

# ACTIVE TUBERCULOSIS IN A DRUG TREATMENT FACILITY: CONTACT INVESTIGATION CHALLENGES AND SUCCESSSES

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Williamson County & Cities Health District

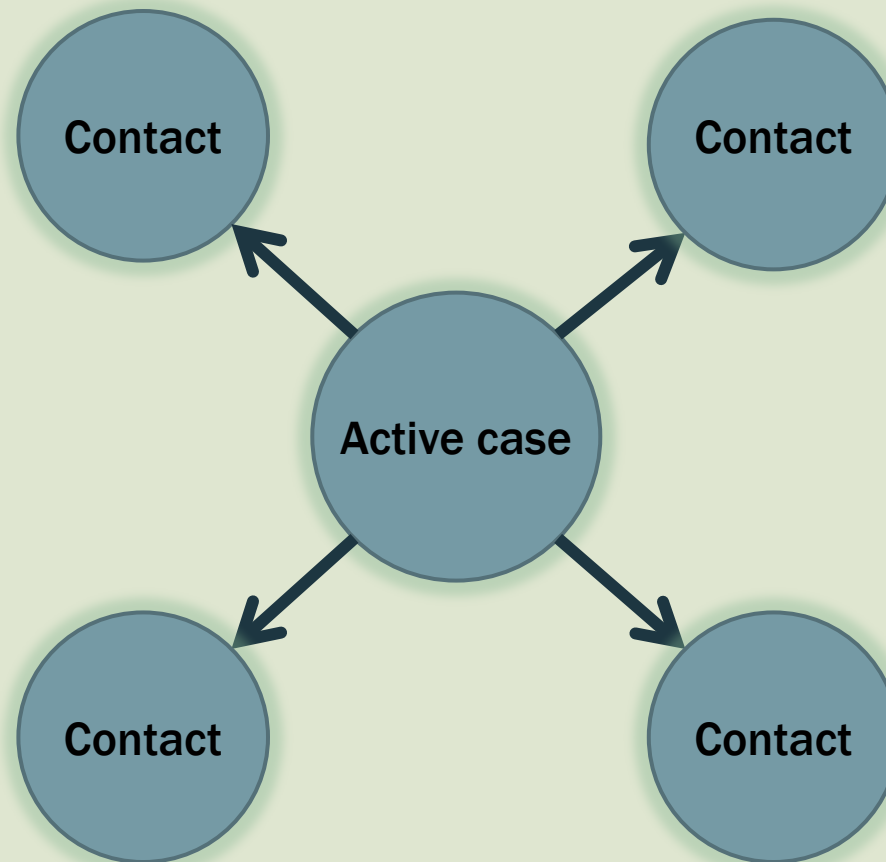
# INTRODUCTIONS

- Margaret Richardson, BSN, RN – Identification of active TB patient
- Ryan Moeller – Incident Management
- Elise Huebner, MS, CPH – Contact investigation
- Stella Mulhollan, BSN, RN – Treatment of latent TB patients

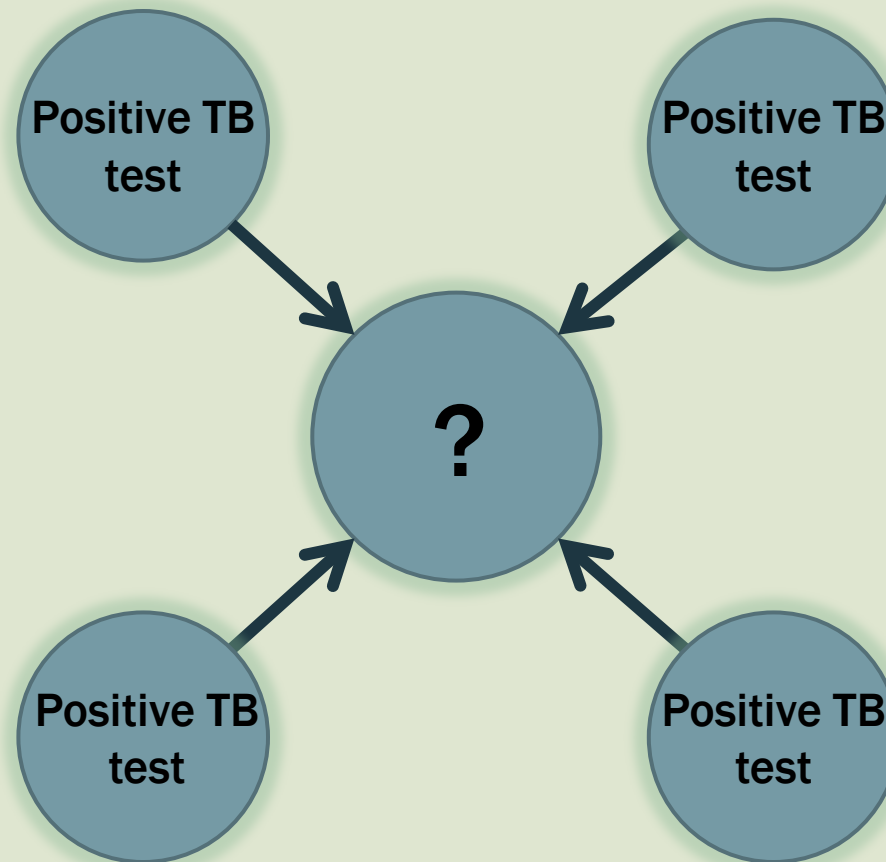
# DRUG TREATMENT FACILITY IN WILLIAMSON COUNTY



