United States Department of 
Health & Human Services 
Office of the Assistant Secretary for Preparedness and Response (ASPR)

On the Front Line of Biodefense,
Full Spectrum Operations:

Prevention, Deterrence, and Response to 
Biological Threats

Dana Perkins, PhD

Disclaimer

The views, opinions, findings, and conclusions expressed in this presentation are those of the author and do not necessarily represent the views, official policy or position of the Department of Health and Human Services or its components, or the U.S. Government.
Biological Threats Facts

• Fundamentally, they are *public health problems* and the *medical & public health response is basically identical* whether it is a natural, accidental, or deliberate bio event

• No single community can prepare fully, nor respond completely, to a large-scale biological incident

• Whole-of-government and community partnership necessary for timely and effective preparedness & response at the national level

• Collaboration with international partners to integrate and combine capabilities at the “global community” level, is necessary to tackle biological threats, whether natural, deliberate, or accidental.
Mission: Prevent, prepare for, respond, and recover from the adverse health effects of public health emergencies and medical disasters

Goal: To ensure sustained public health and medical readiness for our communities and our nation against:

- Bioterrorism
- Infectious disease outbreaks
- Other public health emergencies
• Codifies HHS as the lead agency for Federal public health and medical response
  • National Response Framework (NRF) Emergency Support Function (ESF) #8: Public Health & Medical Response: Domestic Programs

• Authorizes ASPR to “provide leadership in international programs, initiatives, & policies that deal with public health and medical emergency preparedness and response”
  • NRF Emergency Support Function (ESF) #8: Public Health & Medical Response: International Programs
How the Framework is Organized

Core Document

Doctrine, organization, roles and responsibilities, response actions and planning requirements that guide national response

National Response Framework

Homeland Security

NRF Resource Center

Emergency Support Function Annexes (e.g. ESF #8)
Mechanisms to group and provide Federal resources and capabilities to support State and local responders

Support Annexes
Essential supporting aspects of the Federal response common to all incidents

Incident Annexes (e.g. Biological Incident Annex)
Incident-specific applications of the Framework

Partner Guides
Next level of detail in response actions tailored to the actionable entity

http://www.fema.gov/nrf
HHS assets for ESF # 8 services

USPHS: US Public Health Service Corps
APHT: Applied Public Health Team(s)
MHT: Mental Health Team(s)
RDF: Rapid Deployment Force
NDMS: National Disaster Medical System
DMAT: Disaster Medical Assistance Team(s)
DMORT: Disaster Mortuary Operational Response Team(s)

Volunteers

NDMS DMORT
NDMS Hospitals
NDMS DMATs
USPHS RDF
Medical Reserve Corps

HHS Resources

Food/ Water Safety
Drug / Blood Safety
Mental Health
Pre Hospital Care
Basic First Aid
Outpatient Care
Emergency Departments
ICU/Trauma Critical Care
HHS Inpatient Care
Hospital Home Care
Nursing Home Care
Fatalities Management
Health Surveillance
Federal Response Trigger Points

- Credible Intelligence of a Plan to Conduct a Bio Attack
- Notification of an Actionable Result from an Environmental Bio-Sensor
- Confirmed Cases of Bioterrorism Agent Disease in U.S.

- Declaration a Public Health Emergency
- Establish the ESF #8 command structure
  - Lead the public health & medical emergency response actions

- Declaration of an Incident of National Significance
- Initiate the NRF
- Raise the Terror Threat Advisory Level
- Coordinate overall nonmedical support and response actions

Investigation of criminal activities
Outbreak Detection

- **Determination of a Disease Outbreak**
- **Laboratory Confirmation**
- **Identification (Analysis and Confirmation)**

- Instances of disease that raise the "index of suspicion" of terrorist or criminal activities are reported to FBI.

