

# Investigating Contacts in a PZA Resistant Outbreak

[Richmond City Health District](#)

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# KEY

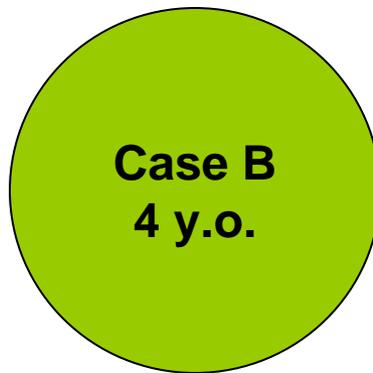
- Case A TB cases: 
- LTBI (+)TST: 
- (-)TST: 
- Case C TB cases: 
- Case C LTBI cases 

# September – December 2009

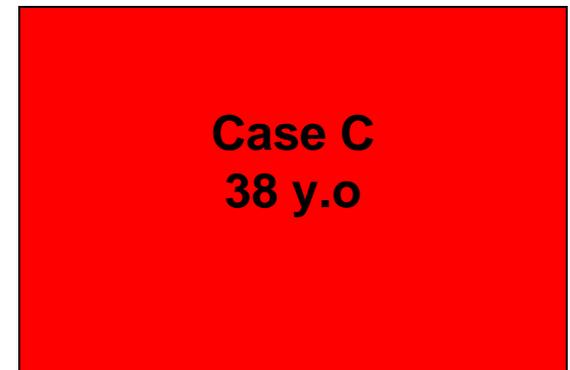
- Three separate Contact investigations



37 Contacts



34 Contacts

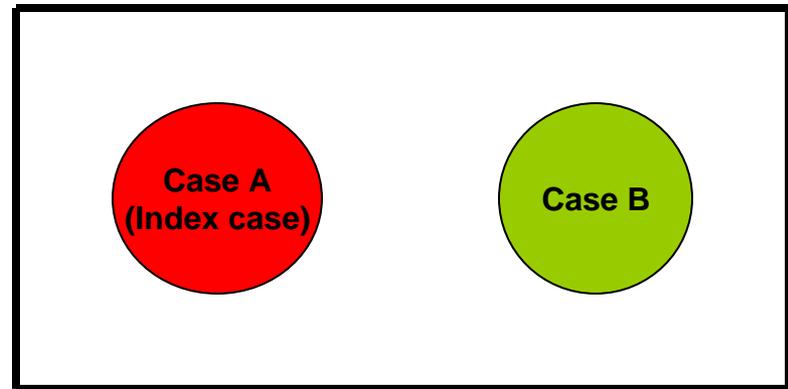


47 Contacts

# Pyrazinamide( PZA) Resistant

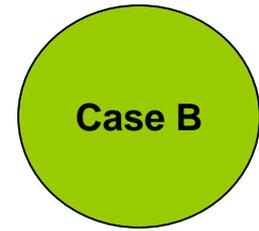
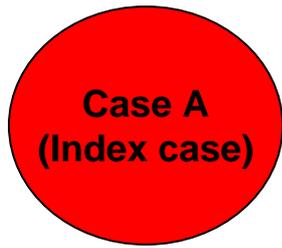
- Preliminary Report released on 10/20/2009 indicated Case A was PZA resistant
- Preliminary Report released on 11/12/2009 indicated Case B was PZA resistant
- BCG and M.Bovis ruled out

**PZA** →  
**Resistant**



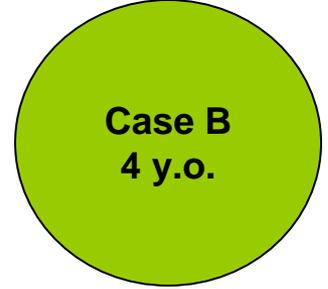
# Contact Investigation as of October and Early November 2009

