TB Control in San Francisco 2002
“Knowing is not enough; we must apply. Willing is not enough; we must do.”

-- Goethe

Ending Neglect, Institute of Medicine Report
SF 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.
San Francisco Vital Statistics

- Population: ~764,049 (2002 projection)
- Size: 49 square miles
- 37% foreign born (~50% LTBI)
- 8000-13,000 homeless (8.5% HIV+, 32% LTBI)
- 17,100 injection drug users (17.5% HIV+)
- Jail bookings per year: 20,000+
TB in San Francisco, 2002

- Rate of 18.4/100,000 (3.5 times the U.S. rate of 5.2)
- SF has the highest TB rate of any county in CA
- Cases are concentrated in defined city locations with rates as high the developing world (>200/100,000)
TB Rates in San Francisco, 1997

CITY AND COUNTY OF SAN FRANCISCO
1990 Census Tracts

1997 TB Rates per 100,000

- 201 - 400
- 151 - 200
- 101 - 150
- 51 - 100
- 11 - 50
- 0 - 10
TB Cases in San Francisco
By Race & Ethnicity, 1990-2002

Rates per 100,000
2002 Profile of TB in San Francisco

• HIV/TB:
  ➢ ~20% of all cases (2000: 10.6%, 2001: 7.1%)

• Social Factors:
  ➢ Homelessness: 26% (more than doubled from previous years)
  ➢ Substance abuse: 11-15% (increase over previous years ~5%)

• Drug Resistance:
  ➢ INH: essentially stable for past decade at ~10%
  ➢ MDR: 4 cases in 2002 (~3%, 2001: 4 cases, 2000: 0 cases)
2002 Profile of TB Cases in San Francisco

Ethnic Diversity:

- 68% are foreign-born
- 1 in 3 cases is ethnic Chinese
- 90% of foreign-born cases are from China, Philippines, and Southeast Asia
- African Americans with highest rate in SF: 31/100/000 population, 80% homeless, 60%HIV+, 52% both homeless and HIV+
2002: Change in the Epidemiology

HIV/TB: ~20% all cases (more than doubled from 2001)

Homeless cases up by 65%
- 2002: 38/146 (26%)
- 56% are from shelters
- HIV co-infection: 47%
- 53% African American
- 87% US-born
- DNA fingerprinting indicates high transmission rate
<table>
<thead>
<tr>
<th></th>
<th>1995-1997 (%)</th>
<th>2001-2002 (%)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=23</td>
<td>N=18</td>
<td></td>
</tr>
<tr>
<td>Ave. Age at Dx</td>
<td>39yrs (27-63)</td>
<td>46yrs (34-66)</td>
<td>0.0089</td>
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<tr>
<td>Male</td>
<td>20 (87.0)</td>
<td>12 (66.7)</td>
<td>0.4655</td>
</tr>
<tr>
<td>Black Race</td>
<td>15 (65.2)</td>
<td>12 (66.7)</td>
<td>0.9547</td>
</tr>
<tr>
<td>White Race</td>
<td>8 (34.8)</td>
<td>5 (27.8)</td>
<td>0.6926</td>
</tr>
<tr>
<td>U.S.-born</td>
<td>23 (100.0)</td>
<td>16 (88.9)</td>
<td>0.7173</td>
</tr>
<tr>
<td>Homeless</td>
<td>10 (43.5)</td>
<td>14 (77.8)</td>
<td>0.1543</td>
</tr>
<tr>
<td>HIV+</td>
<td>15 (65.2)</td>
<td>10 (55.6)</td>
<td>0.6942</td>
</tr>
<tr>
<td>IDU</td>
<td>9 (39.1)</td>
<td>9 (50.0)</td>
<td>0.6020</td>
</tr>
<tr>
<td>Non-IDU</td>
<td>17 (74.0)</td>
<td>9 (50.0)</td>
<td>0.3399</td>
</tr>
<tr>
<td>EtOH</td>
<td>8 (34.8)</td>
<td>4 (22.2)</td>
<td>0.4608</td>
</tr>
<tr>
<td>Case</td>
<td>Date Report</td>
<td>Residence(s)</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>07/23/2001</td>
<td>Boston Hotel</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10/23/2001</td>
<td>Episcopal</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10/26/2001</td>
<td>Episcopal</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10/31/2001</td>
<td>Unknown</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>11/06/2001</td>
<td>Various Shelters, Gayland Hotel, King Hotel (Oakland)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>11/16/2001</td>
<td>SRO (Name Unknown)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11/26/2001</td>
<td>MSC South</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>12/17/2001</td>
<td>Episcopal</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>12/20/2001</td>
<td>MSC South</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>02/19/2002</td>
<td>MSC South</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>04/25/2002</td>
<td>A Man’s Place</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>07/05/2002</td>
<td>SRO (Name Unknown)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>05/23/2002</td>
<td>Episcopal, A Man’s Place</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>08/21/2002</td>
<td>St. Bonifacio</td>
<td></td>
</tr>
</tbody>
</table>
TB Indicators: Timeliness of Treatment

