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 inquires
 - Easy to find number of TSTs completed, etc

	А	В	С	D	E	AW	AX	AY	AZ	BA	BB
4	Populations at Risk	Number of Persons in Each Group, All Ages	Number of Persons in Each Group, Aged 5 Yrs and Older	Number of Persons Seen By Health Dept / Provider	Number of Persons Remaining to be Evaluated by the Health Dept / Provider	Number of Persons with Suspected TB who have Positive AFB Sputum Smear Test Results and Negative NAA or GeneXpert Test Results			Number of Persons with Suspected TB who have Negative AFB Sputum Smear Test Results and Negative NAA or GeneXpert Test Results [Special Provider Order]		Number of Persons with Newly Suspected Active TB
	Roommates and Sick Inmates										
6	In Custody	210	210	210	0						
7	Other Agency				0						
8	Not in Custody				0						
	Close Contact Corrections Staff/Personnel	41	41	41	0						
10	BCDC Contracted Medical Staff	2	2	2	0						
11	Family	8	8	8	0						
12	Law Enforcement Personnel	11	11	11	0						
13	Total	272	272	272	0						
14											

	А	В	С	D	E	F	G	Н	I.
1									
2		٦	rst Gi	iven S	Septeml	ber 21	30, 2	2012	
3									
4									
5			BC	DC		Family/	Friends		
6			Inmates	Staff	Law Enforcement	Kentucky	Ohio	Courthouse Employees	TOTAL
7		Total Given (1st)	218	42	11	28		29	328
9		0mm	201	37	11	25		29	303
10		1-4mm	5	0	0	2		0	7
11		5mm +	4	0	0	1		0	5
12		10mm +	1	0	0	0		0	1
13		Not Read	7	5	0	0		0	12
15		Known + CXR	5	1	0	0		0	6
16		CXR (+) Results	0	0	0	0		0	0
17									

В	С	D	E	F	G	Н	I.
Test Res	ults (Perce	ntages)	Septe	embe	r 2012	
	BC	DC		Family/	Friends		
	Inmates	Staff	Law Enforcement	Kentucky	Ohio	Courthouse Employees	TOTAL
0mm	92.2%	88.1%	100.0%	89.3%		100.0%	92.4%
1-4mm	2.3%	0.0%	0.0%	7.1%		0.0%	2.1%
5mm +	1.8%	0.0%	0.0%	3.6%		0.0%	1.5%
10mm +	0.5%	0.0%	0.0%	0.0%		0.0%	0.3%
Not Read	3.2%	11.9%	0.0%	0.0%		0.0%	3.7%
Known + CXR	2.3%	2.4%	0.0%	0.0%		0.0%	1.8%
CXR (+) Results	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%

PAPER, PAPER, PAPER

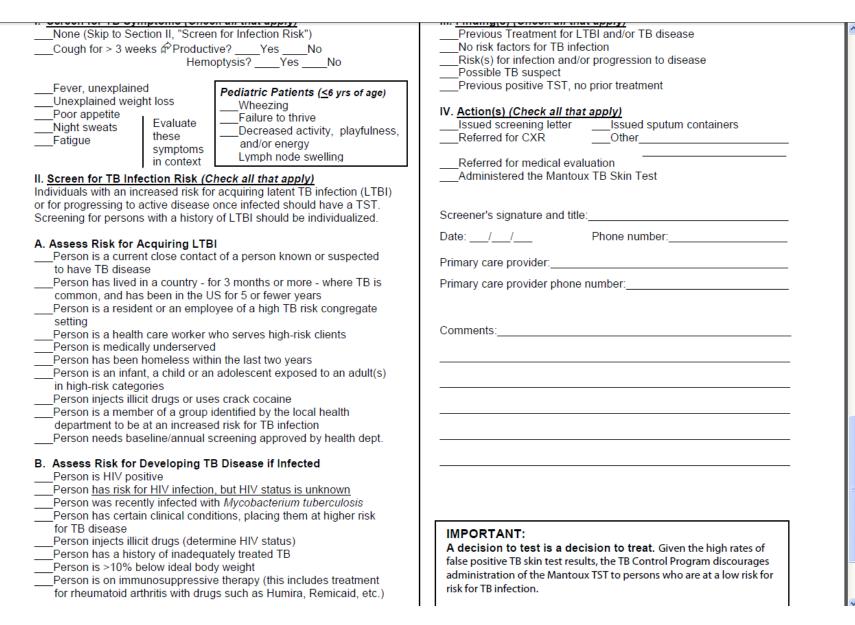
• Used TB-2 (12/2010) form to track contact data