- **Was there a connection? Both PZA Resistant**



# Mid November 2009

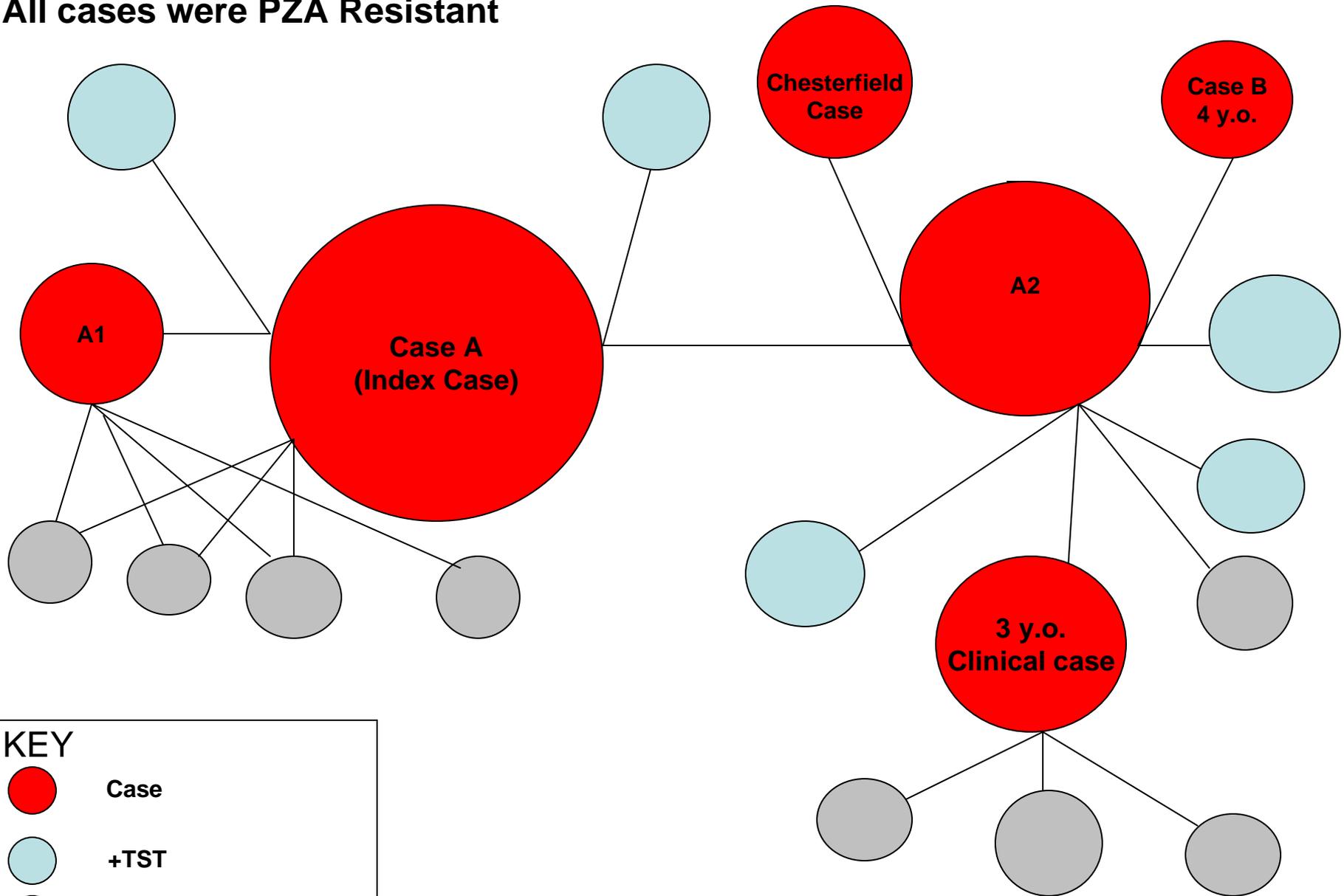
Separate Case



-

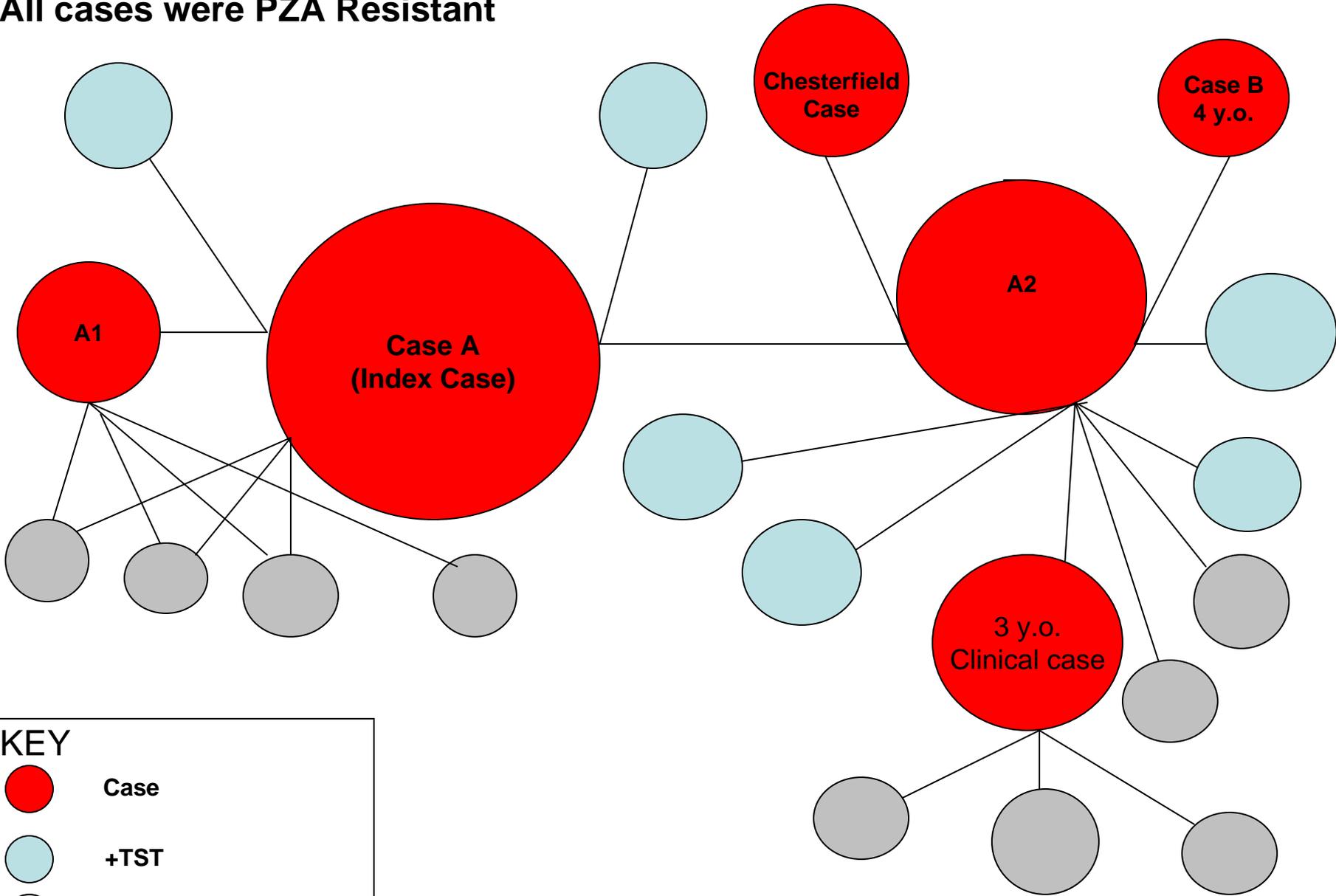


