WV Office of Laboratory Services (OLS)

THREAT-PREPAREDNESS AND BIOTERRORISM RESPONSE LABORATORY

“I HAVE A SAMPLE, NOW WHAT DO I DO?”

CLINICAL AND ENVIRONMENTAL SPECIMEN SUBMISSION
CDC CATEGORY LIST
FOR
BIOLOGICAL DISEASES
CDC Category List for Biological Diseases

- **Category A**
  High-priority agents include organisms that pose a risk to national security because they:

  - can be easily disseminated or transmitted from person to person;
  - result in high mortality rates and have the potential for major public health impact;
  - might cause public panic and social disruption; and
  - require special action for public health preparedness.
CDC Category List for Biological Diseases

- **Category A**
  - *Bacillus anthracis* - Anthrax
  - *Clostridium botulinum* toxin
  - *Yersinia pestis* - Plague
  - Variola major virus - Smallpox
  - *Francisella tularensis* - Tularemia
  - Viral Hemorrhagic Fevers
CDC Category List for Biological Diseases

- **Category B**
  Second highest priority agents include those that are:
  - moderately easy to disseminate; and
  - result in moderate morbidity rates and low mortality rates.

- **Category C**
  Third highest priority agents include emerging pathogens.
CDC Category List for Biological Diseases

• Category B

  – *Brucella spp.* - Brucellosis
  – *Staphylococcal enterotoxin B*
  – *Coxiella burnetii* – Q Fever
  – Ricin toxin
  – *Rickettsia prowazekii* – Typhus Fever
  – VEE and EEE
  – Water Safety Threats
  – Food Safety Threats
The Laboratory Response Network

- Network supports response to all kinds of public health emergencies, but especially detection and response to BT.
- Includes both public and private labs.
- Labs test according to consensus protocols.
- Protocols developed by the CDC.
- Timely and accurate testing and reporting.
- Linked with local, state, and federal agencies.
- Supported by CDC and FBI.
LRN Safety & Proficiency
Adequate to...

Confirm, Validate and Archive.
Perform high level characterization.
Probe for universe of agents.

Perform confirmatory testing. Isolate.
Identify. Rule-in and Refer.

Detect early (presumptive cases). Recognize Rule-out or Refer.

* BSL = Bio Safety Level
Services Offered by The WV Office of Laboratory Services (OLS)

• Presumptive and confirmatory testing for the organisms most likely to be utilized as an agent in a bioterrorism event.

  – *Bacillus anthracis*: Anthrax
  – *Francisella tularensis*: Tularemia
  – *Yersinia pestis*: Plague
  – *Brucella spp.*: Brucellosis

• A variety of tests are utilized ranging from simple staining tests to complex molecular tests.
Services Offered by The WV Office of Laboratory Services (OLS)

- Presumptive testing (PCR): 4 - 6 hours
  - Molecular tests are NOT confirmatory tests
- Confirmatory testing (culture): 24+ hours
  - Depends on the growth rate of the organism
    - Anthrax: 24 hours
    - Tularemia & Brucellosis: 24 – 48 hours
    - Plague: 48 - 72 hours

Time, obviously, is a very critical factor in the confirmation of a select agent of bioterrorism
Types of Specimens

Environmental Specimens
- Virtually anything
  - ex. threat letters, powder, food, etc. etc. etc.
- Submitted by law enforcement personnel or LHD.
  - State and local police, FBI, USPS, CST, RRT, etc.

Clinical Specimens
- Obtained from a patient with characteristic symptoms.
- Submitted by Sentinel labs for confirmation.
CLINICAL SPECIMEN SUBMISSION
Clinical Specimens

- Commercial and hospital labs may make presumptive identification of a select agent of Bioterrorism.

- For organisms suspected to be select agents the specimen is sent on to the WV State PHL (OLS) for confirmation.

- The WV State PHL may make definitive identification or send the specimen to another lab in the LRN or to the CDC.
Clinical Specimens

Clinical specimens from suspected bioterrorism-related cases should be submitted to the confirmation labs through the **Laboratory Response Network** channels.


Notify the **Laboratory Director** and the **Infection Control Officer** in advance that the specimen may contain a Bioterrorism agent.
Clinical Specimen Submission

**MUST CONTACT:**

- OLS TP & BT Response Lab – specimen approval,
- WVOES - EOC message number for tracking, and
- Local Health Department and WV IDEP.
Clinical Specimen Submission

Collect specimen in accordance with Clinical Specimen Selection for Agents of Bioterrorism Guidelines.