- If warranted, the FBI, HHS and/or USDA and respective State/local health officials will conduct a joint law enforcement and epidemiological investigation.
Controlling the Epidemic

- **Medical Countermeasures (MCMs)**
  - Antibiotics
  - Antivirals
  - Vaccines
  - Other MCMs

- **Epidemic surveillance**

- **Movement restrictions**
  - Quarantine
  - Isolation
  - Shelter-in-place
  - “Cordon Sanitaire”
  - Social distancing

- **Food/agricultural products and animal issues**
Decontamination

For certain types of biological incidents (e.g., anthrax), it may be necessary to assess the extent of contamination and decontaminate:

- victims,
- responders,
- animals,
- equipment,
- buildings,
- critical infrastructure,
- large outdoor areas, etc.
International Notification

• Consistent with the **WHO International Health Regulations**, if the outbreak first arises within US and a positive determination is made to be of sufficient concern and a potential “public health emergency of international concern,” the US Department of Health and Human Services notifies and coordinates with appropriate international health agencies.

• A biological incident may have implications under the **Biological Weapons Convention** if it can be attributed to actions of a foreign party; the US Department of State would manage the diplomatic aspects of any such case.
• Created by ASPR to meet the public information requirements of PAHPA and the objectives of the U.S. National Health Security Strategy

• Cross-governmental portal for residents in the US and worldwide to obtain information from all US Federal agencies and their State and local partners involved in a public health emergency

• During a federally declared disaster, public health and medical emergency or other significant emergency event, the Emergency tab will become the default home page of the Public Health Emergency site and act as the central portal for all Federal public health risk communications and situational awareness information

• During times of non-emergency, this site will provide the public with access to background information on known sources of potential man-made or natural disasters, and information for media and other public health communicators, Federal, State, and local emergency planners and responders
Biosafety & Biosecurity = Essential Elements of Health Security

Public Health

Health Security

Natural disease/outbreaks  Unintended consequences  Accidents  Negligence  Vandalism/sabotage  Deliberate use of bio agents

Reference:
http://www.unog.ch/80256EDD006B8954/1(D22D772BC9C85F40C12578A0002E34CE/$file/Perkins_Georgia_presentation-Biosafety-Biosecurity-final_COMPRESSED.pdf
### Biosafety & Biosecurity =
Cross-Cutting, Vital Elements of
Health Security & Biological Non-Proliferation

<table>
<thead>
<tr>
<th>WHO IHRs (2005)</th>
<th>BWC</th>
<th>UNSCR 1540</th>
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<tbody>
<tr>
<td><strong>Applicability:</strong></td>
<td>All 194 WHO States Parties</td>
<td>164 BWC States Parties</td>
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<tr>
<td><strong>Purpose:</strong></td>
<td>“to prevent, protect, protect against, control and provide a public health response to the international spread of disease…”</td>
<td>To prohibit the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons</td>
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<tr>
<td><strong>Requirements:</strong></td>
<td>Capacities “to detect, assess, notify, and report events” &amp; “respond promptly &amp; effectively to public health risks &amp; PHEICs” [Lab core capacity includes biosafety / biosecurity]</td>
<td>Any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition, retention, transfer or use of biological weapons</td>
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<tr>
<td><strong>Entry into force:</strong></td>
<td>15 June 2007</td>
<td>26 March 1975</td>
</tr>
<tr>
<td><strong>Mandated reporting / where / when:</strong></td>
<td>Status of implementation / WHO / “As soon as possible but no later than five years from entry into force …“; annual reporting on indicators</td>
<td>None*</td>
</tr>
</tbody>
</table>

* CBM voluntary reporting / BWC ISU / every year by 15 April
Biological Risk Management

Biosafety

Biosecurity

Personnel Reliability

Information Security

Physical Security

Transport Security

Material Control & Accountability
## Select Bio-Terrorism/Crimes Perpetrated by Medical (or Allied Medical) Professionals