- 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



	SOCIAL SECURITY#:
ADDRESS:	COUNTY STATE ZIP
BIRTHDATE: ////	PHONE NUMBER
	🗌 (B) Black or African American 🔲 (N) American Indian or Alaska Native*
	Pacific Islander ETHNICITY: Hispanic or Latino 🗌 Yes or 🗌 No
EX: (Check ONE) 🗌 Male 🗌 Female	LOCATION: Boyd Co. Detention Center, Catlettsburg, KY.
EXPOSURE: PRIMARYSEC	ONDARY
The health department may keep this record in a medical f nclude date given, skin test manufacturer, special lot num ocation where the vaccine was given.	file. They will record the administration and results of the TB skin test. Documentation will aber, the injection site, the signature and title of the person who gave the skin test, and the
	me the information sheet: (Check ONE)
() Tuberculin Skin Test Informa	tion
	ed to my satisfaction. I believe I understand the benefits and risks of TB Skin testing erson named above for whom I am authorized to make this request.
151) and ask that the 151 be given to me or to the pe	erson named above for whom I am authorized to make this request.
X	DATE:

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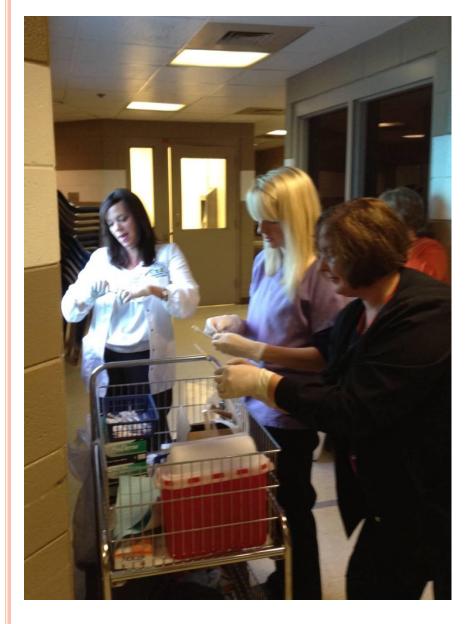
PAPER, PAPER, PAPER

• 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 inquires as quickly as possible
 - Lowers public panic
 - Builds trust between agency & media
 - Slows rumor spread

MEDIA & POLITICAL CONSIDERATIONS

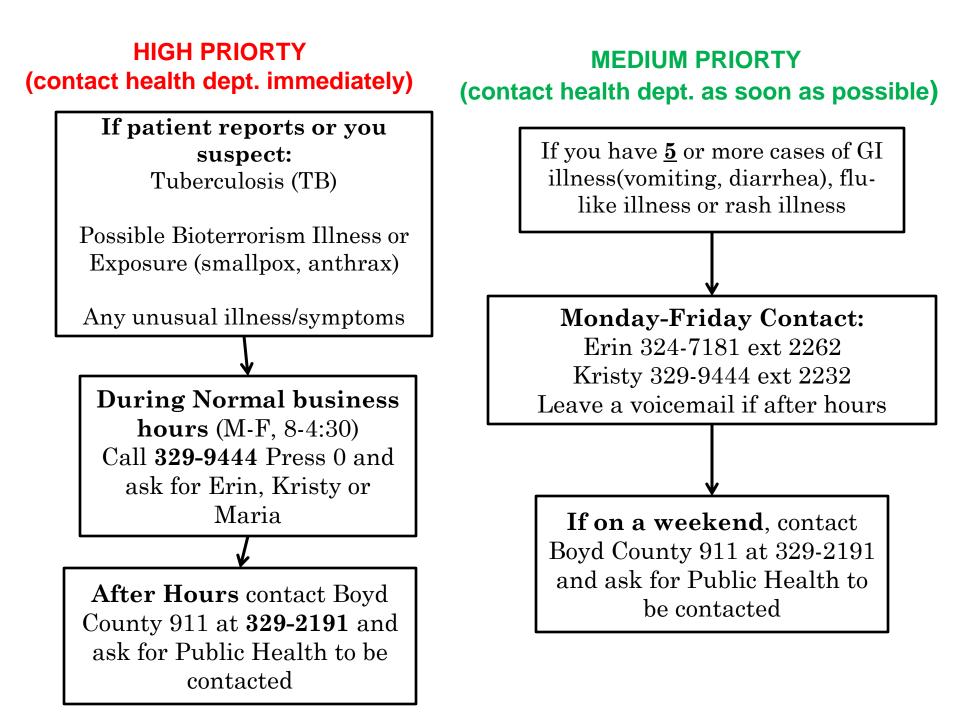
- Elected officials need access to data to make informed decisions and to alleviate public concerns
 - Data should be kept simple and concise
 - Take care to protect confidential information
- National/State statistics can be useful tools to explain risk to media and elected officials
 - Use trusted 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

o 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



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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