

**Think about issues and concerns
regarding each
of these next cases.**

What would you do differently?



Case Presentations!

Issues & Concerns

Case One - Prison

- 39 y.o. B/F
- Homeless
- Medical history
 - Substance abuse
 - Diabetes
 - HIV-negative
 - Asthma
- Diagnosed with TB
 - **4/8/05** – from sputum collected at local hospital emergency room **after release from prison**
- Sputum
 - Smears 4+, 4+, 3+
 - Culture positive - Pansensitive
- Infectious period
 - Original – 2/8/05 – 4/8/05
 - **After Review**
 - 2/8/04 to 4/8/05
- History somewhat inaccurate
 - Information from patient
 - “Released from prison **three months prior**”
 - “No symptoms at that time”
 - No further follow-up done by local health department immediately

Incarceration History

Dates of Incarceration	
County Jail	State Prison
<ul style="list-style-type: none">In and out of jail 3 times <p>TST - 20 mm</p> <ul style="list-style-type: none">2004 CXR - stated "WNL" no active disease	<p>4/27/04 to 3/25/05</p> <p>TST - 30 mm</p> <hr/> <p>Infectious period</p> <p>2/8/04 to 3/25/05</p>

Case History While Incarcerated in Prison (11 months)

- Prison nurse stated she did not believe the client was infectious – saw no cavities on the x-ray
 - The physician agreed!

Chest Radiography in Prison

<ul style="list-style-type: none">• 5/3/04 CXR – abnormal – enlarged hilar markings, otherwise Normal	<ul style="list-style-type: none">• 10/20/04 CXR – abnormal, bilateral pneumonia, PCP considered
<ul style="list-style-type: none">• 5/10/04 – CT scan – abnormal	<ul style="list-style-type: none">• 11/3/04 – CXR – abnormal, suspicious for sarcoidosis
<ul style="list-style-type: none">• Recommend bronchoscopy – refused!	<ul style="list-style-type: none">• 6/16/04 – CXR – abnormal
<ul style="list-style-type: none">• 5/17/04 – CT scan neck – negative	<ul style="list-style-type: none">• 2/4/05 – CXR abnormal – bilateral pneumonia

Sick Calls Identified from Chart Review

- Numerous complaints and medical encounters
 - Did not appear to be related – all dealt with separately
 - 38 sick calls and medical encounters with complaints of:

cough

chest pain (right sided)