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Description</th>
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<tbody>
<tr>
<td>1964-1966, Japan</td>
<td>Dr. Mitsuru Suzuki, a physician with microbiology training, stole <em>Salmonella typhi</em> cultures from the Japanese National Institute of Health and disseminated them (and also <em>Shigella dysenteriae</em>) in food sources (such as sponge cake), infecting at least 66 people.</td>
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<td>1970, Canada</td>
<td>Eric Krantz, a graduate student in parasitology, infected his four roommates' food with the parasite <em>Ascaris lumbricoides</em></td>
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<td>1977, Norway</td>
<td>Arnfinn Nesset, nursing home operator, killed 27 of his patients with <em>curacit</em> (derived from curare neurotoxin).</td>
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<tr>
<td>1984, Oregon</td>
<td>Rajneshee’s <em>Salmonella typhimurium</em> “salsa” was prepared by a trained lab technician under the supervision of a registered nurse practitioner, Ma Anand Puja. 751 people became sick after eating at the deliberately contaminated salad bars in local restaurants.</td>
<td></td>
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<tr>
<td>1987-1990, Florida</td>
<td>Dr. David Acer, a dentist, infected 6 of his patients with <em>HIV</em> but it remains unclear if this was a deliberate act.</td>
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<tr>
<td>1991, Texas</td>
<td>John G. Linner, a scientist with the Cryobiology Research Center was accused of attempting to poison a subordinate with beta-propiolactone placed in an Afrin Nasal Spray bottle; also had <em>tetrodotoxin</em> in his possession and a recipe for producing <em>botulinum</em></td>
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<tr>
<td>1990-1995, Japan</td>
<td>Aum Shinrikyo mass-produced and tried to disseminate <em>B. anthracis</em> and <em>C. botulinum</em> using an industrial sprayer mounted on top of a Tokyo building and specially-equipped vehicles or suitcases. Dr. Seichi Endo (a molecular biologist) played a significant role.</td>
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<tr>
<td>1994, Louisiana</td>
<td>Dr. Richard J. Schmidt, a gastroenterologist, deliberately injected a former lover with <em>HIV</em>-infected blood.</td>
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<tr>
<td>1995, Tennessee</td>
<td>Dr. Ray W. Mettetal, a neurologist, was arrested for attempting to kill his supervisor (the head of the Vanderbilt University Medical Center) for poor ratings while a resident, using boric acid and saltwater; authorities also found <em>ricin</em> among his possessions.</td>
<td></td>
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<tr>
<td>1995, Kansas</td>
<td>Dr. Debra Green, an oncologist, tried to murder her estranged husband with <em>ricin</em></td>
<td></td>
</tr>
<tr>
<td>1995, UK</td>
<td>Frank Riolfo, a former member of the Royal Army Medical Corps, threatened to contaminate the food at Tesco supermarkets with <em>HIV</em>.</td>
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<tr>
<td>1995-1998, Ohio</td>
<td>Larry Wayne Harris, a microbiologist and book author with Aryan Nation ties, fraudulently acquired <em>Yersinia pestis</em> from the ATCC and claimed to have enough anthrax “to kill everyone in Las Vegas”.</td>
<td></td>
</tr>
<tr>
<td>1996, Texas</td>
<td>Hospital laboratory technician Diane Thompson used <em>Shigella dysenteriae</em> from her lab to deliberately infect 12 of her co-workers (those who responded to an email inviting them to eat pastries in the lab lunchroom and became ill after enjoying the free treats)</td>
<td></td>
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<tr>
<td>1996, UK</td>
<td>Michael Just (PhD in microbiology) was convicted for threatening to contaminate milk with <em>Yersinia enterocolitica</em></td>
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<tr>
<td>2001, US (various)</td>
<td>Dr. Bruce Ivins, a microbiologist, sent by mail <em>anthrax</em> spore preparations that sickened 22 individuals and killed 5 of them.</td>
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**Anton Dilger – A Case of DIY Bio**

- **Anton Casimir Dilger** (1884 – 1918) was an American-born physician of German immigrant parents, and the main proponent of the German BW sabotage program during WWI.