# TYPICAL TB CONTACT INVESTIGATIONS



# ATYPICAL TB CONTACT INVESTIGATION



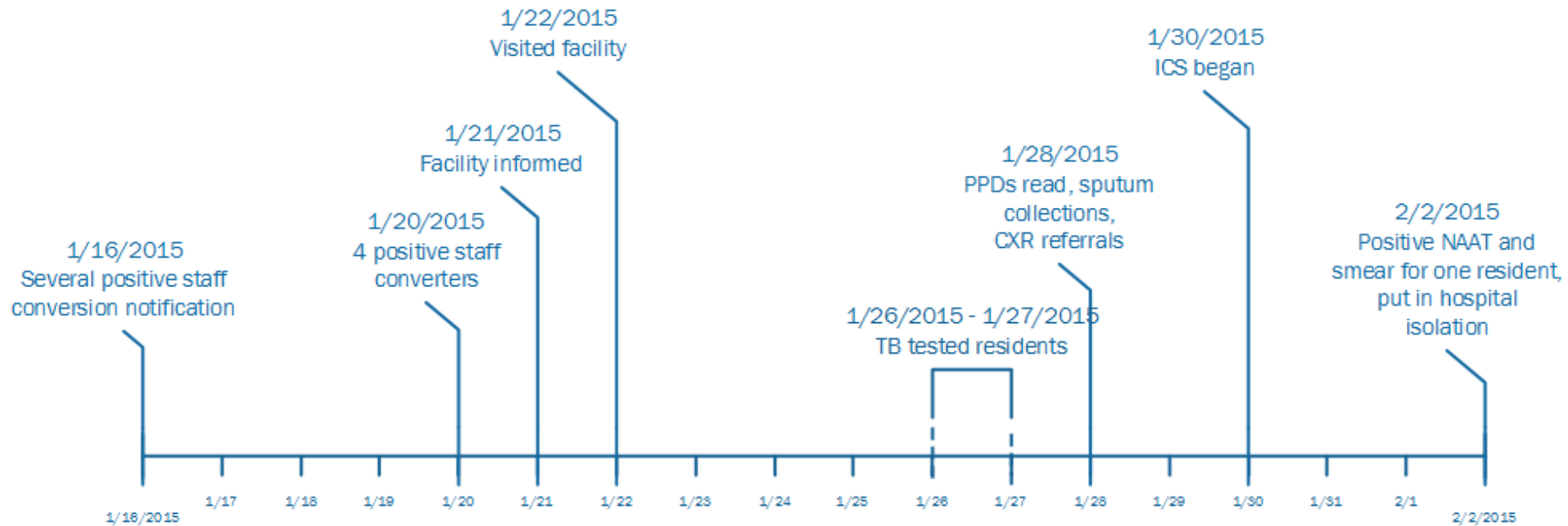
# FACILITY TB TESTING

- All residents were tested for TB prior to admission
- All staff were tested upon hire and annually
- All positive results had CXR (chest x-ray) done to rule out active TB
- We had baseline results on all residents/staff
- Conversions were noted on annual staff testing