Chain-of-Custody requirements met through normal hospital practices.

Required Forms – submit a “Suspected Bioterrorism Agent Clinical Specimen Submission Form” with each clinical specimen.
Clinical Specimen Submission

Submit each specimen using FedEx Priority Overnight shipping.

Follow the packaging requirements in accordance with the IATA dangerous goods regulations for transport of biological agents of human disease.

You must include “ATTN: THREAT-PREPAREDNESS & BIOTERRORISM RESPONSE SECTION” in the address on the outside of the package.
ENVIRONMENTAL SPECIMEN SUBMISSION
Environmental Specimens

- Rapid field testing may be performed: RAMP, TetraCore, Guardian.

- CDC has not yet endorsed any rapid field tests for BT agents.

- OK for screening but NOT for confirmation - common for these tests to report a false positive and negatives.

- Specimens must always also be tested at Public Health Laboratories for investigation, definitive result and confirmation.
Environmental Specimen Submission

ALL Suspected BT Environmental Specimens

MUST CONTACT
LOCAL LAW ENFORCEMENT
LOCAL HEALTH DEPARTMENT
Specimen Credibility Confirmation

- For **ALL** suspected BT Environmental specimens, **MUST** follow the **“Threat Assessment and Notification Procedure for Suspect Bioterrorist Events”** guidelines

1. Local LE, OES, and LHD initially determine credibility
   *If determined to be credible then…*

2. Conference Call to confirm credibility
   - WVBPH Division of Threat Preparedness
   - Infectious Disease Epidemiology Program (IDEP)
   - WV Division of Homeland Security (WVOES)
   - OLS TP & BT Lab
   - FBI or Postal Inspector (if necessary)
Specimen Submission Guidelines

- If the specimen is determined to be credible
  - MUST then:
    - 1) Have Division of Homeland Security assign an EOC message number (for tracking purposes).
    - 2) Notify OLS TP & BT Response Section
      - During regular hours: 1 hour prior to submission
      - During after hours: 2 hours prior to submission
    - 3) Ensure that local OES, local HD, LE, IDEP, WVOES and all appropriate agencies have ALL been notified.
Specimen Submission Guidelines

- Specimen Packaging
  - Only one specimen per inner bag
  - Triple bagged and evidence tape

- Forms
  - Environmental Specimen Submission form
  - Chain-of-Custody
Specimen Submission Guidelines

– Size Very Important
  • Environmental sampling for > 10 H x 22 W x 15 D inches
  • Use only Dacron synthetic swabs
  • 4 swabs should be collected

– Time
  • Submitted within 1 week of date of collection
Specimen Submission Guidelines

- Screening and Packaging/Transporting of Specimens
  - Explosives/explosive devices
  - Radiation
  - Chemical hazards
  - Documentation

- Triage of Specimens at WVOLS
  - High Priority - IMMEDIATELY (24/7)
  - Intermediate Priority - working hours
  - Low Priority - DO NOT SUBMIT
TP & BT Response Lab Results

- Test results are ONLY given to the following:
  - Specimen submitter listed on submission form.
  - WV IDEP, the WV Division of Homeland Security, and the LHD.

- The TP & BT Response Lab will call with results and fax a report to the submitting lab and LHD.

- Positive confirmation test – results will be disseminated:
  - By OLS, WV IDEP, WV OES, and LHD
  - To all appropriate agencies.
  - Includes reporting results to the CDC and FBI.
The WV OLS
Threat Preparedness & Bioterrorism Response Laboratory

- Dr. Andrea M. Labik – OLS Director and TP/BT Supervisor
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- Jennifer Ross-Wilkinson – TP/BT Coordinator
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How to Reach Us

- Office of Laboratory Services (OLS)
  - Phone: (304) 558-3530 (M-F 8:00am-5:00pm)

- Phone Extensions
  - Dr. Andrea M. Labik: ext. 2110
    - OLS Director and TP & BT Supervisor
  - TP & BT Laboratory: ext. 2301
    - Emergency (24/7/365) Pager: (304) 361-9080
    - FAX: (304) 558-0895
ANY QUESTIONS???
We're closed