- His father, Hubert Dilger, was a US Army captain who had won the Medal of Honor for his accomplishments during the American Civil War (1863)

- Along with his brother Carl, Dilger established a home-based laboratory in Chevy Chase (about 6 miles from the White House), where he cultured anthrax and glanders bacteria to infect horses sent to the Allies

*No pun intended*

DIYbio.org (Do-It-Yourself Biology) is an organization dedicated to making biology an accessible pursuit for citizen scientists, amateur biologists and biological engineers who value openness and safety (http://diybio.org)
Regulatory and Extant Framework

Adapted from the Report of the Trans-Federal Task Force on Optimizing Biosafety and Biocontainment Oversight, July 2009
Is Swine Flu A Biological Weapon?

APRIL 27, 2009

Paul Joseph Watson
Prison Planet.com
Monday, April 27, 2009

According to a source known to former NSA chief, Wayne Apocalypse, “A top scientist for the United Nations, who has examined the correlation of swine flu to large outbreaks in Africa, as well as HIV/AIDS victims, concluded that H1N1 possesses certain transmission “vectors” that suggest that the new flu strain has been genetically manufactured as a military biological warfare weapon.

Misinformation/ Anti-Government

Propaganda

Dual-Use Research of Concern

Federal Indifference to Laboratory-Acquired Infections

Biosafety/Biosecurity

Public, Media, Scientists, & Soldier Education

BioThreat: a clear & present danger

Bioterrorism/Biocrimes

Where we are and why it matters
Executive Order: “Optimizing the Security of Biological Select Agents and Toxins in the United States - 02 July ‘10”

- Strategic framework that outlines specific roles, responsibilities, and actions to be taken by US Government to optimize national biosecurity
  - Tiering and potential reduction of the Select Agent list
  - Revision of Select Agent Regulations, Rules and Guidance
  - Creation of a Federal Experts Security Advisory Panel (FESAP-co-chaired by HHS and US Dept. of Agriculture)
  - Coordination of Federal Oversight
  - Rescission or revision of Departments/Agencies’ policies and practices to not exceed new Final Rules

Any recommendations requiring regulatory change, if accepted by the Select Agent Program, will be published in the Federal Register, the anticipated posting date is October 2011

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release
July 2, 2010

EXECUTIVE ORDER

OPTIMIZING THE SECURITY OF BIOLOGICAL SELECT AGENTS AND TOXINS IN THE UNITED STATES

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy. It is the policy of the United States that:

(a) A robust and productive scientific enterprise that utilizes biological select agents and toxins (BSAT) is essential to national security;

(b) BSAT shall be secured in a manner appropriate to their risk of misuse, theft, loss, and accidental release; and

(c) Security measures shall be taken in a coordinated manner that balances their efficacy with the need to minimize the adverse impact on the legitimate use of BSAT.
Biological Threat: Where is “The Perfect Storm”? 

Intent
Motivation
Commitment

Acquisition
Possession
Scientific/Technical Capability

VECTOR scientists and a 19th century smallpox victim mummified in the permafrost, Yakutsk, Russia, 1991

Ebola Patient (Intensive Care) (CDC photo)

Bangladesh –anthrax (AFP photo)
Biosecurity in the Life Sciences

U.S. National Science Advisory Board for Biosecurity

What is Dual Use Research?
Research with legitimate scientific purpose that has the potential to yield information that could be misused to pose a threat to public health or other aspects of national security.

The NSABB is advising the U.S. Government on strategies for:

- **Federal and institutional oversight**
  Identifying, reviewing, and responsibly communicating dual use research of concern

- **Education and training**
  Promoting awareness in the research community about the dual use issue and the responsible conduct of research with dual use potential

- **International collaboration**
  Fostering international engagement on the issues related to dual use research

NSABB reports and activities include:

- **Proposed Framework for the Oversight of Dual Use Life Sciences Research**
- **Addressing Biosecurity Concerns Related to the Synthesis of Select Agents**
- **International Roundtable on Dual Use Life Sciences Research**

How Does the NSABB Function?
The NSABB advises the U.S. Government on strategies to minimize the risk of, and harm that could result from the malevolent use of legitimate life science research information or technologies.

The NSABB members are experts in science, medicine, law, security, and the public interest.