**Late November and December 2009**  
**All cases were PZA Resistant**



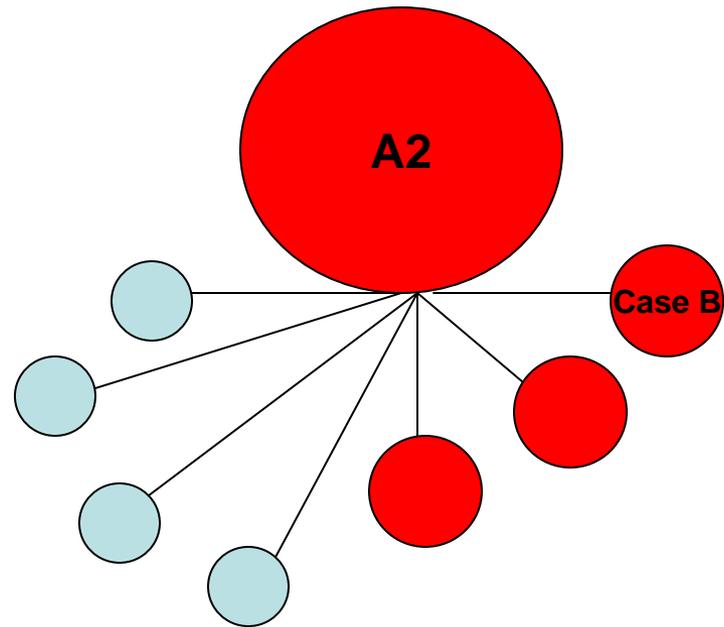
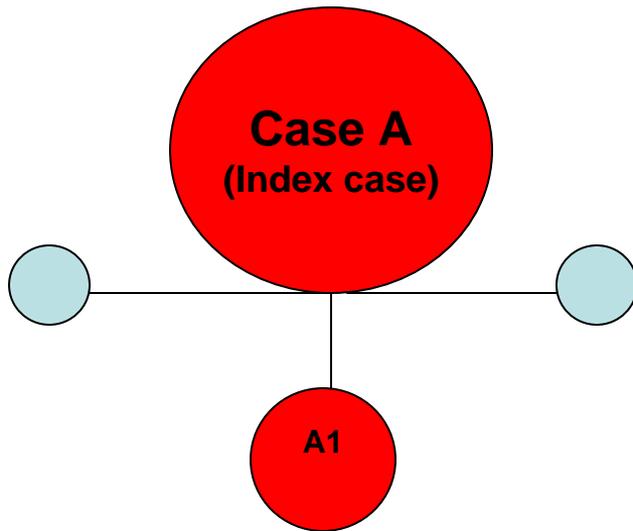
KEY	
	Case
	+TST
	-TST