- Time to treatment initiation from AFB smear+ specimen collection
- Goal: Within 4 days
  - Citywide average: 1 day
  - TB Control: 1 day
  - Private Provider: 1 day
TB Indicators: Adequacy of Treatment

Initiation of an Adequate Short-Course Treatment Regimen by Provider Type

Year

% Citywide TB Control PMD
TB Indicators: Sputum Conversion

Sputum Culture Conversion within 3 Months by Provider Type

Year
%
Citywide TB Control PMD

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

Completion of Treatment

Year

% Rifampin Susceptible Cases within 12 Months
All Cases

1998
1999
2000
2001
2002*

*2002: 24 cases pending treatment, 22 RIF-susceptible are pending treatment
TB Indicators: Treatment Management

• Acquired Drug Resistance:

• Management of Drug Resistant Cases:
  - 11 cases reviewed for 2002
    - Only one case managed by PMD
  - No management errors observed

• Conclusions:
  - Management of drug resistant cases has improved
Contact Identification

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

- **AFB Smear-Positive Cases**
  - Cases with Zero Contacts: 0 (2001: 2 cases)
  - Median Contacts per Case: 5

- **All Cases**
  - Contact Disease: 10 cases
Contact Investigation: Case Assessment / Interview

- **Goals:**
  - Conduct case assessment within 1 working day
  - Conduct case interview within 3 working days for sm+ and 7 days for sm- cases

- **Objective met for the past 4 years**

- **Median time between report and interview:** 1 day
Contact Investigation: Contact Evaluation

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

- **Objective met in 2002:**
  - 96% evaluated
Contact Investigation:  
Initiation of LTBI Treatment

<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>12</td>
<td>400</td>
<td>12 (100)</td>
<td>310 (78)</td>
</tr>
<tr>
<td>2002</td>
<td>11</td>
<td>215</td>
<td>11 (100)</td>
<td>156 (73)</td>
</tr>
<tr>
<td>Jan-June 2003</td>
<td>12</td>
<td>162</td>
<td>11 (92)</td>
<td>104 (64)</td>
</tr>
</tbody>
</table>

Goal: 95% <15 yrs of age, 75% >15 yrs of age

Objective NOT Met for >15 years old!
Contact Investigation: LTBI Treatment Completion

- **Goals:**
  - AFB Smear+ and Smear-/Culture+
    - 95% (<15 yrs old)
    - 85% (>=15 yrs old)
  - Objectives not met for 2000 or 2001.
    - Intensified contact oversight began in mid-2000.
- **Projected completion rates for 2002**
  - >=15 yrs for 2002 is ~ 78%
  - <15 yrs = 80% (2 contacts did not complete)
### Age 0 –14 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Start Rx</th>
<th>Number Completing LTBI Therapy (% - exclusions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>9</td>
<td>6 (75%)</td>
</tr>
<tr>
<td>2002</td>
<td>10</td>
<td>8 (80%)</td>
</tr>
</tbody>
</table>

*12 patients are still on therapy

### Age 15+ years

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Start Rx</th>
<th>Number Completing LTBI Therapy (% - exclusions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>274</td>
<td>211 (79)</td>
</tr>
<tr>
<td>2002</td>
<td>130</td>
<td>87* (69)</td>
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</tbody>
</table>