NSABB meetings are open to the public and public input is key to the policy development process.

www.biosecurityboard.gov
NSABB recommendations & USG response

ADDRESSING BIOSECURITY CONCERNS RELATED TO THE SYNTHESIS OF SELECT AGENTS
~ DRAFT REPORT AND RECOMMENDATIONS ~

APPROVED BY THE
NATIONAL SCIENCE ADVISORY BOARD FOR BIOSECURITY

October 2006
Synthetic genomics & biosecurity concerns - NSABB recommendations & USG response

Guidance / information disseminated via the national website (www.selectagents.gov) and in scientific meetings

Memo online at: http://www.selectagents.gov/resources/Scope%20of%20the%20Definition%20of%20Variola%20Virus%20under%20the%20Intelligence%20Reform%20and%20Terrorism%20Prevention%20Act%20of%202004.pdf
Dual Use Research of Concern and Synthetic Biology

- Synthetic biology should be subject to institutional review and oversight since some aspects of this field pose biosecurity risks.

- Oversight of dual use research should extend beyond the boundaries of life sciences and academia.

- The US Government should ... monitor new scientific findings and technologies, such as "tech-watch" or "science-watch" endeavors.
US International Assistance
Relevant to Biosafety and Biosecurity

• Support to the WHO, BWC ISU, and 1540 Committee

• Support to the **G8 Global Partnership Against the Weapons and Materials of Mass Destruction**

• Direct (one-on-one) assistance

• Departments/Agencies-specific programs

“In the two years since President Obama laid out his vision for a world without nuclear weapons in Prague, the United States has pursued an aggressive nonproliferation agenda at the United Nations. Today the United States and the other members of the United Nations Security Council unanimously adopted UN Security Council Resolution 1977 to extend the mandate of the Committee established pursuant to UNSCR 1540. The 1540 Committee’s new ten-year mandate allows it to continue its valuable work, including through adoption of effective laws, security measures, border controls, and financial controls”... White House Statement on the Passing of UNSCR 1977, 20 April 2011
US State Department-funded bursaries for the University of Bradford’s Online Learning Short-Course in Biosecurity & Dual-Use

- Bursaries for the “train-the-trainer Online Learning Short-Course in Biosecurity & Dual-Use
  - 6 weeks, 75 min/week online
  - Assessment given to participants in form of constructive Feedback (not Grading) based on their submitted reports
  - Participants’ reports addressed a dual-use dilemma and illustrated how they would incorporate aspects of the educational module into the training of others in biosecurity
  - Participants received a Certificate

- Free Educational Module Resource (EMR) also available on the University of Bradford website (in English, French, Japanese, Russian & Romanian/Moldovan) at:
  
Promoting NSABB in International Outreach

Excerpts- U.S. Opening Statement 2008

In recognition of the dual-use potential of life sciences research, the U.S. Government established the National Science Advisory Board for Biosecurity to advise on strategies for the management of dual-use research. In their recommendations on the development of codes of conduct, the NSABB highlighted that individuals involved in any stage of life sciences research have an ethical obligation to avoid or minimize the risks and harms that could result from malevolent use of research outcomes. Given the current state of technology, we are promoting the training of life scientists - both trainees and researchers - on this critical issue.

BWC-related issues have also been a catalyst for ministries to work together in new ways. This is certainly true for the United States. In the past our State Department disarmament specialists had little contact with their Health and Human Services counterparts. They now work hand-in-hand to improve security against infectious disease, whatever the cause. As U.S. experts travel to capitals to work together with their foreign counterparts, they have noticed that bilateral work provides the necessary rationale for the Foreign, Defense, Justice, Health, and Agriculture Ministries to meet on these issues for the first time. The U.S. believes that it is a sign of true progress that governments now send representatives from multiple ministries to BWC meetings.
US National Strategy for Countering Biological Threats was unveiled at the 2009 BWC Meeting of State Parties

- **Promote global health security**: Activities that should be taken to increase the availability of and access to knowledge and products of the life sciences that can help reduce impacts of outbreaks of infectious disease whether of natural, accidental, or deliberate origin.