# RISK FACTORS FOR THE DRUG TREATMENT FACILITY RESIDENTS

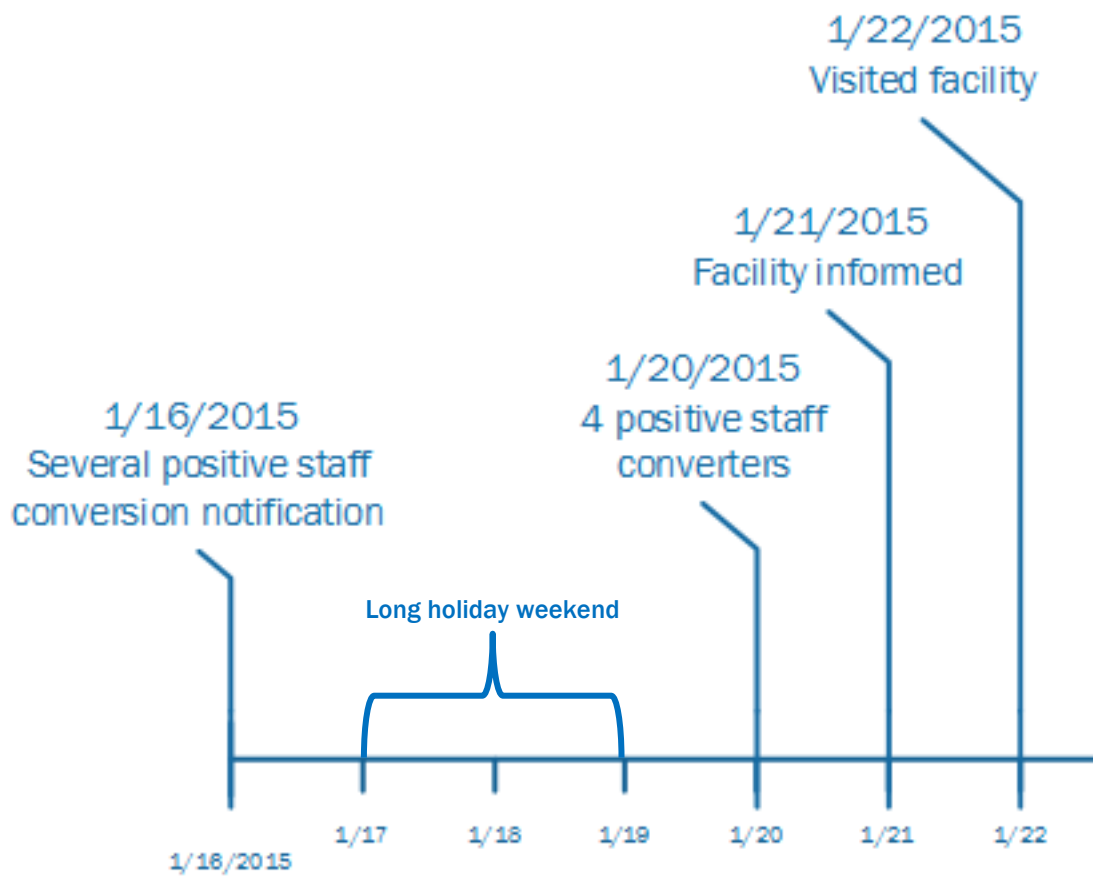
- Previously incarcerated at other correctional facilities
- Social behaviors
  - Previous substance abusers
    - Including IV drug use
- Sense of urgency due to discharges and admissions still occurring