**Late November and January 2010**  
**All cases were PZA Resistant**



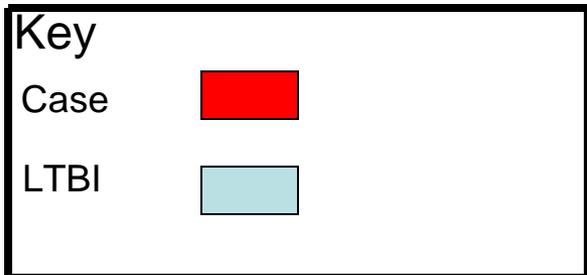
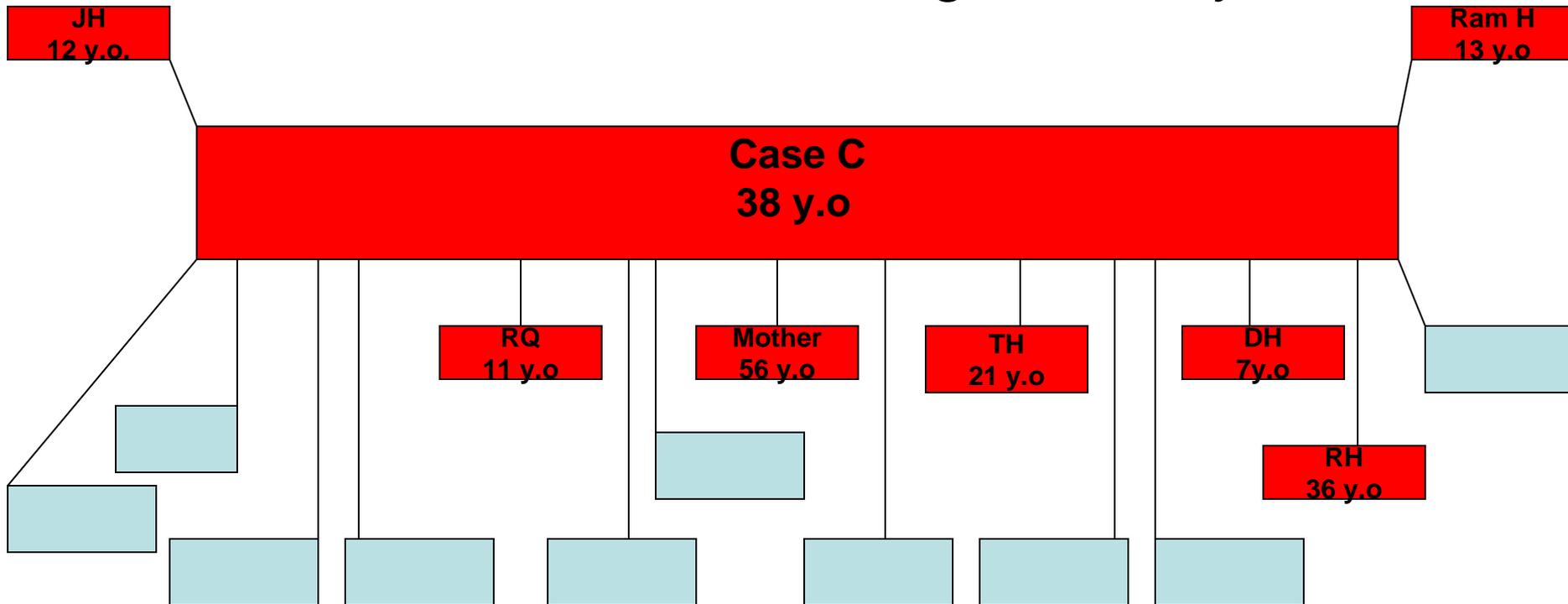
KEY	
	Case
	+TST
	-TST

