DATA MANAGEMENT STRATEGIES IN COMPLEX INVESTIGATIONS

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OBJECTIVES

- Ways to manage data during a complex investigation
  - Including data collection tools
- How to prioritize contacts
- How media and politics can impact an investigation
- Lessons learned
INVESTIGATION SCENARIO

- An inmate informs guards during booking process that he has TB
  - Chest X-ray & sputum confirm illness
- Put in a single, isolation cell (with shared ventilation)
- Held in cell approximately 15 hours and then held in outside area until hospitalized
- During arrest, at least 10 law enforcement officials had to be used to subdue the patient
- Jail has approximately 240 inmates and 50 staff who were in building with inmate
TB in Correctional Facilities

- According to CDC 4-6% of TB cases reported in US occur among people incarcerated at time of diagnosis

- Persons incarcerated or recently incarcerated have higher rates of HIV and Hepatitis C than the general population

- In Boyd County investigation, 2.3% of all inmates were a known positive
  - All chest x-rays were negative
INVESTIGATION DATA

- Investigations in Correctional Facilities can generate a lot of data

- Proper management of data from the onset is critical
  - Hard to go back and collect information
  - Inmates are transferred or released

- No “one size fits all” method to use
DATA MANAGEMENT PLAN

- 5 key questions to ask at the start of any investigation
  - What is the illness/symptoms?
  - How is it spread?
  - What type of facility?
  - How many people are possibly exposed?
  - Who needs to be contacted?
    - Order of importance
    - Update list every 6 months
DATA MANAGEMENT ISSUES

- Keep confidential data confidential
  - May be difficult when dealing with multiple agencies
  - May be difficult due to large quantity of data

- Space to store data and investigation information

- Sharing data between investigation team members
DATA COLLECTION SPREADSHEETS

- Easy access to data and statistics on data
  - Easy way to keep track of aggregate numbers

- A lot of work to input information and keep updated
  - Situation is very fluid in first few days

- Helpful for reports and media inquiries
  - Easy to find number of TSTs completed, etc
<table>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<th>AZ</th>
<th>BA</th>
<th>BB</th>
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<td>Populations at Risk</td>
<td>Number of Persons in Each Group, All Ages</td>
<td>Number of Persons in Each Group, Aged 5 Yrs and Older</td>
<td>Number of Persons Remaining to be Evaluated by the Health Dept / Provider</td>
<td>Number of Persons with Suspected TB who have Positive AFB Sputum Smear Test Results and Negative NAA or GeneXpert Test Results</td>
<td>Number of Persons with Suspected TB who have Positive AFB Sputum Smear Test Results and No Results from NAA or GeneXpert Tests</td>
<td>Number of Persons with Suspected TB who have Negative AFB Sputum Smear Test Results and Positive NAA or GeneXpert Test Results [Special Provider Order]</td>
<td>Number of Persons with Suspected TB who have Negative AFB Sputum Smear Test Results and Negative NAA or GeneXpert Test Results [Special Provider Order]</td>
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<td>Courthouse Employees</td>
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# Test Results (Percentages) September 2012

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<th>Family/Friends</th>
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<th>Courthouse Employees</th>
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<td></td>
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<td>Inmates</td>
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<td>Known + CXR</td>
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<td>0.0%</td>
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</table>
Paper, Paper, Paper

- Used TB-2 (12/2010) form to track contact data
  - Very labor intensive to add every contact name and information
  - Useful for completing spreadsheet and other statistics on investigation

- Used TB Risk Assessment Form for TB history
  - Difficult to get accurate data from inmates
  - Obtained list from jail medical staff on all inmates with chronic conditions

- Created a TST consent form for data collection
  - Used form developed for Hepatitis A outbreak (2010)
  - Allowed for easy collection of data for spreadsheet and TB-2 form
TB Risk Assessment Form

II. Screen for TB Infection Risk (Check all that apply)
Individuals with an increased risk for acquiring latent TB infection (LTBI) or for progressing to active disease once infected should have a TST. Screening for persons with a history of LTBI should be individualized.

A. Assess Risk for Acquiring LTBI
- Person is a current close contact of a person known or suspected to have TB disease
- Person has lived in a country - for 3 months or more - where TB is common, and has been in the US for 5 or fewer years
- Person is a resident or an employee of a high TB risk congregate setting
- Person is a health care worker who serves high-risk clients
- Person is medically underserved
- Person has been homeless within the last two years
- Person is an infant, a child or an adolescent exposed to an adult(s) in high-risk categories
- Person injects illicit drugs or uses crack cocaine
- Person is a member of a group identified by the local health department to be at an increased risk for TB infection
- Person needs baseline/annual screening approved by health dept.

B. Assess Risk for Developing TB Disease if Infected
- Person is HIV positive
- Person has risk for HIV infection, but HIV status is unknown
- Person was recently infected with Mycobacterium tuberculosis
- Person has certain clinical conditions, placing them at higher risk for TB disease
- Person injects illicit drugs (determine HIV status)
- Person has a history of inadequately treated TB
- Person is >10% below ideal body weight
- Person is on immunosuppressive therapy (this includes treatment for rheumatoid arthritis with drugs such as Humira, Remicade, etc.)