# TIMELINE: IDENTIFYING THE ACTIVE TB PATIENT





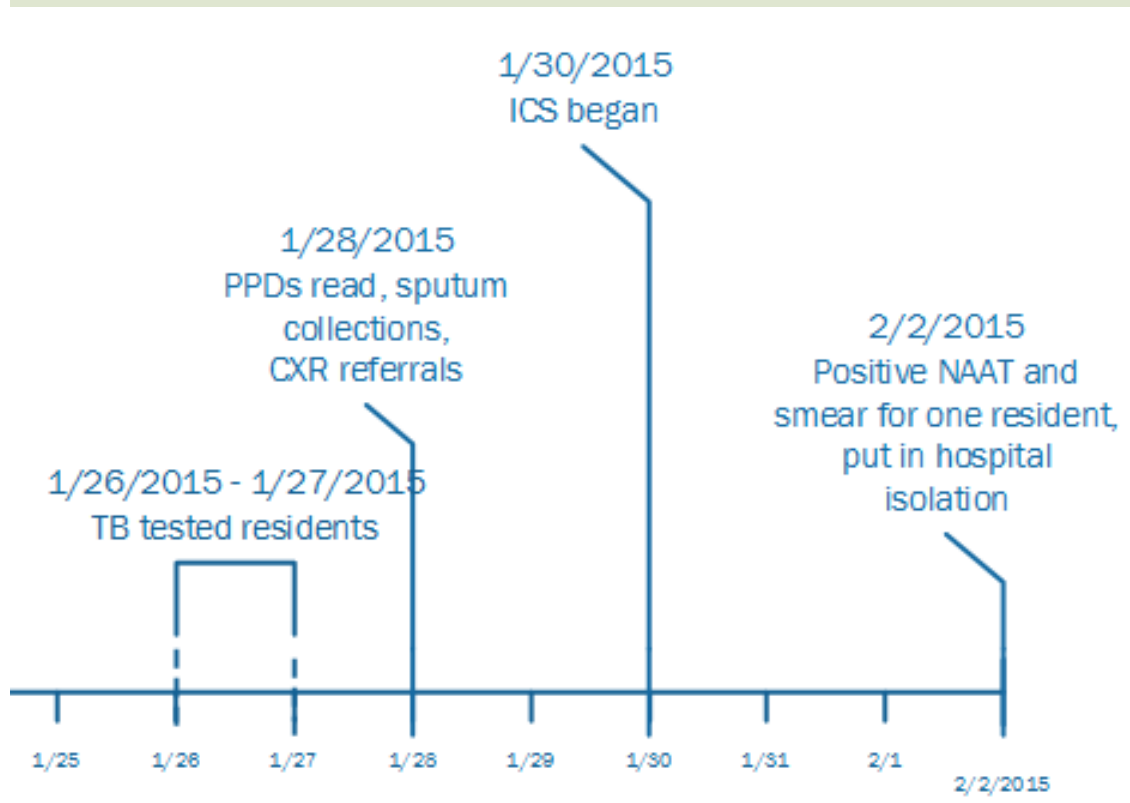
# TIMELINE: NOTIFICATION AND DISCUSSION



January						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

# TIMELINE: EVALUATING RESIDENTS AND ISOLATION OF ACTIVE TB CASE



### January

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

### February

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

# INCIDENT COMMAND IMPLEMENTATION

- WCCHD routinely refers clients for chest x-rays to a local hospital
- 40 clients identified as needing chest x-ray for TB exposure
- Hospital given 15 minutes notice
- Clients arrive in vans at hospital at 4:30pm on Friday

# INCIDENT ASSESSMENT

- Who's in charge?
- How long will this TB investigation last?
- Are there multiple jurisdictions involved?
- Are there multiple agencies involved?
- Could this incident have political sensitivities?
- Could this incident have media interest?
- Is the incident under control?
- Could this incident develop negative public perception?
- What are the agencies involved?