# Case A vs. Case A2 as Source Case



# Case C

Late December 2009 through January 2010



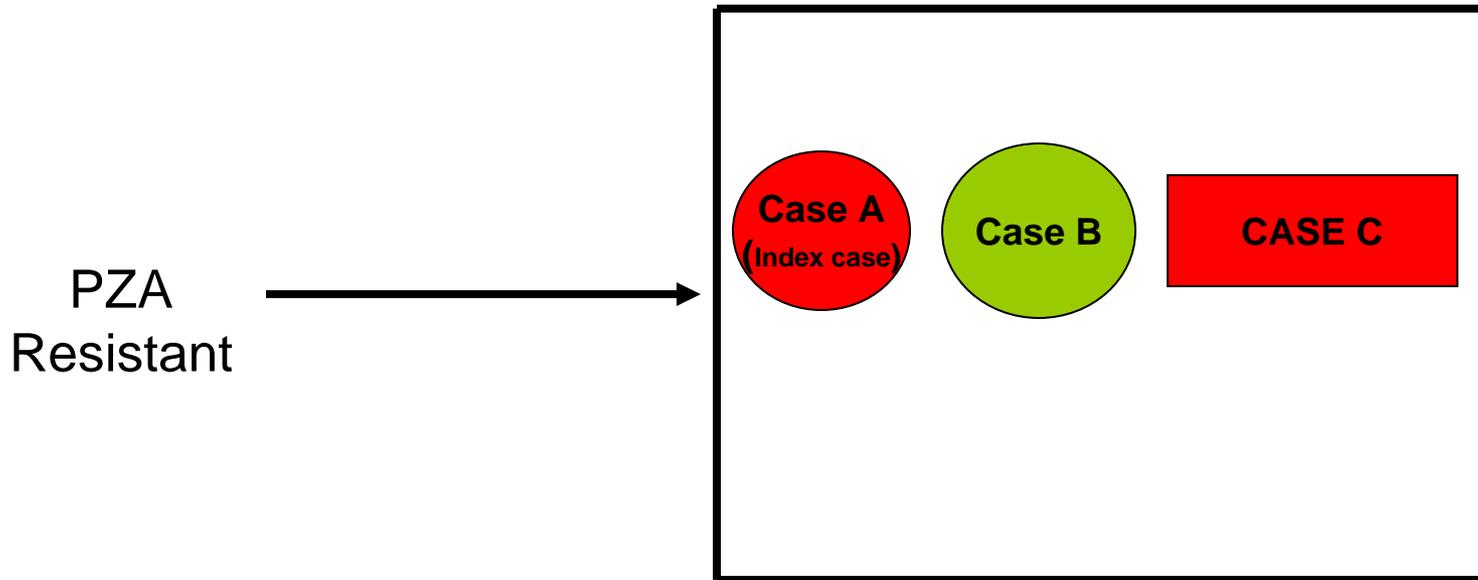
# Public Health Response Team was Convened



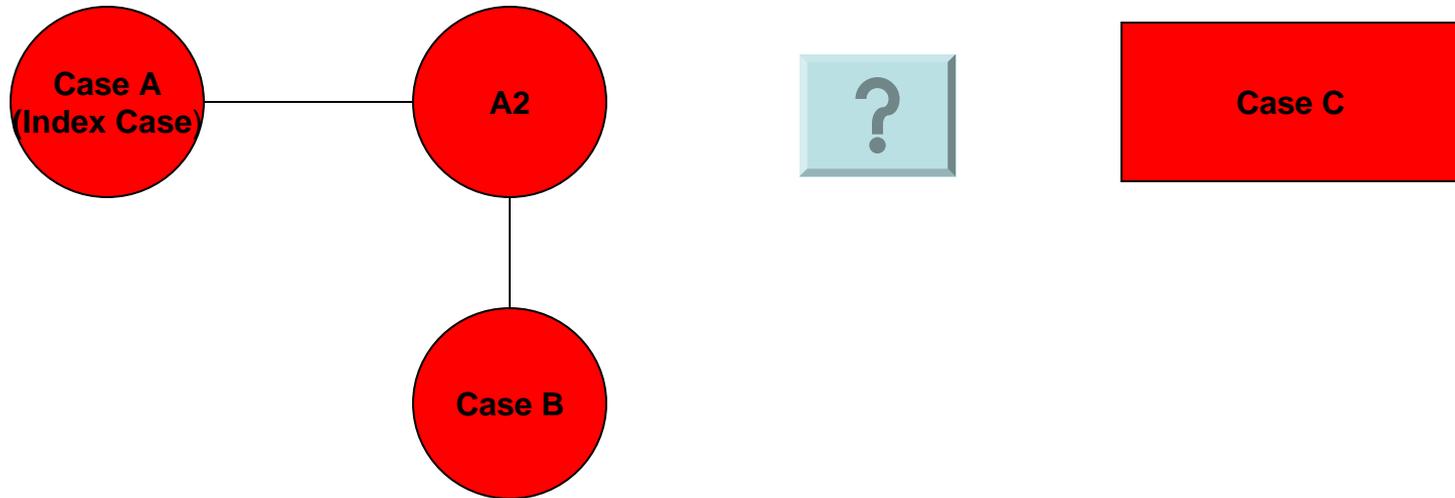
## Enhanced Recommendations followed per suggestion of TB Control