laryngitis

asthma

lump in right neck

talking in a whisper

dry hoarse voice

feeling tired

nonproductive cough

sinus congestion

bronchitis

bad cold

throat sore

flu-like symptoms

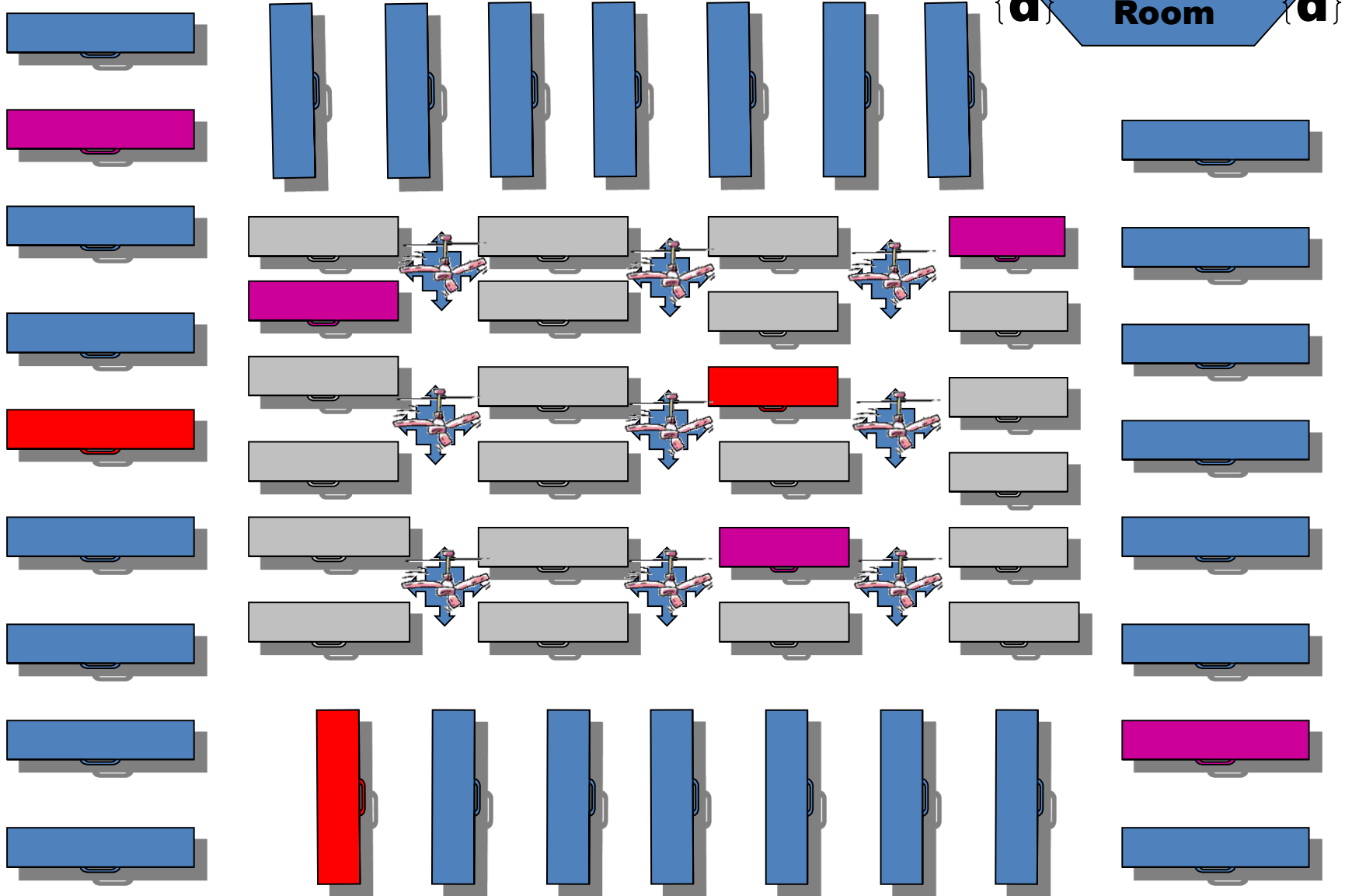
productive cough

throat scratchy

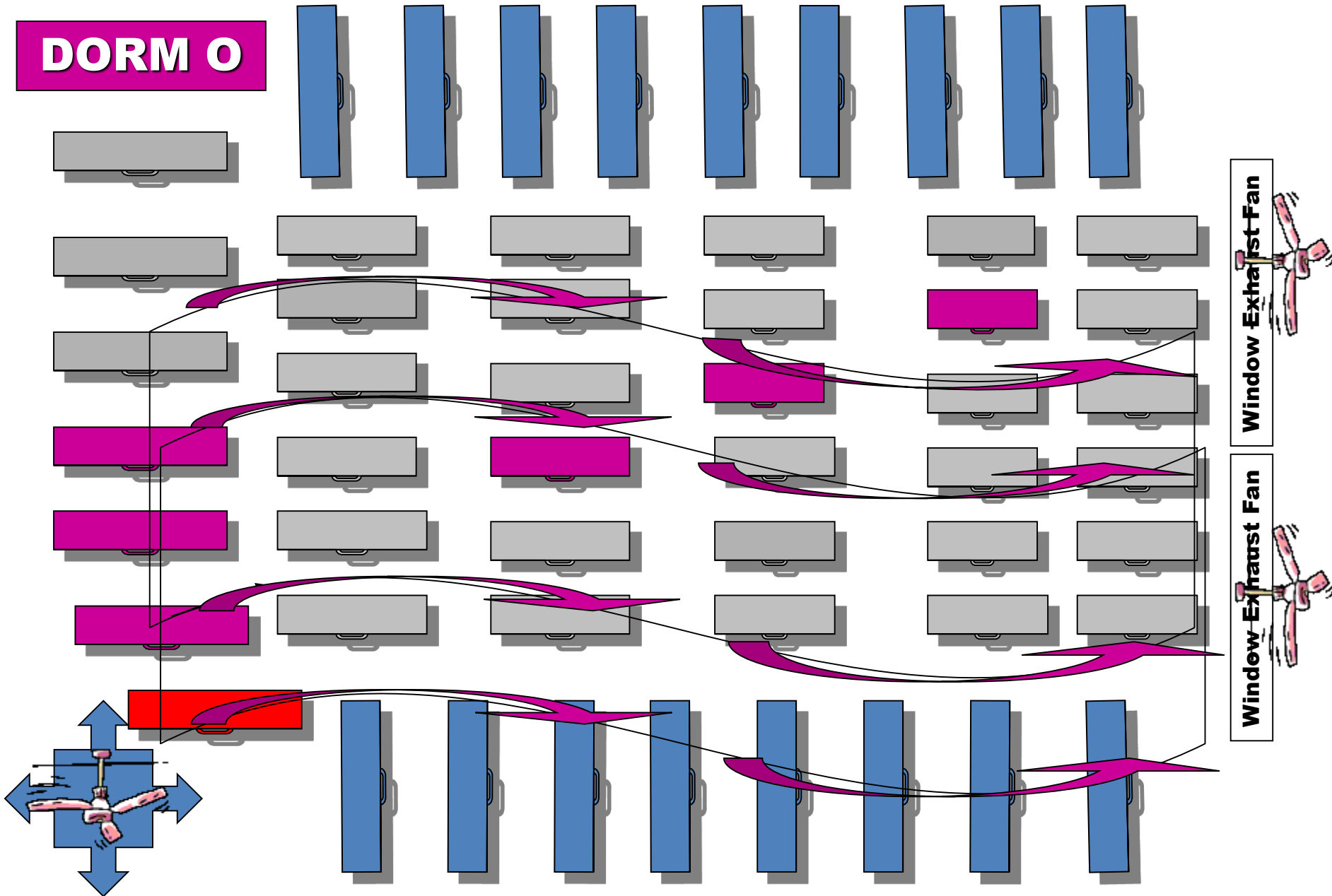
pneumonia

allergies

DORM A



DORM O



The Contact Investigation

- Initially identified 1,210 inmates and 230 custodial and medical staff as contacts (only treated as CI at first)
