

# NEW YORK STATE DEPARTMENT OF HEALTH MEMORANDUM

**TO:** Mr. Dennis Whalen  
Executive Deputy Commissioner

**FROM:** Dr. Dale Morse  
Director, Office of Science and Public Health

**DATE:** December 9, 2001

**SUBJECT:** *IOM Trip Report*

---

On November 27-28, 2001, I attended the Institute of Medicine's forum on Biological Threats and Terrorism in Washington D. C. A copy of the agenda and participants is attached for reference. A few of the most important vignettes are included below.

**Key Introductory Statements** were given by a panel of experts including:

Anthony Fauci, NIH, NIAID  
Edward Eitzen, USAMRIID  
Jim Hughes, CDC, NCID  
Michael Osterholm, University of Minnesota & member, D.A. Henderson's Office  
Margaret Hamburg, Nuclear Threat Initiative

Of note, D.A. Henderson has been appointed as a special BT advisor to Secretary Tommy Thompson. He has been joined by Mike Osterholm, University of Minnesota and Mike Asher, Director of labs, California.

## **USAMRIID**

USAMRIID had completed 25,000 assays on 6500 BT specimens submitted since September 11, 2001. They are running 24/7 and most specimens are environmental. With all resources being devoted to testing, all core services and research have been put on hold. **They strongly recommended that additional lab capacity be developed nationwide** to handle more of the testing so that Sigrid's labs can be freed up for its other laboratory priorities.

## **CDC**

CDC summarized the investigations to date surrounding the first 22 (18 confirmed, 4 suspect) anthrax cases to date. Their lab was also completely swamped and they also called for more nationwide lab capacity. The emphasis for CDC is on surveillance, rapid field investigations and response.

## **Osterholm Quotes**

So far we have had an anthrax scare, not a crisis. The small number of cases to date (22 with 5 deaths) has been an inadequate test of the system with a large event.

“Someone has created a very effective bullet, but has used an ineffective gun.”

“The airlines received a federal bailout within two weeks of the WTC, but it has now been eight weeks since the first anthrax incident and public health has gotten zero.” As the number of press stories falls off the window of opportunity for resources will be closing.

## **Hamburg's Comments:**

Public health is a critical pillar in national defense.

There is a need for a real time system to distribute federal stockpiles.

In Australia researchers have genetically altered a benign virus in mice, mouse pox, into a virulent pathogen. The lesson is, that the same could be done in humans creating new pathogens beyond those currently seen as BT threats.

## **Fauci's Comments:**

There are tremendous differences between trying to protect the civilian and military populations for BT. The military is a young and healthy population while the civilian population includes high risk groups (YOPI's - young, old, pregnant and immunosuppressed). The military tries to protect the military via prevention (e.g. use of vaccines that can be tolerated by a young, healthy population) while protection in the civilian population where events will likely be sporadic requires rapid diagnosis and response.

**NIH** funding for BT is only \$93 million which is only .04 % of their budget.

NIH is in the process of sequencing all the major BT agents.

We need a safer third generation small pox vaccine before the entire population can be vaccinated safely (because of rare side effects with current vaccines).

Like the emerging diseases that have occurred over the past 10 years, we need to think of BT as emerging and re-emerging threats which will probably continue into the foreseeable future.

### **Highlights - Other Topic Areas - -**

**Anthrax:** The primary findings are generally related to enlarged lymph nodes (primarily the mediastinal ones ) and not pneumonia. Early symptoms are flu-like and not specific.

The Russians developed BT strains that were drug resistant and genetically modified to render the current vaccine ineffective as a protection.

Cidofivir looks promising for treatment, but has to be given IV. However, the high survival rate in human victims of inhalational anthrax (~55%) rather than the expected 0-10%, may be more a reflection of a low dose of exposure than an improvement in treatment.

Laboratory studies recently conducted in Canada's BSL4 facilities showed how quickly the recent strain of virus could spread throughout a room after just opening an envelope containing the current weaponized powder. This is far different than expected by the previously formulated anthrax powder which tended to clump. This shows a sophisticated advance in technology with addition of anti-static and anti-water agents.

**Botulism:** There are currently very small stockpiles of botulism anti-toxin.

The army has enough equine sera available to produce 45,000 doses of anti-toxin, but it needs to be processed.

Immunization – a toxoid vaccine was licensed 30 years ago after being developed to protect lab workers, but no one has funded further development.

Human botulism immunoglobulin (BIG) is effective up to 1 week after onset, but is in short supply.

**Surveillance Systems:** During the Russian anthrax incident at Sverdlosk, there was a ten-day delay from release to detection of the first case. Newer real time innovative surveillance systems are needed such as:

New York City's 911 system which tracks respiratory illnesses.

Syndromic surveillance systems in ERs – the Army was able to do in SE Asia and military populations, but not in the civilian system in the US.

ESSENCE – the military's Electronic Surveillance System for the Early Notification of Community –based Epidemics involves 104 clinics in the D.C. area. It included reporting of main syndromes with 30,000 diagnoses reported within 24 hrs.

Other systems have included tracking of prescriptions, lab tests, ICU diagnoses, unexplained deaths, and absences at work and schools.

**Vaccines:** In 2000 \$3 billion dollars was spent worldwide on vaccines, \$5 billion on Viagra!!!!

Smallpox – up to 300 million doses of vaccine will be readied within 12 months. However, because of side effects will be held in reserve (except for select first responders).

Anthrax – we can speed up production of current vaccine, but military would like to see development of an improved one that could be made commercially.

Up until now there has been little demand for developing BT vaccines, as they were too expensive and high risk for vaccine manufacturers.

There are only four major vaccine manufacturers remaining. They are highly regulated and could not produce all the needed vaccine

Ken Aldeck – former USSR: The USSR worked on 30 BT agents while the US is primarily concentrating on five. They also developed aerosol delivery system delivery of the hemorrhagic fevers.

**Antibiotics:** Most companies are withdrawing from the market. There are few antibiotics in the pipeline. There are few to use against drug resistant organisms. Very few anti-virals and most don't penetrate the CNS.

Other countries have invested in immunoregulators, but not the US.

**Antitoxins:** In addition to botulism anti-toxin, an anthrax antitoxin could be a good adjunct to therapy with little toxicity and potential lifesaving benefit after symptoms began.

### **Antibody treatment:**

This holds great promise for the future. Antibodies combined with antitoxin are 90 times more effective.

To date, ten have been approved by FDA and 70 are in clinical trial. They make up about  $\frac{1}{4}$  of the drugs in the pipeline. IND only takes 2-3 years compared with 5-12 years for vaccine.

This person from Columbia School of Public Health has asked Gus, Perry and I to write letters of support for their ASPH grant application, and agree to be interviewed about the historical aspects of HIV / AIDS reporting in New York State.