- All Contacts receive CXR
- Contacts with abnormal CXR evaluate with sputum sample
- Contacts with normal CXR, asymptomatic placed on LTBI treatment regardless of TST result
- Contacts with –TST continue of window prophylaxis until 2<sup>nd</sup> TST 10-12 weeks after contact is broken
- Contacts with +TST LTBI treatment for 9 months
- If feasible treatment for LTBI contacts should be DOPT
- For contacts who are either unable or refuse LTBI enhanced follow-up and monitoring should be undertaken during the first 2 years of post contact. The contacts that do not receive LTBI treatment should be monitored every 3 months by symptom screening. Repeat CXR every 6 months during this time period can also be considered

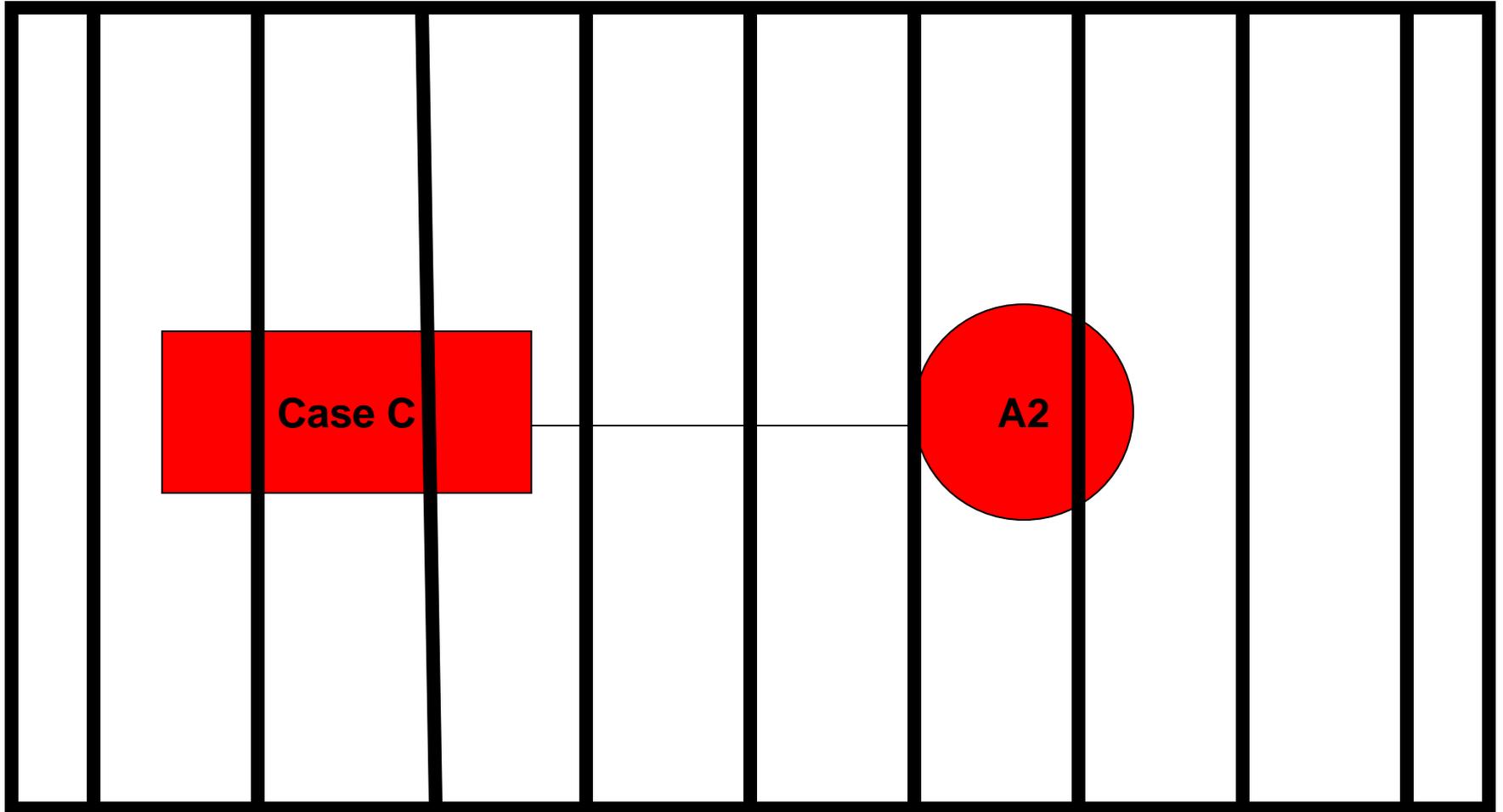
# Case C Proved to be PZA Resistant



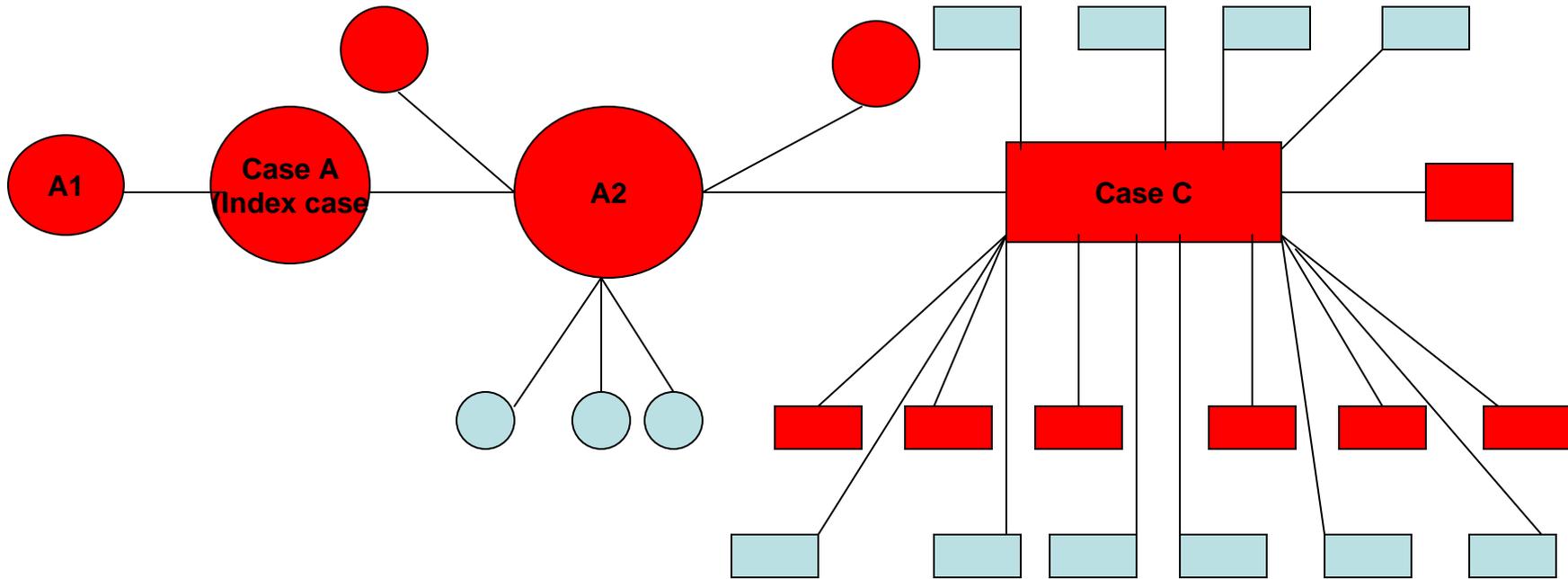
# Was there A Connection?