Pediatric Patients (<6 yrs of age)
- Wheezing
- Failure to thrive
- Decreased activity, playfulness, and/or energy
- Lymph node swelling

Pediatric Patients

III. Evaluation(s) (Check all that apply)
- Previous Treatment for LTBI and/or TB disease
- No risk factors for TB infection
- Risk(s) for infection and/or progression to disease
- Possible TB suspect
- Previous positive TST, no prior treatment

IV. Action(s) (Check all that apply)
- Issued screening letter
- Issued sputum containers
- Referred for CXR
- Other
- Referred for medical evaluation
- Administered the Mantoux TB Skin Test

Screeners signature and title: ____________________________
Date: __/__/____ Phone number: __________________________
Primary care provider: ________________________________
Primary care provider phone number: ____________________
Comments: __________________________________________
____________________________________________________
____________________________________________________

IMPORTANT:
A decision to test is a decision to treat. Given the high rates of false positive TB skin test results, the TB Control Program discourages administration of the Mantoux TST to persons who are at a low risk for risk for TB infection.
TUBERCULOSIS SKIN TEST ADMINISTRATION RECORD

NAME: ___________________________ SOCIAL SECURITY#: ___________________________

ADDRESS: ____________________________________________ STREET
CITY ______________________________________ COUNTY STATE ZIP

BIRTHDATE: __________/________/________ PHONE NUMBER_____________________________________

MONTH DAY YEAR

RACE: (Check ONE or MORE) □ (W) White □ (B) Black or African American □ (N) American Indian or Alaska Native*
□ (A) Asian □ (H) Native Hawaiian or Other Pacific Islander ETHNICITY: Hispanic or Latino □ Yes or □ No

SEX: (Check ONE) □ Male □ Female LOCATION: Boyd Co. Detention Center, Cadettsburg, KY.

EXPOSURE: _____ PRIMARY _____ SECONDARY

The health department may keep this record in a medical file. They will record the administration and results of the TB skin test. Documentation will include date given, skin test manufacturer, special lot number, the injection site, the signature and title of the person who gave the skin test, and the location where the vaccine was given.

“I have read or have had explained to me the information sheet: (Check ONE)
( ) Tuberculin Skin Test Information

I have had a chance to ask questions that were answered to my satisfaction. I believe I understand the benefits and risks of TB Skin testing (TST) and ask that the TST be given to me or to the person named above for whom I am authorized to make this request.

X ___________________________ DATE: ___________________________
Signature of person to receive vaccine or person authorized to make the request (parent or legal guardian)

FOR HEALTH DEPARTMENT USE ONLY
**Paper, Paper, Paper**

- Kept TST consent forms in 3-ring binder for easy access during readings & data analysis
  - Inmates arranged by Cell and then Alphabetically
  - Tabs for Law Enforcement, Friends/Family, Corrections Employees

- Binder also included inmate & friends/family lists
COMPLEX CONTACT TRACING

- May not be able to find all contacts in a complex investigation
  - Substance Abuse Issues
  - Lost to Follow-Up
  - Poor historians
- Difficult to keep track of connections to case
  - Hard to determine if Primary or Secondary
- Fear of TB may cause contacts to over-estimate risk
  - TB assessment form is helpful for this issue
PRIORITIZING CONTACTS

- Stratify identified contacts by their duration and intensity of exposure to source patient (CDC)
  - Classify HIV-infected & other immunosuppressed contacts as high priority regardless of duration and intensity of exposure (CDC)

- May be more difficult in complex investigations where case had many close contacts

- May be unable to find all primary contacts
  - Advise local infectious disease physician(s) & hospital infection control to watch for patients who were contacts
MEDIA & POLITICAL CONSIDERATIONS

- Investigations in certain settings will always trigger media interest
  - Correctional Facilities
  - Schools/Childcare
  - Hospitals
  - Long Term Care Facilities

- Have data available for media releases or inquiries as quickly as possible
  - Lowers public panic
  - Builds trust between agency & media
  - Slows rumor spread
MEDIA & POLITICAL CONSIDERATIONS

- Elected officials need access to data to make informed decisions and to alleviate public concerns
  - Data should be kept simple and concise
  - Take care to protect confidential information

- National/State statistics can be useful tools to explain risk to media and elected officials
  - Use trusted sources such as CDC & KDPH
LESSONS LEARNED

- Communication is key
  - Don’t forget community partners (not directly involved)
  - Have systems in place for rapid information sharing among community partners and media

- Educate, Educate, Educate
  - High turnover rates at hospitals & correctional facilities can contribute to misinformation and other issues
  - Educate community partners including public safety partners on infection control measures
  - Educate on after-hours contact procedures & when to notify LHD
If patient reports or you suspect:
  - Tuberculosis (TB)
  - Possible Bioterrorism Illness or Exposure (smallpox, anthrax)
  - Any unusual illness/symptoms

**HIGH PRIORTY**
(contact health dept. immediately)

- During Normal business hours (M-F, 8-4:30)
  - Call 329-9444 Press 0 and ask for Erin, Kristy or Maria

- After Hours contact Boyd County 911 at 329-2191 and ask for Public Health to be contacted

**MEDIUM PRIORTY**
(contact health dept. as soon as possible)

- If you have 5 or more cases of GI illness (vomiting, diarrhea), flu-like illness or rash illness

**Monday-Friday Contact:**
  - Erin 324-7181 ext 2262
  - Kristy 329-9444 ext 2232

  Leave a voicemail if after hours

- If on a weekend, contact Boyd County 911 at 329-2191 and ask for Public Health to be contacted
LESSONS LEARNED

- Use Regional Epidemiologist for data collection assistance
  - Not all assist with TB but all can assist with data collection/analysis

- Train PIO on handling outbreaks in congregational settings
  - Schools, Correctional Facilities, Long Term Care Facilities, Childcare Facilities and Hospitals
CONCLUSION

- Develop a data management plan in place BEFORE an outbreak/large contact investigation occurs

- Decide what data collection strategies work for your investigation team

- Develop relationships with community partners and media outlets
CONTACT INFORMATION

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