TB Control in San Francisco 2003
San Francisco TB Control: Goals

- Find and treat all cases to completion
- Stop transmission
- Prevent TB in those at greatest risk of disease (especially contacts)
Today’s Report: Why?

• Regular program evaluation is necessary for tailoring prevention and control efforts.
• To share the progress made within the specific goals and objectives of the current grant cycle.
• To point out areas of program strength and opportunities for improvement.
City & County of San Francisco: Statistics

- Population: ~751,682 (2003 estimate)
- Size: 49 square miles
- 37% foreign born (~50-60% LTBI)
- 8,000-13,000 homeless (15.9% HIV+, 32% LTBI)
- 18,672 injection drug users (22% HIV+)
- ~55,000 jail bookings each year
TB in San Francisco: 2003

- 162 new cases reported in 2003 (11% increase from 2002 – 146 cases)
- Rate of 20.4/100,000 (~4 times the U.S. rate of 5.2)
- SF has the highest TB rate of any county in CA and any metro area in the U.S.
- Cases are concentrated in defined city locations with rates as high the developing world (>100/100,000)
TB Cases: Place of Birth, 2003

- China: 36%
- Philippines: 22%
- Vietnam: 11%
- Mexico: 9%
- Other: 11%
TB Rates: Age Group, 1990-2003

Year
Rate per 100,000
0 10 20 30 40 50 60 70 80 90
Age 0-4 Age 5-14 Age 15-24 Age 25-44 Age 45-64 Age 65+
TB in San Francisco: 2003

HIV/ TB:
- ~10% of all cases (2001:7.1%, 2002:19.9%)

Social Factors:
- Homelessness: 13% (50% from 2002)
- Drug abuse: 6-7% (~50% from 2002)
- Alcohol abuse: 14% (no decline from 2002)
TB in San Francisco: 2003

Drug Resistance:

- **INH**: essentially stable for past decade at ~10%
- **MDR**:
  - 2 cases in 2003 (~1%, 2000: 0 cases, 2001: 4 cases, 2002: 4 cases)
  - 1 case resistant to 5 drugs and 1 case resistant to 11 drugs
Ethnic Diversity:

- 80% are foreign-born
- 1 in 3 cases is ethnic Chinese
- 90% of foreign-born cases are from China, Philippines, and Southeast Asia
- Cases among African Americans declined this year
  - 2003: 16.5/100,000 (13 cases)
  - 2002: 31.6/100,000 (25 cases)
TB Indicators: Timeliness of Treatment

• Time to treatment initiation from AFB smear+ specimen collection
• Goal: Within 4 days
  ➢ Citywide average: 0 days
  ➢ TB Control: 0 days
  ➢ Private Provider: 1 day

We have exceeded this goal for the past 5 years!
TB Indicators: Adequacy of Treatment Initiation

[Graph showing TB indicators from 1998 to 2003]
TB Indicators: Sputum Conversion within 3 Months

California 2004 Objective: 70%
TB Indicators: Completion of Therapy

California 2004 Objective: 98% all cases / 85% Rifampin susceptible cases
Acquired Drug Resistance:
- 1999: 1 case of INH resistance
- 2003: 1 case of acquired RIF resistance (HIV+ individual treated in 2001 with an intermittent INH/Rifabutin research regimen)

Management of Drug Resistant Cases:
- 13 cases reviewed for 2003
  - All cases managed by TB control
  - No management errors observed

Conclusions:
- Management of drug resistant cases continues to improve
TB Indicators: Directly Observed Therapy

• 82 cases eligible for DOT in 2003
• 64 (78%) placed on DOT during treatment
  ➢ 100% of children <18 years of age
  ➢ 85% (11/13) of INH or RIF resistant cases
  ➢ 90% (19/21) of homeless cases
  ➢ 76% (34/45) of smear+ positive cases

Need to improve use of DOT for smear-positive cases.
TB Indicators: Contact Identification

- **Goal:**
  - Contacts identified for >95% of smear+ cases
  
  *Objective met since 1997!*

- **AFB Smear-Positive Cases**
  - Cases with zero contacts: 1 (2002: 0 cases)
  - Median contacts per case: 7

- **Secondary TB**
  - 11 cases found (7% of all cases in 2003)
TB Indicators: Case Assessment/Interview

- Goals:
  - Conduct case assessment within 1 working day
  - Conduct case interview within 3 working days for smear+ and 7 days for smear- cases
- Median time between report and interview: 1 day for both smear+ and smear- cases

Objective met for the past 5 years!
TB Indicators: Contact Evaluation

- Goal:
  - 95% of contacts to smear+ cases will be evaluated for infection and disease

- Objective MET in 2002:
  - 95% evaluated

- Objective NOT MET in 2003:
  - 93% evaluated
## TB Indicators: Contact Initiation of LTBI Tx