- Testing
 - Custody staff tested
 - 38 with positive TSTs
 - Some with blisters
 - **Worker's Compensation did not believe they were positive TSTs**
- Attention focused on workers, not on high-priority inmates
 - **Six more inmates identified as suspects within a two-week period**

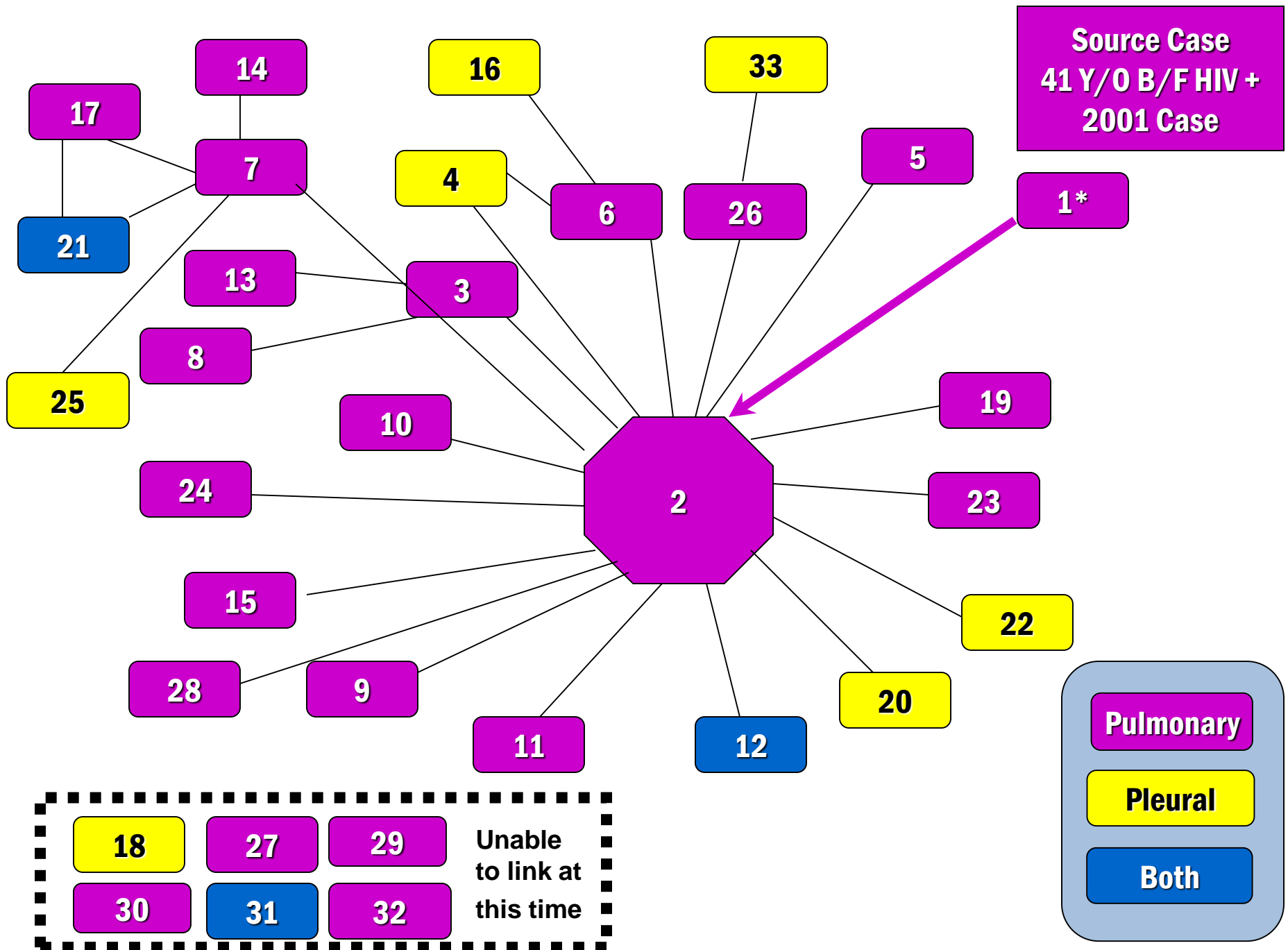
Outbreak! Screening of All Employees and Inmates Immediately