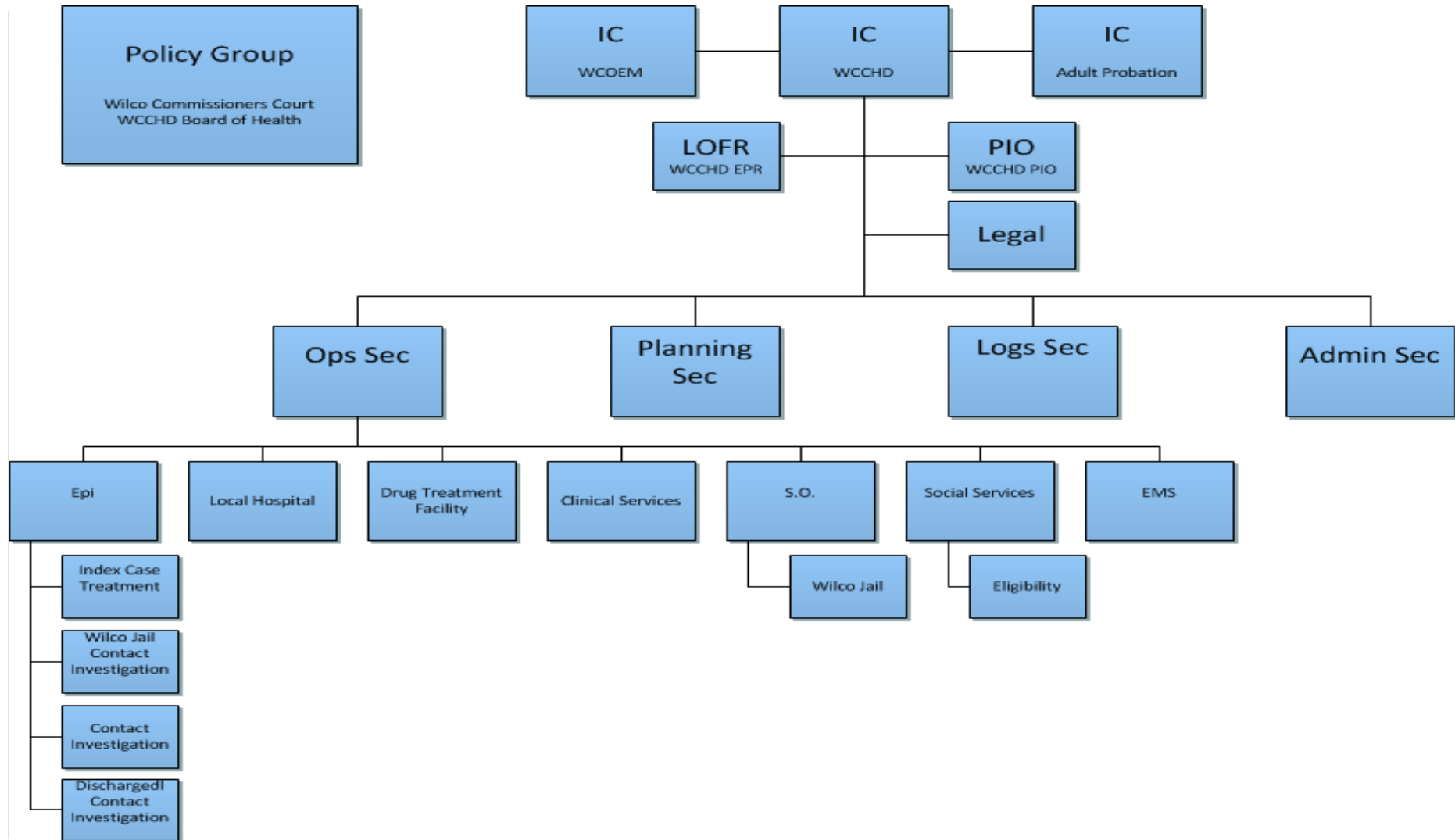
# AGENCIES INVOLVED

- **WCCHD**
  - Public Information Officer (PIO)
  - Emergency Preparedness and Response
  - Disease Control and Prevention
  - TB program
  - Clinical Services
  - Social Services
- **Drug Treatment Facility**
- **Adult Probation Services**
- **Texas Department of Justice**
- **Williamson County Office of Emergency Management**
- **Williamson County Emergency Communication Services**
- **Williamson County EMS**
- **Williamson County Sheriff's Department / Williamson County Jail**
- **Health Service Region 7**
- **Local Hospital**
- **Georgetown Office of Emergency Management**

# INCIDENT ACTION PLAN

- Identified all participating agencies
- Established a routine meeting/conference call schedule
- Established SMART objectives for each participating agency
- Established a SITREP schedule
- Established clear lines of communication and plan

# WHY WAS ICS NEEDED FOR THIS INVESTIGATION?



# CONTACT INVESTIGATION: IDENTIFYING ALL POSSIBLE CONTACTS

<b>Categories of Contacts Initially Identified</b>	<b>Count</b>
<b>Contract Workers</b>	<b>25</b>
<b>Drug Treatment Facility Discharged Residents</b>	<b>129</b>
<b>Drug Treatment Facility Residents</b>	<b>107</b>
<b>Drug Treatment Facility Staff</b>	<b>40</b>
<b>Drug Treatment Facility Visitors</b>	<b>132</b>
<b>Drug Treatment Facility Volunteers</b>	<b>157</b>
<b>Jail Contact - Inmates</b>	<b>171</b>
<b>Jail Contact - Officers</b>	<b>24</b>
<b>Public Health Staff</b>	<b>11</b>
<b>Social Contacts to the Active Case</b>	<b>3</b>
<b>Grand Total</b>	<b>799</b>




# CONTACT INVESTIGATION: PRIORITIZED CONTACTS FOR EVALUATION

Categories of Contacts Prioritized for Testing	Count
Contract Workers	14
Drug Treatment Facility Discharged Residents	63
Drug Treatment Facility Residents	80
Drug Treatment Facility Staff	40
Drug Treatment Facility Visitors	0
Drug Treatment Facility Volunteers	29
Jail Contact - Inmates	171
Jail Contact - Officers	24
Public Health Staff	11
Social Contacts to the Active Case	3
<b>Grand Total</b>	<b>435</b>

# EPIDEMIOLOGICAL INVESTIGATION TOOLS

QUESTIONNAIRE #: \_\_\_\_\_  
 DATE COMPLETED: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 TIME COMPLETED: \_\_\_\_:\_\_\_\_:\_\_\_\_  
 INTERVIEWER: \_\_\_\_\_

