

Biohazard Detection System (BDS) Response Planning in New York State

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Acknowledgements

- 11 LHDs in NYS and their local partners
- USPS administrators and workers
- NY State Police, SEMO, Office of Fire Prevention and Control
- Other state health departments
- EPA
- FBI
- CDC

2001 Anthrax Outbreak Summary

- 22 cases (including 5 deaths)
 - 11 cutaneous (skin)
 - 11 inhalational (lung)
- Occupational Groups
 - 9 USPS (3 skin, 6 lung; 2 deaths)
 - 9 media (7 skin, 2 lung; 1 death)
 - 4 other (1 skin, 3 lung; 2 deaths)
- Source: Jernigan DB, et al. Emerging Infectious Diseases 2002;8(10):1019-28.

Biohazard Detection System (BDS)

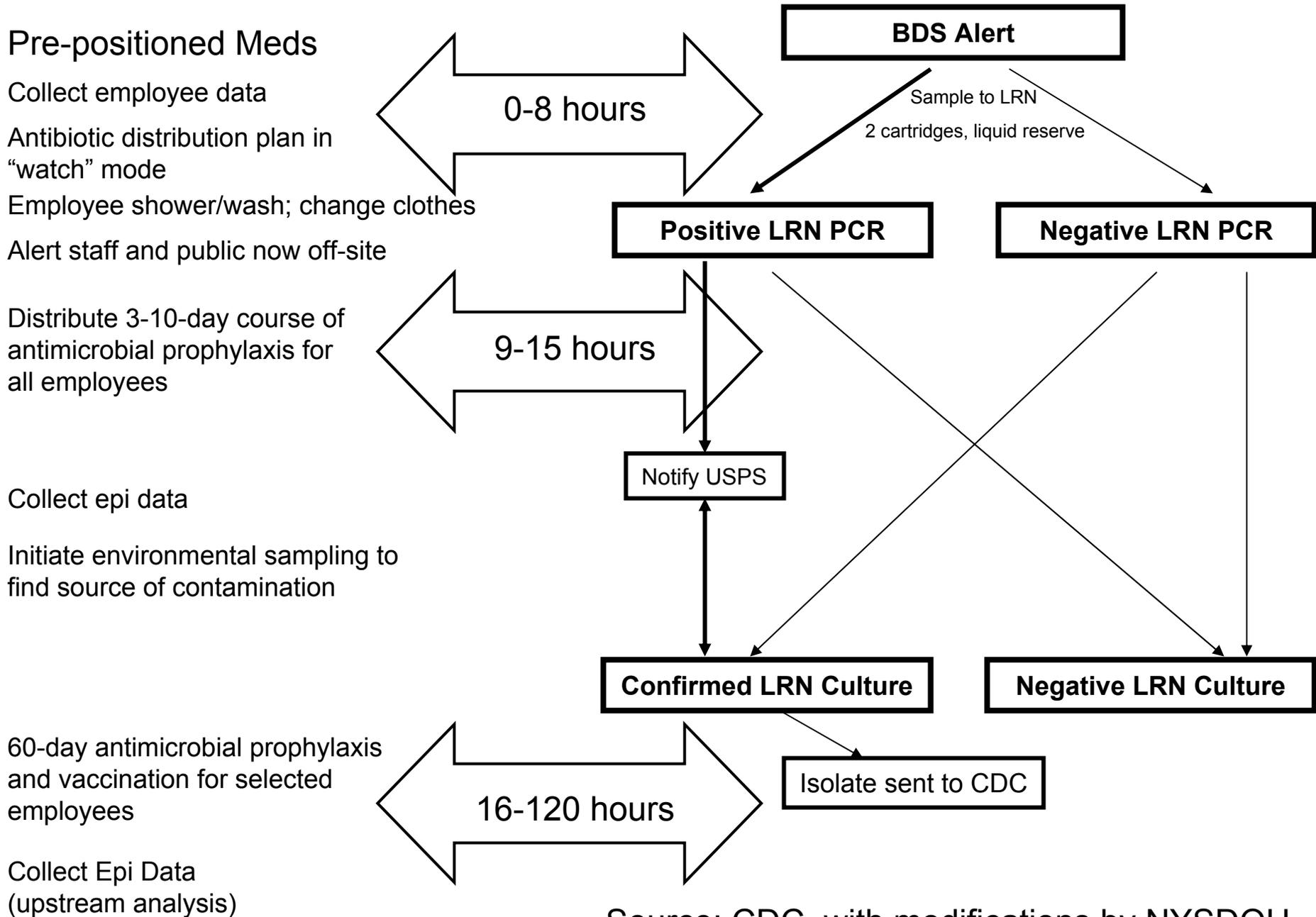
- Free-standing PCR-based technology
- Samples air continuously above mail-sorting machines at large USPS facilities
- Test initiated every 60 minutes
- Testing takes ~30 minutes
- Limited to *Bacillus anthracis*
- Positive “signal” leads to automatic alarm, work area evacuation, worker “decontamination”
- If BDS confirmed by LRN testing, antibiotic distribution within 15 hours of presumed exposure, vaccination following culture confirmation