<table>
<thead>
<tr>
<th>Time Period</th>
<th>&lt; 15 years old</th>
<th>≥ 15 years old</th>
<th>&lt; 15 years old</th>
<th>≥ 15 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>16</td>
<td>368</td>
<td>12 (75)</td>
<td>288 (78)</td>
</tr>
<tr>
<td>2002</td>
<td>13</td>
<td>195</td>
<td>11 (85)</td>
<td>145 (74)</td>
</tr>
<tr>
<td>2003</td>
<td>14</td>
<td>256</td>
<td>12 (86)</td>
<td>171 (67)</td>
</tr>
</tbody>
</table>

**Goals:** 95% <15 yrs old, 75% >15 yrs old

*Objective NOT Met in either age group!*
TB Indicators: Contact Completion of LTBI Tx

• Goals: AFB Smear+ and Smear-/Culture+
  ➢ 95% <15 yrs old / 85% >=15 yrs old
  ➢ Intensified contact oversight began in mid-2000.
  ➢ Projected 2003 completion rates:
    • 80% <15 yrs / 91% >=15 yrs (only 1 did not complete)
TB Indicators: B-notification Program

- Goals:
  - 90% evaluation within 30 days of notification
  - 95% placement of eligible migrants on LTBI Tx
  - 75% completion of LTBI Tx
- 92% evaluated in 2003 (all but 1 by SFTB)
- 94% started LTBI Tx
- 85% completed LTBI Tx
- 10 cases found (6% of all cases in 2003)
TB Indicators: Jail Screening Program

- 12,158 inmates screened
  - TST placement decreased 17.8% from 2002
  - 71% of TSTs placed were read (a slight increase from 2002)
  - 28% decline in TST reading during July – Dec 2003 compared to July – Dec 2002
    
    *Declines due to loss of 2 full-time screening positions at the end of 2002-2003 fiscal year.*
  
- 3 cases were identified in 2003
TB Indicators: Surveillance

- Goals:
  - Report all verified cases of TB to the State and CDC on a monthly basis
  - 95% completeness of data entry of RVCT variables
  - Review all death certificates
  - Perform HIV/AIDS and TB registry matches

All Goals met: 100%! 
# TB Indicators: Targeted Testing Referrals

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Referred</th>
<th>Evaluated</th>
<th>Confirmed Cases (TB 3)</th>
<th>LTBI TB2/TB4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>1999</td>
<td>2791</td>
<td>99</td>
<td>60</td>
<td>2485</td>
</tr>
<tr>
<td>2000</td>
<td>3033</td>
<td>98</td>
<td>59</td>
<td>2690</td>
</tr>
<tr>
<td>2001</td>
<td>3393</td>
<td>95</td>
<td>55</td>
<td>3017</td>
</tr>
<tr>
<td>2002</td>
<td>3844</td>
<td>95</td>
<td>91</td>
<td>3396</td>
</tr>
<tr>
<td>2003</td>
<td>3441</td>
<td>99</td>
<td>134</td>
<td>3066</td>
</tr>
</tbody>
</table>

- Goal: Increase referrals by 2% annually
  - 12-13% increase annually in 2001 and 2002
  - 10% decrease in 2003
  - Since 1999, 25% increase in referrals
# TB Indicators: TT LTBI Treatment Completion

<table>
<thead>
<tr>
<th>Year</th>
<th>Eligible for LTBI Rx</th>
<th>Started on LTBI Rx</th>
<th>Completed LTBI Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>1999</td>
<td>___</td>
<td>1656</td>
<td>1195</td>
</tr>
<tr>
<td>2000</td>
<td>___</td>
<td>1760</td>
<td>1171</td>
</tr>
<tr>
<td>2001</td>
<td>___</td>
<td>2017</td>
<td>1382</td>
</tr>
<tr>
<td>2002</td>
<td>___</td>
<td>2124</td>
<td>1464</td>
</tr>
<tr>
<td>2003</td>
<td>2401</td>
<td>2127</td>
<td>1370</td>
</tr>
</tbody>
</table>

- Goal: >75% complete treatment
- Projected rates: 2002 ~75% / 2003 ~70%
## TB Indicators: CHOPS LTBI Treatment

<table>
<thead>
<tr>
<th>Year</th>
<th>Total LTBI Tx</th>
<th>Completed</th>
<th>Died/Moved/AdvRxn</th>
<th>Lost/Refused</th>
<th>Still on Tx</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (Sept-Dec)</td>
<td>275</td>
<td>248 (93%)</td>
<td>9</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>2001</td>
<td>486</td>
<td>440 (91%)</td>
<td>8</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>495</td>
<td>443 (89%)</td>
<td>4</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>2003</td>
<td>500</td>
<td>418 (84%)</td>
<td>4</td>
<td>27</td>
<td>51</td>
</tr>
</tbody>
</table>