**Williamson County & Cities Health District  
 TB Contact Investigation**



CONTACT TYPE:  RESIDENT  CTC EMPLOYEE  OTHER: \_\_\_\_\_

Hello, my name is \_\_\_\_\_. I am working with the Williamson County health department investigating your recent exposure to a possible case of tuberculosis, or "TB". It is important that we talk with everyone about their possible interactions and risks for TB so that we can make recommendations for persons involved in this situation, and to help us prevent infections in similar future situations. Your participation is completely voluntary. All information will be kept completely confidential. No material which could personally identify you will be used in any reports that may be made about this situation. The interview should take about 15-20 minutes. You do not have to answer all the questions, and you can stop the interview at any time. Do I have your consent to continue with the interview?  Yes, Consented  No, Declined

**DEMOGRAPHICS**  
 I'd like to confirm a few details about who you are:

CONTACT: \_\_\_\_\_ DATE OF BIRTH: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Last Name First Name

COUNTRY OF BIRTH: \_\_\_\_\_ SEX:  Male  Female ETHNICITY:  Hispanic  Non-Hispanic  Declined

RACE:  White  Black  Asian  Pacific Islander  Native American  Declined  Other: \_\_\_\_\_

LANGUAGE:  English  Spanish  Other: \_\_\_\_\_

OCCUPATION: \_\_\_\_\_  Currently employed  Former, last date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**TB SYMPTOM REVIEW**  
 Are you currently experiencing any of the following:  No symptoms at this time

Fever  Chills  Cough  Productive cough  Coughing up blood  Night sweats  Weight loss (>10%)  Swollen glands in neck

If yes to any symptom: When did your symptom(s) first begin? DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

**RISK ASSESSMENT**  
 I'd like to ask you some questions about lifestyle activities or behaviors that might affect your risk for tuberculosis.

Have you had the BCG vaccine?  Yes  No  Don't know  Declined  
 If yes, YEAR: \_\_\_\_\_  Known  Approximate

In your lifetime, have you ever consumed unpasteurized dairy products?  Yes  No  Don't know  Declined  
 If yes, what was the year of your most recent consumption? \_\_\_\_/\_\_\_\_/\_\_\_\_  Don't know  Declined

In the last 6 months, did you smoke any tobacco?  Yes  No  Don't know  Declined  
 If yes, did you smoke  Cigarettes  Cigars  Cigarillos/Little Cigars  Pipe tobacco

In the last six months, how many cigarettes or other tobacco products did you smoke per day?  Declined  
 I did not smoke tobacco in the last six months

Less than 1 cigarette/day  
 2-5 cigarettes/day  
 6-10 cigarettes/day  
 11-20 cigarettes/day  
 More than 20 cigarettes/day

A drink of alcohol is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail or 1 shot of liquor

In the last 6 months, have you had 5 or more drinks of alcohol within a couple of hours?  Yes  No  Don't know  Declined  
 In the last 6 months, did you inject any drugs not prescribed by a doctor?  Yes  No  Don't know  Declined  
 In the last 6 months, did you use street drugs that were smoked or vaped?  Yes  No  Don't know  Declined  
 In the last 6 months, did you use street drugs that were not injected or smoked?  Yes  No  Don't know  Declined

TB Investigation Questionnaire February 2015

★ TEXAS DEPARTMENT OF CRIMINAL JUSTICE  TDCJ Home

## Offender Information Search

Please specify one or more of the following fields:

[Search Hints](#)

**Last Name:**

**First Name:**

**TDCJ Number:**

**SID Number:**

**Gender:** ALL ▼

**Race:** ALL ▼

**Texas Department of State Health Services  
 Tuberculosis Referral Form**

Date: \_\_\_\_\_

To: Receiving Person or Agency and Address	From: Address of Person of Referring Agency
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Patient \_\_\_\_\_ Social Security Number \_\_\_\_\_

# CONTACT INVESTIGATION: FINAL CASE STATUS (PERCENTS)

Categories of Contacts Final Case Status	Confirmed	LTBI	Previous Tx	Not a Case	Lost to Follow Up	Total
Contract Workers				57%	43%	100%
Drug Treatment Facility Discharged Residents		25%		31%	44%	100%
Drug Treatment Facility Residents	1%	34%	1%	56%	8%	100%
Drug Treatment Facility Staff		18%	3%	80%		100%
Drug Treatment Facility Visitors						0%
Drug Treatment Facility Volunteers		3%	3%	72%	21%	100%
Jail Contact - Inmates			3%	26%	71%	100%
Jail Contact - Officers				96%	4%	100%
Public Health Staff			9%	91%		100%
Social Contacts to the Active Case				100%		100%
<b>Grand Total</b>	<b>0%</b>	<b>12%</b>	<b>2%</b>	<b>49%</b>	<b>37%</b>	<b>100%</b>