*12 patients are still on therapy
Active Case Finding:
B-Notification Program

<table>
<thead>
<tr>
<th>Year</th>
<th>Evaluated</th>
<th>TB Cases</th>
<th>Infected</th>
<th>Eligible for LTBI Tx</th>
<th>Started on LTBI Tx</th>
<th>Completed LTBI Tx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>1999</td>
<td>218</td>
<td>93</td>
<td>19</td>
<td>9</td>
<td>165</td>
<td>76</td>
</tr>
<tr>
<td>2000</td>
<td>297</td>
<td>88</td>
<td>19</td>
<td>6</td>
<td>243</td>
<td>82</td>
</tr>
<tr>
<td>2001</td>
<td>267</td>
<td>91</td>
<td>17</td>
<td>6</td>
<td>223</td>
<td>84</td>
</tr>
<tr>
<td>2002</td>
<td>219</td>
<td>89</td>
<td>14</td>
<td>6</td>
<td>172</td>
<td>79</td>
</tr>
</tbody>
</table>

- Goals:
  - 90% evaluation almost met in 2002
  - 95% placement of eligible on LTBI Rx not met in 2002
  - 75% will complete LTBI Rx met
Active Case Finding: Jail Screening Program

- 13,604 inmates screened
- CJ-1/ CJ-8 screening:
  - TST screening increased by 41% (6965 inmates screened)
  - 56% of TSTs placed were read (slight decrease from 2001)
  - 8.2% TST+ (does not include those with +TST)
- No cases identified in 2001 or 2002.
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
  - HIV/AIDS and TB registry matches

- **ALL GOALS MET 100%**
Targeted Testing and Treatment: Referrals

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Referred</th>
<th>Evaluated</th>
<th>TB 5 Suspects</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>
<td>%</td>
</tr>
<tr>
<td>1999</td>
<td>2791</td>
<td>2758</td>
<td>99</td>
<td>133</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2485</td>
<td>90</td>
</tr>
<tr>
<td>2000</td>
<td>3033</td>
<td>2974</td>
<td>98</td>
<td>131</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>59</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2690</td>
<td>90</td>
</tr>
<tr>
<td>2001</td>
<td>3393</td>
<td>3224</td>
<td>95</td>
<td>120</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3017</td>
<td>94</td>
</tr>
<tr>
<td>2002</td>
<td>3844</td>
<td>3658</td>
<td>95</td>
<td>173</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3396</td>
<td>93</td>
</tr>
</tbody>
</table>

- Goal: Increase referrals by 2% annually
  - 12-13% increases in 2001 and 2002
Targeted Testing and Treatment:  
**LTBI Treatment Completion**

<table>
<thead>
<tr>
<th>Year</th>
<th>Started on LTBI Rx</th>
<th>Completed LTBI Rx</th>
<th>Exclude DC/MD/ADV</th>
<th>Died</th>
<th>Moved</th>
<th>Lost/Self Stop/Other</th>
<th>No Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1656 66%</td>
<td>1195 76%</td>
<td>18</td>
<td>2</td>
<td>65</td>
<td>376</td>
<td>829</td>
</tr>
<tr>
<td>2000</td>
<td>1760 65%</td>
<td>1171 70%</td>
<td>18</td>
<td>0</td>
<td>72</td>
<td>499</td>
<td>930</td>
</tr>
<tr>
<td>2001</td>
<td>2017 67%</td>
<td>1382 72%</td>
<td>30</td>
<td>2</td>
<td>70</td>
<td>533</td>
<td>944</td>
</tr>
<tr>
<td>2002</td>
<td>2124 63%</td>
<td>1371 67%</td>
<td>17</td>
<td>1</td>
<td>57</td>
<td>397</td>
<td>1272</td>
</tr>
</tbody>
</table>

*280 patients still on treatment

- Goal: >75% completed treatment
- 2002 projected rate: ~80%
Targeted Testing and Treatment: CHOPS

<table>
<thead>
<tr>
<th>Year</th>
<th>Total LTBI Tx</th>
<th>Completed</th>
<th>Exclude Reasons</th>
<th>Incomplete Tx (Do not Exclude)</th>
<th>Still on Tx</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 (Sept-Dec)</td>
<td>275</td>
<td>248 (90%)</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>426 (86%)</td>
<td>4</td>
<td>31</td>
<td>34</td>
</tr>
</tbody>
</table>

- 834 DOT visits, 32 DOPT visits, 2582 refills, and 1,432 TSTs placed and read
- ~ one third of all pts on LTBI Tx refill at CHOPS
### CHOPS: TST Results, 2002