- 834 DOT visits, 32 DOPT visits, 2582 refills, and 1,432 TSTs placed and read
- ~ 1/3 of all pts on LTBI Tx refill at CHOPS
### TB Indicators: CHOPS TST Results, 2003

<table>
<thead>
<tr>
<th>Age Group</th>
<th>TSTs read</th>
<th>TST Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>385</td>
<td>110 (29%)</td>
</tr>
<tr>
<td>16-30</td>
<td>235</td>
<td>97 (41%)</td>
</tr>
<tr>
<td>31-45</td>
<td>150</td>
<td>78 (52%)</td>
</tr>
<tr>
<td>46-60</td>
<td>178</td>
<td>98 (55%)</td>
</tr>
<tr>
<td>&gt;60</td>
<td>63</td>
<td>40 (63%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1017</strong></td>
<td><strong>423 (42%)</strong></td>
</tr>
</tbody>
</table>
**TB Indicators: South of Market Health Center**

<table>
<thead>
<tr>
<th>Year</th>
<th>Filipino</th>
<th>Other Foreign-Born</th>
<th>US-Born</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Identified</td>
<td>% Screened</td>
<td># Identified</td>
</tr>
<tr>
<td>1999</td>
<td>6</td>
<td>94</td>
<td>8</td>
</tr>
<tr>
<td>2000</td>
<td>159</td>
<td>77</td>
<td>134</td>
</tr>
<tr>
<td>2001</td>
<td>105</td>
<td>86</td>
<td>104</td>
</tr>
<tr>
<td>2002</td>
<td>138</td>
<td>86</td>
<td>119</td>
</tr>
<tr>
<td>2003</td>
<td>110</td>
<td>87</td>
<td>83</td>
</tr>
</tbody>
</table>

- Total initiating LTBI Tx in 2003: 48 (89%)
- Projected rate of LTBI completion: 57%
TB Indicators: Methadone Treatment Programs (HRTP)

- 100% of those enrolled at Ward 93 in 2003 were screened for TB
- 100% completed evaluation within 4 weeks of screening
- Total Initiating LTBI Rx: 20 (91%)
- Completion of LTBI Rx: 18* (90%)

*projected completion rate
## TB Indicators: TOPS Screening

<table>
<thead>
<tr>
<th></th>
<th>2001 (%)</th>
<th>2002 (%)</th>
<th>2003 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Identified</strong></td>
<td>3013</td>
<td>1964</td>
<td>1254</td>
</tr>
<tr>
<td><strong>Hx TST+</strong></td>
<td>383 (13)</td>
<td>233 (12)</td>
<td>213 (17)</td>
</tr>
<tr>
<td><strong>TB Test Given</strong></td>
<td>2630 (87)</td>
<td>1731 (88)</td>
<td>1038 (83)</td>
</tr>
<tr>
<td><strong>TB Test Read</strong></td>
<td>2320 (88)</td>
<td>1554 (90)</td>
<td>911 (88)</td>
</tr>
<tr>
<td><strong>TB Test +</strong></td>
<td>379 (16)</td>
<td>401 (26)</td>
<td>117 (13)</td>
</tr>
<tr>
<td><strong>Total Screened</strong></td>
<td>2730 (90)</td>
<td>1787 (91)</td>
<td>1121 (89)</td>
</tr>
<tr>
<td></td>
<td>2001 (%)</td>
<td>2002 (%)</td>
<td>2003 (%)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Total Started</td>
<td>255</td>
<td>188</td>
<td>152</td>
</tr>
<tr>
<td>Completed</td>
<td>137 (54)</td>
<td>126 (67)</td>
<td>98</td>
</tr>
<tr>
<td>% Completed w/ Exclusions</td>
<td>94%</td>
<td>77%</td>
<td>75%</td>
</tr>
<tr>
<td>Completed by DOPT</td>
<td>98 (54)</td>
<td>94 (66)</td>
<td>85 (71)</td>
</tr>
<tr>
<td>Comp by DOPT w/ Exclusions</td>
<td>95%</td>
<td>79%</td>
<td>74%</td>
</tr>
<tr>
<td>Completed by SAT</td>
<td>39 (53)</td>
<td>32 (70)</td>
<td>10 (60)</td>
</tr>
<tr>
<td>Completed by SAT w/ Exclusions</td>
<td>91%</td>
<td>71%</td>
<td>59%</td>
</tr>
</tbody>
</table>
January – June 2004: Case Counts

- Decrease in cases: Jan – June = 64 cases
- At current rate, total for 2004 will be ~120 cases
- Where are the cases coming from:
  - no change in # identified through B-notification (~6%)
  - No change in # identified through targeted testing (~70%)
  - **BIG** increase in # identified through contact investigation
    - 18% of all cases during first half of 2004 (compared to 7% in 2003)
    - *Due to pediatric outbreak in Mission district!*
"Healthy looks" can hide TUBERCULOSIS
the X-RAY will show it before you know it

Christmas Seals Fight Tuberculosis