# CONTACT INVESTIGATION: FINAL CASE STATUS (COUNTS)

Categories of Contacts Final Case Status	Confirmed	LTBI	Previous Tx	Not a Case	Lost to Follow Up	Total
Contract Workers				8	6	14
Drug Treatment Facility Discharged Residents		9		11	16	36
Drug Treatment Facility Residents	1	36	1	60	9	107
Drug Treatment Facility Staff		7	1	32		40
Drug Treatment Facility Visitors						0
Drug Treatment Facility Volunteers		1	1	21	6	29
Jail Contact - Inmates			5	44	122	171
Jail Contact - Officers				23	1	24
Public Health Staff			1	10		11
Social Contacts to the Active Case				3		3
<b>Grand Total</b>	<b>1</b>	<b>53</b>	<b>9</b>	<b>212</b>	<b>160</b>	<b>435</b>

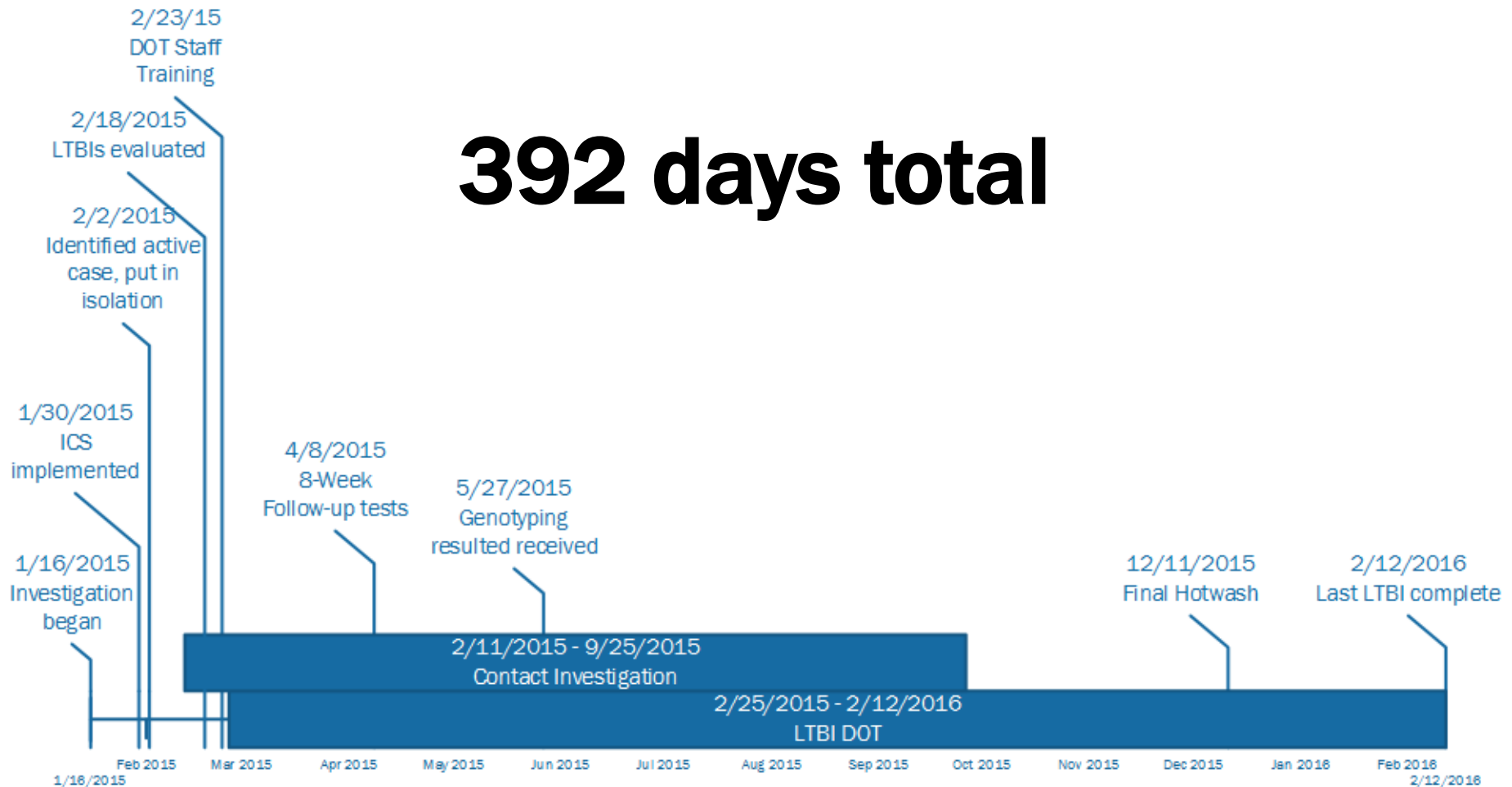
# LATENT TB TREATMENT

- Staff of the Drug Treatment Facility
  - Tested and treated at area WCCHD sites
- Residents of the Drug Treatment Facility
  - Strict facility rules and limited resources necessitated a non-standard approach to LTBI therapy
  - Facility staff trained to perform directly observed therapy (DOT)

# CLINICAL SERVICES NURSING RESPONSIBILITIES

- Initiated and managed LTBI therapy for residents
- Served as subject matter experts for residents and staff
- Performed monthly toxicity assessments
- Medical director – onsite physical examinations
- Coordinated post-discharge continuation of LTBI therapy

# COMPLETE TIMELINE



# STRENGTHS

- **Identification of active TB patient**
  - Full cooperation from facility
  - Partnerships with ATCHHS, DSHS Region 7, and DSHS Central Office provided additional nurses, epidemiologists, and phlebotomists
  - Investigation was kept out of the media
- **Incident Management**
  - Effective and appropriate in managing a large-scale contact investigation
  - Planning and partnerships with other local emergency organizations valuable for timely communication and cooperation
  - Collaborated with WCCHD Social Services to assist active TB patient



# STRENGTHS (CONTINUED)

## ■ Contact investigation

- Texas Department of Justice, Williamson County Jail, DSHS Region 7, ATCHHS, other LHDs very helpful in tracking down and testing contacts
- Drug treatment facility provided contact information on former residents and volunteers

## ■ Treatment of latent TB patients

- Completion rates:
  - Staff: 100%
  - Residents for which WCCHD Initiated LTBI Treatment: 97% !!!