- **Reinforce norms of safe and responsible conduct**: Activities that should be taken to reinforce a culture of responsibility, awareness, and vigilance among all who utilize and benefit from the life sciences to ensure that they are not diverted to harmful purposes.

- **Obtain timely and accurate insight on current and emerging risks**: Activities that serve to improve threat identification, notification, and assessment capabilities as well as our understanding as to the global progress and presence of the life sciences to help identify and understand new and emerging challenges and inform appropriate actions to manage the evolving risk.

- **Take reasonable steps to reduce the potential for exploitation**: Activities that are targeted to identify, sensitize, support, or otherwise safeguard knowledge and capabilities in the life sciences and related communities that could be vulnerable to accidents or misuse.

- **Expand our capability to prevent, attribute, and apprehend**: Activities that are intended to further hone the Nation’s ability to identify and stop those with ill intent to reduce the risk of single, multiple, or sequential attacks.

- **Communicate effectively with all stakeholders**: Activities that should be conducted to ensure the Federal Government is advancing cogent, coherent, and coordinated messages.

- **Transform the international dialogue on biological threats**: Activities targeted to promote a robust and sustained discussion among all nations as to the evolving biological threat and identify mutually agreed steps to counter it.

Confidence-Building Needs Transparency

• “The Obama administration’s new strategy for countering biological threats—both natural and man-made—rests upon the main principle of the BWC: that the use of BW is “repugnant to the conscience of mankind”
  - U/S Tauscher unveiling the US National Strategy for Countering Biological Threats at the 2009 BWC Meeting of States Parties

• “in a gesture of our transparency”, the United States will “work toward posting future annual CBM submissions on the public access side of the Implementation Support Unit website and we will encourage other Parties to follow suit”
  - Ellen Tauscher, U/S of State for Arms Control

• US Confidence Building Measures reports posted publicly in 2010 & 2011

On the Front Line of Biodefense

Biological Risk Management and Non-Proliferation Activities Supported by the Office of the Assistant Secretary for Preparedness and Response

The 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, commonly known as the Biological Weapons Convention (BWC), was the first international treaty to completely prohibit the development, production and stockpiling of an entire class of the biological weapons. By ratifying the Convention, States Parties proclaim their determination "to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons" and their conviction that "such use would be repugnant to the conscience of mankind and that no effort should be spared to minimize this risk".

The central prohibitions of the treaty are stated in Article I: "Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain: (1) Microbial or other biological agents or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective, or other peaceful purposes. (2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict".

The risk of biological warfare and bioterrorism has increased but so has the determination of the United States to prevent, deter, and mitigate them, as illustrated by the President's National Strategy for Countering Biological Threats. When unveiling the Strategy at the BWC Meeting of States Parties in December 2009, the Under Secretary for Arms Control Ellen Tauscher, stated that "The Obama administration's new strategy for countering biological threats—both natural and man-made—rests upon the main principle of the BWC: that the use of biological weapons is repugnant to the conscience of mankind".

ASPR website at: http://www.PHE.gov/about/OPP/Pages/bwc.aspx
UNSCR 1540: legally binding obligations on all UN Member States to develop/enforce effective measures against the proliferation of NBC WMDs, their means of delivery, and related materials

The international legal framework facilitates a strategy of "prevention" based upon each individual State accepting "responsibility" for implementing WMD nonproliferation measures

Workshop sponsored by UNODA, 1540 Committee, & USG

120 participants from 19 African countries, UK and US (DOS, HHS, DOD, DHS, and DOE), IGOs (BWC, OIE, UN, EU Council), NGOs (VERTIC, ISS), National Science Academies, and National Biosafety Associations

Emphasized opportunities to request technical assistance & highlighted biosafety and biosecurity as:
- Essential elements of health security and
- Cross-cutting elements of biological non-proliferation