- 289 employees and volunteers screened and tested in contact investigation initially
 - DOC identified 95 conversions
 - **Information didn't match between health department and corrections**
- List given to the warden of the facility to take action on employees not returning for screening / testing / or reading
 - It worked! Warden did not allow anyone in who had not been seen by health department nurses
- Initial infection rate among employees was approximately 32.87%

Evaluation of the Outbreak

33 Cases

- Method of diagnosis
 - Culture – **73%**
 - Smear positive – 39%
 - Clinical – 24%
 - Provider diagnosis – 3%
- HIV status
 - Positive – 36%
 - Negative – 61%
- Tuberculin skin test results
 - Positive – 67%
 - Negative – **30%**
 - Previous positive – 3%
- Race and gender
 - Female – 97% / Male – 3%
 - Black – 61% / White – 39%



Source Case
41 Y/O B/F HIV +
2001 Case

1*

2

4

6

26

5

7

13

3

8

25

10

19

24

23

15

22

28

9

20

11

12

18

27

29

Unable to link at this time

30

31

32

Pulmonary

Pleural

Both

Follow-Up of Released Inmates

- Identify released inmate contacts and needed information
- Provide information to the health departments/state health office and include risk factors of the contacts

- Demographics
 - Name, SS#, address, DOB, information where picked up if applicable, etc.
- Last TST with results, CXR information if applicable
- Date of break in exposure (BIE)

- Risk factors of the contacts
- Other illnesses
- If released to Immigration and Customs Enforcement (ICE), provide release information
- If released out-of-state, include follow-up information

Importance of Collaboration

- All corrections staff should learn about the symptoms of active tuberculosis and progression from infection to disease
- Effective TB control programs in corrections
 - Infection control
 - Case management
 - Contact investigations
 - Discharge/Release planning
 - Importance of continuity of care

Case Two – County Jail

- 26 y.o. B/M
 - 4+ sputum smears
 - Very sickly looking
 - Weight Loss
 - Cough
 - Fever
- Identified in intake

During TB Case Review...

Public Health Record

- 29 y.o. incarcerated
- Isolated immediately
 - No need for CI
- Tested arresting officer and jail intake officer
 - Both negative
- Jail Medical to do case management
- Will follow-up when released from jail

What Followed

- Jail released the inmate after two weeks
- Inmate lost to follow-up
 - 4+ on sputum smear
- Found 3 months later, back in the jail & treated to completion
- After the case review one year later
 - According to record at HD – everything was done per protocol
 - Reviewed the health record in the jail and found the following...