    - National average: 46%<sup>1</sup>

<sup>1</sup>Young, K., Ehman, M., & Reves, R. (2016). Tuberculosis Contact Investigations — United States, 2003–2012. Morbidity and Mortality Weekly Report (MMWR), 64(50), 1369-1374. Retrieved February 19, 2016, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a1.htm>

# CHALLENGES

- **Identification of active TB patient**
  - Former substance abusers can be difficult blood draws
    - Some needed counseling by facility staff post-blood draw
  - WCCHD clinical surge capability, specifically phlebotomy
- **Incident Management**
  - Back-door request for information from outside agency
  - A post on social media created a confidentiality concern

# CHALLENGES (CONTINUED)

- **Contact investigation**
  - Locating and testing previous residents
  - Incorrect addresses provided
  - Many counties involved → referral paperwork retrieval took longer
- **Treatment of latent TB patients**
  - Some residents had contraindications to 12-week therapy and needed either 4-month or 9-month therapy
  - Prior to therapy completion, some residents were discharged and left the county, making transitional care difficult

# RECOMMENDATIONS & LESSONS LEARNED

## ■ WCCHD

- Initiate ICS sooner to:
  - Avoid testing delays and miscommunication with other organizations
  - Improve coordinated efforts
- Involve WCCHD and Williamson County PIOs sooner
- Update the drug treatment facility more frequently during initial ICS

## ■ DSHS Region 7

- Support WCCHD's ICS structure and provide expertise, resources
- Follow-up with residents on any STD testing provided

## ■ Drug Treatment Facility

- Log all room and roommate assignments
- Maintain up-to-date volunteer information

# ACKNOWLEDGMENTS

- Austin/Travis County Health and Human Services
- City of Georgetown Emergency Management
- City of Georgetown Fire Department
- St. David's Healthcare
- Texas Department of Criminal Justice
- Texas Department of State Health Services
- Williamson County & Cities Health District
- Williamson County Adult Probation Department
- Williamson County Emergency Communications
- Williamson County EMS
- Williamson County Office of Emergency Management
- Williamson County Sheriff's Office

# QUESTIONS? CONTACT US

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