The Southern Caucasus Workshop on Public Health, Security, and Law Enforcement Partnership in Bio-Incident Pre-Planning and Response and TTX, Tbilisi, Georgia, 11-12 May 2010

Joint effort of the DOD/DTRA, HHS/ASPR, and Georgia’s NCDC

~ 80 participants from IGOs (WHO, INTERPOL, NATO), NGOs (VERTIC, Bechtel, Global Green USA), USG (DOD, HHS, DOE, DOS, and FBI), and from public health, security, or law enforcement organizations from Georgia, Azerbaijan, Armenia, Kazakhstan, Moldova, and Romania

Focused on building coalitions and improving international partnerships among public health, security, and law enforcement to improve regional and global collaboration in preparedness and response to biological incidents

Linked the national and international RESPONSE to a bioterrorism incident with PREVENTION / DETERRENCE via nonproliferation mechanisms such as BWC, UNSCR 1540, and NATO’s Comprehensive, Strategic-Level Policy for Preventing the Proliferation of WMDs and Defending against CBRN Threats.
Southern Caucasus BioShield 2010 TTX

• TTX scenario stemmed from concerns that criminal and terrorist networks may converge at the operational level for monetary profit and irrespective of their ideology

• The 2010 Southern Caucasus BioShield primarily explored the response actions but also raised questions on terrorism prevention and deterrence

• Will a young scientist fall prey to the same temptation or his/her “moral compass” will trigger a disengagement from such activities?
• What will be the roles of the educational system and the community in affecting such an individual decision?
• What about the roles of government’s policies and its actions in providing guideposts for ethical behavior?

http://www.phe.gov/Preparedness/international/Pages/southerncaucasus.aspx
Key Lessons Learned

• National Response Plans offer the framework for coordination and response to biological incidents, whether natural or deliberate

• Since real-world experience does not come often, there is a strong need for more inter-sectoral (including media) training

• Early warning and efficient mitigation of biological incidents are contingent on effective implementation of WHO IHRs and national legislation (i.e. on UNSCR 1540 and BWC) to prevent and criminalize activities of non-state actors who seek to acquire and proliferate WMDs
Key Lessons Learned (continued)

- There is no mandatory requirement for national law enforcement to pass information to Interpol in case of potential terrorist events.

- Could the law enforcement apply the principle of WHO IHRs notifications? That is, pass information to Interpol as "law enforcement information of potential international concern" subject to its determination of relevance?

**Established partnership and communication channels between law enforcement and public health (both at the national and the international level) are critical elements for "connecting the dots" early in a potential bio threat/incident**

The report on the workshop and associated TTX, is available online at: [http://www.phe.gov/Preparedness/international/Pages/southerncaucasus.aspx](http://www.phe.gov/Preparedness/international/Pages/southerncaucasus.aspx)
• Implementing national measures consistent with the Biological Weapons Convention (BWC), UN Security Council Resolution 1540 (UNSCR 1540), and WHO International Health Regulations (IHRs) to deter, prevent, or respond to bio incidents / threats.

• Supported by WHO, UNODA, BWC ISU, ECDC, Interpol, and NATO.

• Aimed at:
  • Building sustainable laboratory partnership and regional/global connectivity through networking and harmonization.
  • Sharing best practices in laboratory quality & management; and biosafety / biosecurity.
  • Strengthening civilian-military unity of effort in response to bio incidents (natural, accidental, or deliberate).

• TTX scenario focused on Transnistria and the convergence of criminal/terrorist networks in regions of weak governance or “frozen conflicts”.

http://www.phe.gov/Preparedness/international/Pages/orbitforum.aspx
• In the first plot of the scenario, a fictional Moldovan extremist separatist group procured a seed stock of tularemia bacteria from the Transnistria contraband market in order to perpetrate an aerosol attack during a Romania-Moldova soccer game in Chisinau.
  • A PhD student from a local university in Tiraspol was recruited and offered a significant amount of money to produce a sufficient amount of bacteria to execute the attack.