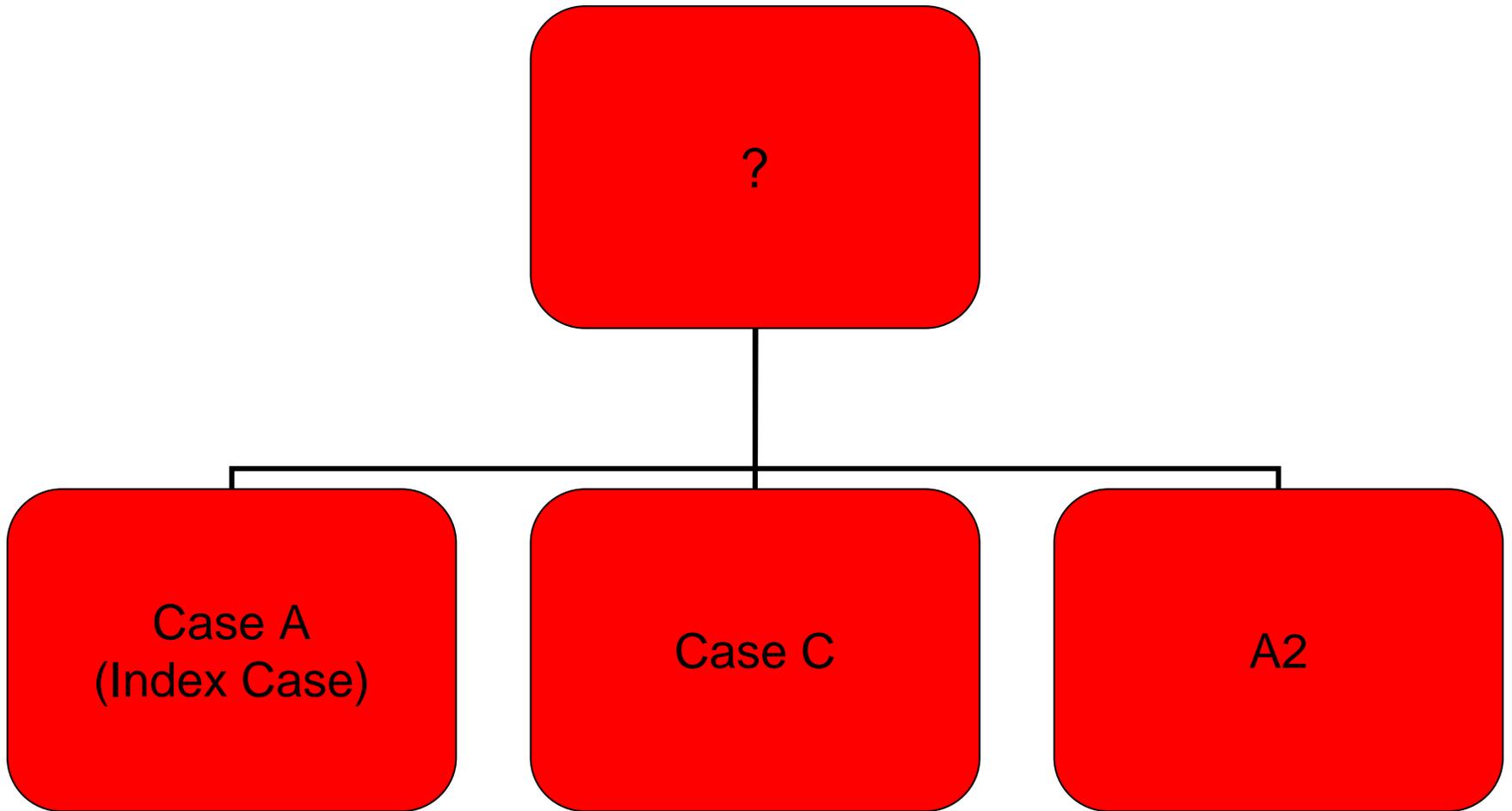
Linkage between Case B and DL  
Cell mates in Local Jail  
between March 2009 to May/June 2009



# Epi Linked

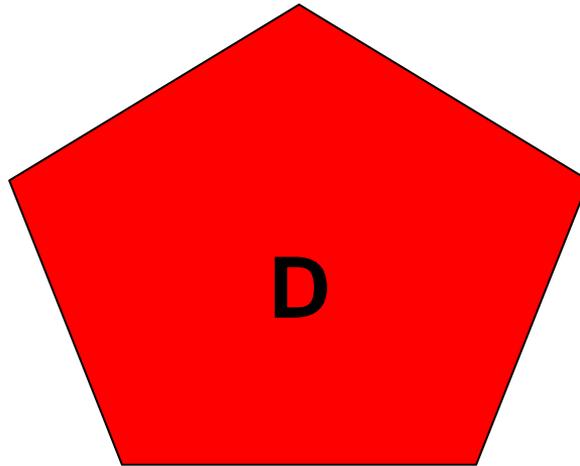


# Source Case?



# Investigation Continues

- PZA resistant case found in 08/2010
- No Epi link established yet



# In summary

- 14 PZA resistant cases (including Case in Chesterfield)  
All on DOT
- Total # LTBI = 15
- Total # Window CP = 3
- Total # Contacts = 118
- Common Factors: African-American, Hx of incarceration, the majority below the age of 30, and substance abuse.
- Recommendations for Enhanced Evaluations Utilized

# Concerns

- The Rapidity of LTBI to TB Disease
- Level of Virulence?
- The significant amount of young people developing TB Disease
- Non-compliance
- Logistics of administering DOT ie school setting
- Instability of Patient's Home Environments effecting treatment
- Risk of Liver toxicity due to ETOH abuse