Biohazard Detection System



Source: <http://www.lunewsviews.com/usps/pcr.htm>

Responding to a BDS Alert



Source: CDC, with modifications by NYSDOH

Notification Plan

- Pre-determined call list for response partners
- Sharing information with area hospitals, neighboring jurisdictions, and sectors
- Will rapidly become a public event
- Contacting workers that have left facility but were on-site during potential exposure time
- Public areas may be at-risk
- Establishing a hotline

Decontamination

- Primary purpose: Minimize potential for additional off-site exposures
- **Rationale** (ref. NIOSH Interim Guidelines, version 11, 7/9/03):
 - Workers' Home Contamination Study (e.g., Q fever)
 - <http://www.cdc.gov/niosh/95-123.html>
 - Positive environmental samples in 2001 at 4 apartments of persons who opened letters at work
 - Bomb squad gear, vehicle and office
 - Remediation workers in 2001 anthrax clean-ups
 - Off-site risk “very, very low” but not zero
 - Decon recommendations extend back to 1.5 hrs before BDS alarm sounds

Decontamination

- Less intense decon than used for chemical exposure
- “Bio-decon” Procedure:
 - Remove potentially contaminated outer garments at the site (place into plastic bag)
 - Pocket contents (car keys) placed in plastic bag
 - Initial washing with mild soap and copious amounts of warm water on all areas of exposed skin (e.g., face, arms, hands, legs)
 - Shower at the site (towel placed into plastic bag)
 - Portable trailer with 6 showers (5 hours for ~300 staff)
 - Use of replacement garments and shoes
 - Wrist band provided following shower

Decontamination Plan

- Minimize exposure to cold weather and cold water
- Availability of existing sinks and showers within USPS facility dependent on airflow
- Use of vehicle maintenance facility to increase personal wash options or at least placement of portable shower units

Initial POD: 3-10 day antibiotics

- Number exposed: 300-1000 likely (2200)
 - 15-hour standard (e.g., 6 pm signal, 7:30 am POD)
- Site: LHD, EMS, DOT, church
- Staffing: 20-60
 - Patient-specific orders for nurse administration
 - MRC/volunteer pharmacist
 - Mental health, EAP
- Source of Antibiotics
 - Doxycycline or ciprofloxacin
 - LHD supply, local hospital, local pharmacy
 - NYS Medical Emergency Reserve Cache (MERC)

Subsequent POD(s)

- Antibiotic “Re-fill”
 - 60-day total supply
 - May adjust medication based upon antibiotic sensitivity testing
 - Request SNS if local/state supply insufficient
- Vaccination
 - 3-dose series (days 0, 14, 28)
 - Supplied by CDC from SNS
 - Currently limited to IND use

Medical Surveillance

- Fact sheets provided pre-BDS and at POD
- Anthrax infection
 - Inhalational
 - Cutaneous
- Adverse reaction
 - Antibiotics
 - Vaccine
 - Special considerations for children, pregnancy
- Potential role for private physicians

Hospital Awareness

“Because immediate off-site medical care may be required, as well as the potential that exposed persons may present to hospitals without having removed outer garments and washed exposed skin, hospitals and EMS providers in the area of USPS sites should be included in the local planning process.”

(Source: 5/26/04 NYSDOH letter to USPS administrators)

Response Plan Stakeholders

- USPS
 - US Postal Inspection Service (USPIS)
- Public Health
 - Mental health counselors
- Law Enforcement
- Emergency Management
- HazMat/Fire Department
- Hospitals and EMS providers
- Public Information Officials

Response Plan Development

- BDS Annex to All-Hazards Plan
- Opportunity to use BT-related personnel and equipment from multiple agencies
- Locally-convened work group
 - Incident management system
- Well designed and practiced plan lessens potential for confusion, frustration, and panic
- Written plan
 - Basis for employee orientation and drills

Issues to Resolve

- Potential upstream and downstream exposures and need for PEP
- Potential for re-aerosolization from clothing, skin, car seats
 - Quarantine/forcible decon of persons
- Potential exposure outside USPS building
- Protocol for signals from multiple sites
- NYS law prohibits antibiotic standing orders
- Similar devices marketed to private sector

References

- MMWR Recommendations and Reports
 - Vol. 53, RR-7, June 4, 2004
 - <http://www.cdc.gov/mmwr/PDF/rr/rr5307.pdf>
- FAQs from CDC
- NYSDOH guidance letter to USPS
 - Sent May 26, 2004
 - Will be re-issued with revisions