• In the second plot of this scenario, the fictional terrorist group also purchased from the black market a certain amount of dry, lyophilized anthrax spores for a food borne attack on the civilian and military personnel of the Joint Task Force - East at the Mihail Kogalniceanu (M-K) Airbase in Romania.
  • The anthrax powder was transported across the Romanian border via established heroin trafficking networks.
• **National Response Plans**
  - National Disease Surveillance Systems are likely to provide early public health alerts
  - Gaps in sharing information between public health and law enforcement have been identified primarily due to lack of joint training
  - The current situation in Transnistria will not allow the implementation of the Moldova National Response Plan as currently drafted since neither public health and/or law enforcement investigations could be carried out in the region; any public health assistance in the region will be coordinated via the WHO and the International Red Cross Organization.

• **Risk / Intelligence Communication**
  - Policy makers and legislative bodies should also be educated on the domestic consequences associated with a weak and porous nonproliferation framework
  - The partnership between the scientific community and law enforcement is not common but possible and highly desirable at the national and international level
  - Public health information management and outreach to the mass media and public need to be re-evaluated to consider a coordinated strategic and tactical approach

• **International Coordination**
  - Mechanisms of requesting assistance under the BWC are not well known
  - There is no formal MOU or detailed agreement on sharing information between WHO and Interpol so neither will have a common operational picture

*After-Action Report available online at: [http://www.phe.gov/Preparedness/international/Pages/orbitforum.aspx](http://www.phe.gov/Preparedness/international/Pages/orbitforum.aspx)*
Countering Biological Threats:
National Implementation of the Biological Weapons Convention &
Multinational Outbreak Response & Bioterrorism Investigation Demonstration

- Workshop organized by the US DOD (US EUCOM, AFHSC, CDHAM, and DTRA) and HHS/ASPR with the support of Georgia’s MoHLSA & MoIA, in Tbilisi, Georgia, 17-19 May 2011.

- ~100 participants including civilian & military public and veterinary health, law enforcement, intelligence, and affiliated professionals, representatives of academia, industry, and other NGOs from US, Georgia, Armenia, Azerbaijan, Bulgaria, Romania, Moldova, Turkey, Poland, and Kenya; and representatives of IGOs (WHO, UNODA, NATO, and ECDC).

- The workshop aimed to establish regional and international partnerships to enhance training and disease surveillance and containment initiatives; and to strengthen the core capacities required by the WHO IHRs and existing national measures consistent with the obligations under the BWC & UNSCR 1540 to deter, prevent, and respond to biological incidents or threats.

Countering Biological Threats:
National Implementation of the Biological Weapons Convention &
Multinational Outbreak Response & Bioterrorism Investigation Demonstration

- It included awareness training, a TTX designed to review the application of *UN Secretary General’s Mechanism on Investigation of Alleged Use of Biological and Chemical Weapons (UNSGM)*, and a practical demonstration by MoIA’s CBRN Rapid Response Team.

**TTX Key Lessons Learned**

- There is a need for additional training events on UNSGM
- Such training could be organized at the national level with all relevant stakeholders since it may take a ‘whole of government’ approach to facilitate the UNSGM’s fact-finding mission in a respective country
- Collaborations, partnerships, and synergies of the UN expert team with IGOs & other UN bodies should be well understood & considered during future training events

After-Action Report available online at: [http://www.phe.gov/Preparedness/international/Pages/orbitforum.aspx](http://www.phe.gov/Preparedness/international/Pages/orbitforum.aspx)
Visit at the US-Georgia Central Public Health Reference Laboratory (CPHRL)

- In the spirit of President Obama’s Transparency and Open Government Initiative and its principles of transparency, participation, and collaboration, workshop participants were offered guided tours of the CPHRL.

- CPHRL’s mission is to promote public and animal health through infectious disease detection, epidemiological surveillance, & research for the benefit of Georgia, the Caucasus region, and the global community.

**CPHRL website:** [http://www.cphrl.org](http://www.cphrl.org)

**US Embassy in Georgia news:**
United States Department of Health & Human Services
Office of the Assistant Secretary for Preparedness and Response (ASPR)

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