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Jail Medical Record

- 29 y.o. inmate, identified at intake with symptoms of TB
- Immediately removed and placed in MISO#8
 - With two other inmates
- Inmate cooperative, coughing – will follow-up with HD

What would you do next?



The End Result

- Contacts identified after 1 year = 67
 - Frequent re-incarcerations (identified 40)
 - Follow-up information 32 had TST
 - 24(75%) were +

Case Three - Work Release

- 25 y.o. B/M
- Sentenced to 56 days – assault charge
- Past medical history
 - None
- Current Medical
 - TST read “2 days after administration” (documented as 32 – 43 hours later)
 - “Bump” visible, but documented as “0” mm, later documented as “5” mm
- Sick Calls
 - C/O Cough, Swollen Jaw
 - Placed repeated sick calls in – not seen because they were not signed by inmate
 - Jail phone calls recorded inmate “coughing repeatedly”

Work Release

- Infected
 - 108 inmates
 - 42 employees
- Class Action Lawsuit
 - LTBI - Awarded \$44,347.83 to \$54,347.83 each
 - If develop active disease – additional \$200,000 each
 - Active TB - \$250,000 each
 - Robinson v. Ramsey County
USDC (D.Minn.), Case No. 0:08-cv-05779-BHK-AJB

Jail Release (cont'd.)

- Inmate told he was getting out in a couple of days and to go to his own doctor when he gets out
 - ?? deliberate indifference YES!!!!



Case Four - MDR-TB in a Federal Pretrial Facility



MDR-TB in Federal Pretrial Facility (2010)

- 57 year old Tijuana taxi driver crossed Mexico border into U.S.
 - Picked up by Customs and Border Protection
 - Immediately hospitalized with alcoholic hepatitis
 - History of Type II Diabetes on metformin. Started prednisone → insulin dependence
- One week later moved to FPF
 - Portable chest x-ray (CXR) read as “negative”. No TB symptoms

MDR-TB in Federal Pretrial Facility (2010)

- Three months later diagnosed with pulmonary tuberculosis
 - Cavitory CXR, AFB smear positive
 - Cough x previous 6 weeks with hemoptysis
 - Two months later: Susceptibility Results →
 - **Resistance** to rifampin, isoniazid, pyrazinamide, streptomycin
 - Re-read of initial CXR: “*subtle evidence of upper lobe disease*”

MDR-TB in Federal Pretrial Facility (2010)

- Index case housed on 120 bed unit during infectious period:
 - total of 131 days
 - including 41 days after returning from initial hospitalization on standard 4-drug therapy.
- Very high turnover
- Never left unit – meals/recreation occur on unit

MDR-TB in Federal Pretrial Facility (2010)

- 388 inmate contacts identified
 - Prior Positive TST:
 - 25/117 (21%) U.S. Born
 - 130/267 (49%) Foreign Born
 - Inmate TST conversions: 29 /158 (18%)
 - Staff TST conversions: 4/87 (4.6%)
- One clinical case of lymphatic TB – HIV infected inmate.

Federal Bureau of Prisons Federal Pretrial Facility

MDR-TB Contact Investigation:

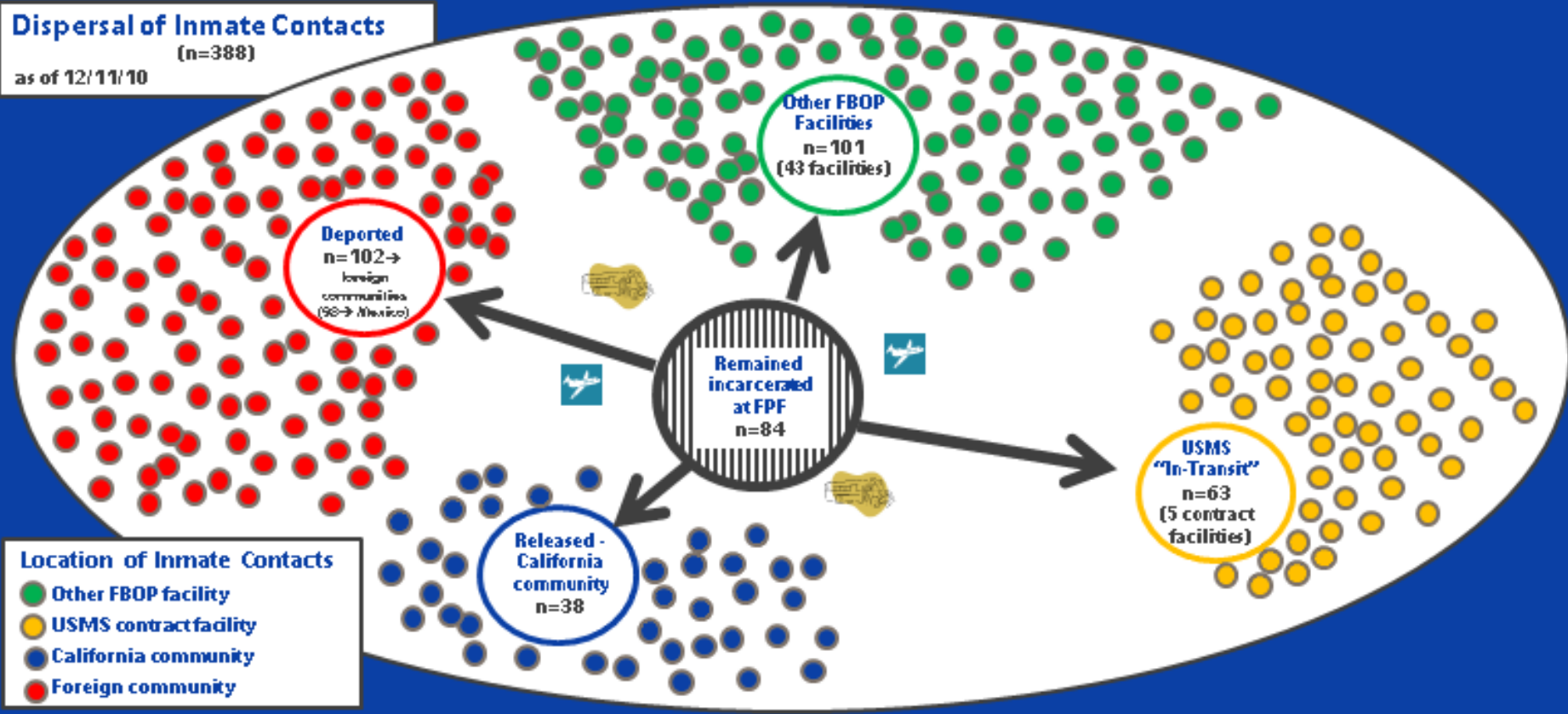
Dispersal of 388 Inmate Contacts

6 Weeks into the Investigation, 2010

Dispersal of Inmate Contacts

(n=388)

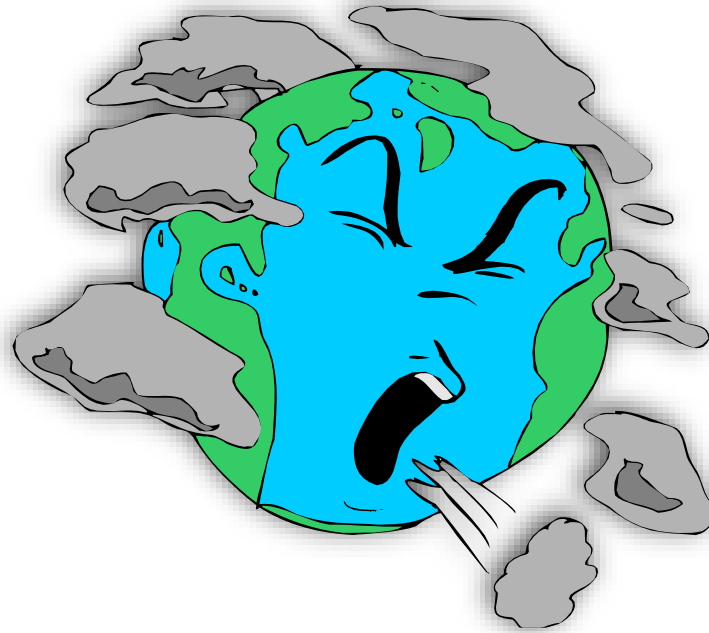
as of 12/11/10



2nd ICE Inmate

- Inmate identified 10 days after detention as TB suspect
- ICN contacted DIHS Office
 - No contact to local health department
- Inmate placed in isolation
- Released to community for follow-up

Remember !



Every case of TB was once a contact!