<table>
<thead>
<tr>
<th>Age Group</th>
<th>PPDs read</th>
<th>PPD Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>387</td>
<td>82</td>
</tr>
<tr>
<td>16-30</td>
<td>203</td>
<td>70</td>
</tr>
<tr>
<td>31-45</td>
<td>191</td>
<td>76</td>
</tr>
<tr>
<td>46-60</td>
<td>165</td>
<td>86</td>
</tr>
<tr>
<td>&gt;60</td>
<td>70</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>1016</td>
<td>350</td>
</tr>
</tbody>
</table>
## Targeted Testing and Treatment: South of Market Health Center

### Referrals for...

<table>
<thead>
<tr>
<th>Year</th>
<th>Filipino</th>
<th>Other Foreign-Born</th>
<th>US-Born</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Identified</td>
<td># Screened</td>
<td>%</td>
<td># Identified</td>
</tr>
<tr>
<td>1999</td>
<td>6</td>
<td>4</td>
<td>94</td>
<td>8</td>
</tr>
<tr>
<td>2000</td>
<td>159</td>
<td>122</td>
<td>77</td>
<td>134</td>
</tr>
<tr>
<td>2001</td>
<td>105</td>
<td>90</td>
<td>86</td>
<td>104</td>
</tr>
<tr>
<td>2002</td>
<td>138</td>
<td>119</td>
<td>86</td>
<td>119</td>
</tr>
</tbody>
</table>

- Total initiating LTBI Rx: 58 (51%)
- Projected rate of LTBI completion: 76%
100% of those enrolled in 2002 were screened for TB
93% completed evaluation within 4 weeks of screening
Total Initiating LTBI Rx: 18 (86%)
Completion of LTBI Rx: 17 (94%)
## Targeted Testing and Treatment: TOPS

### TOPS TB Screening: Homeless Shelters

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>2001 (%)</th>
<th>2002 (%)</th>
<th>Jan - June 2003 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Identified</td>
<td></td>
<td>1111 (100)</td>
<td>1101 (100)</td>
<td>472 (100)</td>
</tr>
<tr>
<td>History of Positive PPD</td>
<td></td>
<td>125 (11)</td>
<td>122 (11)</td>
<td>46 (10)</td>
</tr>
<tr>
<td>PPDs Placed</td>
<td></td>
<td>986 (89)</td>
<td>979 (89)</td>
<td>422 (89)</td>
</tr>
<tr>
<td>PPDs Read</td>
<td></td>
<td>875 (89)</td>
<td>887 (91)</td>
<td>369 (87)</td>
</tr>
<tr>
<td>PPD Positive</td>
<td></td>
<td>268 (31)</td>
<td>259 (29)</td>
<td>70 (19)</td>
</tr>
<tr>
<td>PPD Negative</td>
<td></td>
<td>607 (69)</td>
<td>628 (71)</td>
<td>299 (81)</td>
</tr>
<tr>
<td>Total Screened $^2$</td>
<td></td>
<td>1000 (90)</td>
<td>1009 (92)</td>
<td>415 (88)</td>
</tr>
</tbody>
</table>
## Targeted Testing and Treatment: TOPS

<table>
<thead>
<tr>
<th></th>
<th>2001 (%)</th>
<th>2002 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Started on Treatment</td>
<td>255 (100)</td>
<td>188 (100)</td>
</tr>
<tr>
<td>Completed Treatment</td>
<td>137 (54)</td>
<td>126 (67)</td>
</tr>
<tr>
<td>% Completed w/ Exclusions</td>
<td>94%</td>
<td>77%</td>
</tr>
<tr>
<td>Completed by DOPT</td>
<td>98 (54)</td>
<td>94 (66)</td>
</tr>
<tr>
<td>Comp by DOPT w/ Exclusions</td>
<td>95%</td>
<td>79%</td>
</tr>
<tr>
<td>Completed by SAT</td>
<td>39 (53)</td>
<td>32 (70)</td>
</tr>
<tr>
<td>Comp by SAT w/ Exclusions</td>
<td>91%</td>
<td>71%</td>
</tr>
</tbody>
</table>
January – June 2003: Case Counts

- Increase in Cases: Jan – June = 87 cases
  - increase in foreign-born cases (Philippines?)
  - decrease in U.S.-born, homeless cases
- At current rate – total for 2003 will be 160-175 cases
- Where are the cases coming from:
  - no change in # identified through B-notification (~6%)
  - no change in # identified through contact investigation (~1% of contacts to smear+ cases)
  - increase in the cases identified through targeted testing (2% TB3 1999-2002, 4% Jan – June 2003)
San Francisco TB Control: Philosophic Approach

patient centered approach:
“Patients Come First”

innovation:
“Push the Envelope”

standards of excellence:
“Polish and Refine”
How are we doing?

