Dr. Melhem's

direct order that led to the abrupt destruction of the collection at the Special Pathogens Laboratory on December 4, 2006.

Dr. Ali Sonel, *VAPHS Associate Chief of Staff (Research)*

In his position, Dr. Sonel is responsible for the management and conduct of research by staff at VAPHS. Dr. Sonel assumed the position on September 1, 2006, soon after the SPL was closed. He was overseeing efforts to assist Dr. Stout to move the collection from the SPL to the Department of Microbiology and Molecular Genetics of the School of Medicine at the University of Pittsburgh when the collection was destroyed without his knowledge.

Dr. Steven Graham, *Director, VAPHS Geriatric Research, Education and Clinical Centers*

Dr. Graham preceded Dr. Sonel as head of research at VAPHS, and was involved in the process that led to SPL's closure. He served as a member of the Board of Investigation convened by Mr. Moreland. He was cited by Dr. Melhem as having approved the destruction of the collection, but has denied it.

Ms. Cheryl Wanzie, *VAPHS Chief Technologist*

Ms. Wanzie supervises the technical operations of the VAPHS Clinical Microbiology Laboratory. She was one of those receiving Dr. Melhem's order to destroy the collection on December 4, and was in the Laboratory as the freezers were emptied into biohazard bags.

Background

On December 4, 2006, employees of the VAPHS' clinical microbiology laboratory, were ordered to destroy the collection of *legionella* and other disease isolates and also water samples containing the *legionella* bacteria that had been accumulated by Dr. Yu and Dr. Stout over the decades of their research on this disease. The order was given by Dr. Melhem at the same time Dr. Sonel was actively working to transfer the collection to a laboratory at the University of Pittsburgh for use in further research by Dr. Yu and Dr. Stout.

At that time, the Special Pathogens Laboratory had been closed for almost five months, and Dr. Yu was no longer with the VAPHS.

The destruction took place outside of any previous process that had been used to determine the disposition of biospecimens left behind by former researchers and without the knowledge of Dr. Sonel or the Research Compliance Committee, which would normally been involved. The collection was the life's work of Dr. Yu and Dr. Stout, and no one from the VAPHS has been able to provide a credible reason for such a precipitous act.

Building the Better Biobank

Collections such as the *legionella* collection are more and more common as researchers study the evolution of both disease strains and treatment. The improving capability of tools for biological analysis is allowing researchers to make greater strides in understanding the workings of human biology at ever finer detail. Coupled with ever more powerful computers, this allows studying amounts of data that could never have been contemplated in the past. With the completion of the "draft" of the human genome, so-called "personalized medicine" appeared on the horizon: medical treatments could be devised to meet a patient's unique condition.

These changes are reflected in the development of biobanks: places where traditional human biospecimens such as blood and tissue are matched to databases with medical records, genomic sequence data and other information. Bringing these together helps with the identification of disease-causing genes or genetic variants. It can find connections between outbreaks of infection and factors in the environment. Targets for new therapies can be found. The SPL collection was something of a prototype biobank, and much of its value resided in the ability to match a particular biospecimen to its clinical history. That the collection included biospecimens extending back more than two decades also allowed comparative study to learn how organisms were changing in response to efforts to control or eradicate them.

One of the principal values of a properly-run biobank is the control of quality, allowing researchers to be confident that the information they use (and the results they obtain) are accurate. This requires rigorous control over biospecimens from the moment of collection and equally careful handling of the patient-specific medical information associated with it. Today's hearing is concerned, not just with the events at the VAPHS, but with the collection management policy aspects related to the physical biospecimens.

The federal government has supported, either with work at agencies like the National Institutes or Health the Centers for Disease Control and Prevention or by external research grants, the collection of millions of biospecimens. Many are in freezers in thousands of disparate laboratories, mostly of interest to a particular researcher for a specific project. It is not easy to find firm policy governing these valuable materials. The loss of the SPL collection, where materials of continuing scientific value were destroyed on the order of just one person, highlights the need to bring greater discipline to biospecimen management.

There have been scattered efforts to address the need for improved policies in biospecimen management. The hearing today will discuss efforts at NIH and CDC to update their policies to serve as models for discussion. This includes the question of destroying materials; while no scientist likes to lose a piece of data, it sometimes is necessary when freezers fill up or the collection's champion retires and no one is interested in carrying on that line of work. Best practice today argues that efforts should be made to find an alternative home for those materials, a process that had been successfully underway with the SPL *legionella* collection. It also expects that there will be some evaluation of the continuing value of the materials before deciding on destruction. The biospecimens at the heart of tomorrow's biobanks need robust protection, unlike the fate of SPL's collection.

The SPL Environment

The 1976 outbreak of Legionnaires' Disease at the Philadelphia American Legion convention immediately raised concerns at the Veterans Administration, as it attacked precisely the same populations in VA hospitals across the country. VAPHS did much to lead the effort to find out about the disease. The Clinical Microbiology Laboratory found a way to grow *legionella* bacteria in laboratories, and Doctors Yu and Stout traced the source of infection to water systems. The Special Pathogens Laboratory was originally established as a focus for continued *legionella* studies and testing for both VA and non-VA health care facilities. The work of Doctors Yu and Stout figured prominently in a review of Legionnaires' Disease risk at VA facilities by the Department's Inspector General last year and the institution of a new protocol.

SPL's expertise was shared with other VA facilities and outside entities. Although initially funded by the VA's central office, in keeping with VA policy in the mid-1990s, Dr. Yu proposed to recover testing costs by billing for services. This was approved, and the billing system was set up through the Veterans Research Foundation of Pittsburgh. Congress had allowed the creation of these non-profit entities to manage outside contributions for research at VA facilities. The revenues were used to pay the salaries of Lab employees (except for Dr. Stout, who was a VA microbiologist). By the time the SPL was closed, it was billing about $500,000 per year. For the most part, so far as documents show, there was little concern about the Lab's activities at the Foundation until 2006.

While the decision to close the SPL is not the focus of this hearing, it cannot be completely divorced from the discussion. The chaotic events of July 2006, during which Dr. Yu was told to close the lab in two days, then received a 10-day extension, after which the doors were locked and access denied, confused the status of the *legionella* collection. It became clear that there were gaps in the system of research oversight at the VAPHS. Some administrators assert, based on incomplete, largely post-hoc investigations, that these biospecimens were not collected as part of approved research protocols, nor were they properly maintained and identified - therefore they had no scientific value despite their role in numerous peer-reviewed articles and VA's treatment practices. Doctors Yu and Stout firmly state that they had appropriate approvals and that the collection was properly cataloged.

But what is evident is that the research structure at the VAPHS – which was supposed to have been in charge of the collection, had opposed its destruction and was ready to transfer it to Dr. Yu – was deliberately kept out of the loop. What is also evident is that administrators at a major VA hospital system had allowed personal animosities and goals to overcome its own processes. No federal health facility should be allowed to function in this manner. A Subcommittee staff report describes the situation in greater detail.