- **Core activities**: Excellent and we continue to improve (PMD sputum conversion, contact LTBI completion rates)

- **Areas to intensify**: Homeless TB Control
Past Homeless TB strategies and programs

TOPS: Intensified community outreach and screening site (1994)

- DOT/DOPT
- Community education
- MOUs with CBOs
  TB control HWs in largest shelters
  2Xs/week

Community TB Taskforce (early 1990s, still active)

- TB shelter guidelines
- SRO hotel TB guidelines
- 2002 focus on improving communication among homeless health providers about active cases in the community
**Current Homeless TB Control Activities**

**Goal:** Reduce TB transmission in shelters through intensified active case finding and improved contact investigation.

**Problem:**
- Shelters that do not have long-term beds (＞1 week) do not require TB screening.
- Symptom screening upon entry cannot be done by non-medical staff.
- An estimated 10-20% of chronic shelter users may be HIV positive. 80% of the client population is stable.
Reducing TB Transmission in Shelters

Strategies:

Policy change

- Institute a cough alert protocol for early evaluation of coughing client (done)
- Mandatory TB screening of all shelter clients (done)
- Give priority to HIV+ clients to obtain long term shelter beds. Promote the use of long term beds for all.
- Formally merging with existing homeless healthcare infrastructure in shelters and downtown community sites to address TB screening and HIV care (currently being implemented)
Reducing TB Transmission in Shelters

Strategies cont....

Clinical

- Onsite TB control staff at shelters for TB testing (quantiFERON) and DOPT
- Coordinate medical evaluation of suspects with shelter health care providers
- Designating shelter-TB control liaisons to expedite TB work-up of suspects
How are we doing?

Targeted Testing:

- Improving overall but not consistent (numbers of patients low for TOPS DOPT)
- What do we need to continue to work on?
  - Increase the number of eligible patients (contacts, b-notifications, referrals) placed LTBI treatment.
  - Increase the number of patients (contacts, U.S.-born referrals) completing LTBI treatment.
- Areas to focus and intensify:
  Increase community and provider TB awareness
Strategies: Targeted Testing Programs

Community Referral Program: Network of community health centers and clinics perform targeted testing and refer all TB suspects and those with LTBI to central TB Control program clinic for medical evaluation and treatment.

Community TB Control Programs:

- Independent TB Control Community site: TOPS
- Collaboration/partnership with community health center: CHOPS
Strategies: Foreign-born TB

1980’s
- New immigrant B-notification follow-up
- Refugee program collaboration
- Community clinic targeted testing and referral

1990s
- Filipino veteran project
- HMO MOUs

2000 - 2002
- Chinatown community collaboration (CHOPS)
- Intensified screening education of community providers
Our future.....

As our case load declines we must manage each case with intensity and without error.

- **PMD and SA case management:**
  - Establish management check points
  - Develop systematic review process

- **US born and Homeless contact investigation:**
  - Routine contact cohort reviews with the TB Controller
  - ✓ solicit info on homeless contacts and cases through systematic electronic communication with homeless providers
  - ✓ DOPT for homeless contacts
Elimination of TB in San Francisco will require a consistent, vigilant and sustained effort on reducing the TB reservoir in impoverished communities and the foreign born.

- **TT**: MDs must increase the number of eligible patients placed LTBI treatment (contacts, b-notifications, referrals)
- **LTBI and contact case management**: HWs: INTENSIFY follow up on delinquent
- **Provider and community awareness**: 
  - Increase communication with community clinics and health plans
  - Maintain and increase community in-services and training
Our future.....

Reinforcing our foundation by using knowledge and current technology is essential to our program’s sustainability....

- Modern program management database
- Implementing TB blood testing in SF
- Establishing and organizing policies and procedures
- Establishing systematic and better internal communications
- Continuing to participate in cutting edge research and maintaining partnership with UCSF
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To a world class TB Control team:

Congratulations on a job well done!!!