Progress Review Overview

- Summarize the burden of Tuberculosis and infectious diseases in the U.S. and abroad

- Provide an update on the progress of Healthy People 2020 objectives

- Examine what is being done to achieve the Healthy People 2020 objectives
## Evolution of Healthy People

<table>
<thead>
<tr>
<th>Target Year</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
</table>
| **Overarching Goals** | • Decrease mortality: infants–adults  
• Increase independence among older adults | • Increase span of healthy life  
• Reduce health disparities  
• Achieve access to preventative services for all | • Increase quality and years of healthy life  
• Eliminate health disparities | • Attain high-quality, longer lives free of preventable disease  
• Achieve health equity; eliminate disparities  
• Create social and physical environments that promote good health  
• Promote quality of life, healthy development, healthy behaviors across life stages |
| # Topic Areas | 15 | 22 | 28 | 42 |
| # Objectives/Measures | 226/NA | 312/NA | 467/1,000 | 1,200/1200 |
Healthy People 2020 Remains Relevant

1979
- Small Pox Eradicated

1982
- AIDS is infectious

1988
- Surgeon General Declares Nicotine Addictive

1990
- Human Genome Project Begins

2000
- 2000s Obesity and Chronic Disease

2005
- Hurricane Katrina

2009
- H1N1 Flu
Healthy People 2020

- 42 topic area and 1200 objectives
- Source for reliable, science-based, public health measures
- Can be customized to meet needs of diverse users
- Guided by collaborative stakeholder-driven process
Immunizations and Infectious Diseases

- Vaccinations are the greatest U.S. public health achievement of the 20th Century

- Immunizations increased U.S. life expectancy during the 20th century

- Vaccines are among the most cost-effective clinical preventive services
Cost Savings Attributed to Vaccines

Reduces direct health care costs by $14 billion.

Saves $69 billion in total societal costs.

Prevents 20 million cases of disease.

Saves 42,000 lives.

Global Health

- Plays an increasingly important role in global and U.S. Security
  - H1N1 Influenza (2009)
  - H7N9 Influenza (2013)

- Rapid identification of infectious diseases helps:
  - Promote health abroad
  - Prevent the international spread of disease
  - Protect the health of the U.S. population

SOURCE: HealthyPeople.gov
Presenters

**Chair**
- Howard K. Koh, MD, MPH
  Assistant Secretary for Health, HHS

**Data Presentation**
- Irma Aripse, PhD
  Associate Director, National Center for Health Statistics, CDC

**Immunization and Infectious Diseases**
- Rear Admiral Kenneth Castro, MD
  Director, Division of Tuberculosis Elimination, CDC

**Global Health**
- Tom Kenyon, MD, MPH
  Director, Center for Global Health, CDC

- Craig Shapiro, MD
  Director, Office of the Americas, Office of Global Affairs, HHS

**Community Highlight**
- Ed Zuroweste, MD
  Chief Medical Officer, Migrant Clinician Network
Irma Arispe, PhD
Associate Director, National Center for Health Statistics
Centers for Disease Control and Prevention
# U.S. Leading Causes of Death

<table>
<thead>
<tr>
<th>Rank</th>
<th>1900</th>
<th>1950</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pneumonia and influenza</td>
<td>Heart disease</td>
<td>Heart disease</td>
</tr>
<tr>
<td>2</td>
<td>Tuberculosis</td>
<td>Cancer</td>
<td>Cancer</td>
</tr>
<tr>
<td>3</td>
<td>Diarrhea and enteritis</td>
<td>Stroke</td>
<td>Chronic lung disease</td>
</tr>
<tr>
<td>4</td>
<td>Heart disease</td>
<td>Injuries</td>
<td>Stroke</td>
</tr>
<tr>
<td>5</td>
<td>Stroke</td>
<td>Infant mortality</td>
<td>Injuries</td>
</tr>
<tr>
<td>6</td>
<td>Kidney disease</td>
<td>Pneumonia and influenza</td>
<td>Alzheimer’s disease</td>
</tr>
<tr>
<td>7</td>
<td>Injuries</td>
<td>Tuberculosis</td>
<td>Diabetes</td>
</tr>
<tr>
<td>8</td>
<td>Cancer</td>
<td>Arteriosclerosis</td>
<td>Kidney disease</td>
</tr>
<tr>
<td>9</td>
<td>Senility</td>
<td>Kidney disease</td>
<td>Pneumonia and influenza</td>
</tr>
<tr>
<td>10</td>
<td>Diphtheria</td>
<td>Diabetes</td>
<td>Suicide</td>
</tr>
</tbody>
</table>

SOURCE: National Vital Statistics System-Mortality (NVSS-M), CDC/NCHS.
Data Presentation Outline

- Vaccination coverage
  - Child
  - Adolescent
- Vaccine-preventable diseases
- Global health
- Tuberculosis (TB): U.S. and abroad
Vaccination Coverage
Children 19-35 months, 1994-2011

NOTE: 1994 data are from Apr-Dec 1994.

SOURCE: National Immunization Survey (NIS), CDC/NCIRD and CDC/NCHS.

Obj. IID-7.1 through 7.10
Increase desired
Vaccination Coverage
Children 19-35 months, 1994-2011

Percent

NOTE: 1994 data are from Apr-Dec 1994.
SOURCE: National Immunization Survey (NIS), CDC/NCIRD and CDC/NCHS.
Vaccination Coverage
Children 19-35 months, 1994-2011

NOTE: Data are presented by birth cohort for HepB-birth dose and by data year for HepA and Rotavirus vaccines.
SOURCE: National Immunization Survey (NIS), CDC/NCIRD and CDC/NCHS.
Vaccination Coverage
Adolescents 13-15 years, 2009-2011

NOTES: *aged 13-17 years, not a HP2020 objective

SOURCE: National Immunization Survey (NIS)-Teen, CDC/NCIRD and CDC/NCHS.
MMR Vaccine Coverage
Children 19-35 months, 2011

NOTES: I = 95% confidence interval. Children identified as white, black, Asian, or American Indian/Alaska Native are non-Hispanic. Persons identified as Hispanic can be of any race.
SOURCE: National Immunization Survey (NIS), CDC/NCIRD and CDC/NCHS.
HPV Vaccine Coverage
Females 13-15 years, 2011

HP2020 Target: 80%

Percent
100
80
60
40
20

By Family Income (% of Federal Poverty Threshold)

Total
Black
White
Asian
Am Indian/AK Native
Hispanic
<100%
100-199%
200-399%
400-599%
≥600%+

NOTES: I = 95% confidence interval. Adolescents reported as Hispanics can be of any race. Adolescents who were reported by the adult as white, black, Asian, or American Indian/Alaska Native all were considered non-Hispanic.
SOURCE: National Immunization Survey (NIS)-Teen, CDC/NCIRD and CDC/NCHS.
Data Presentation Outline

- Vaccination coverage
- Vaccine-preventable diseases
  - Polio
  - Measles
  - Influenza
- Global Health
- Tuberculosis (TB): U.S. and abroad
Polio – U.S. Acquired Cases

Total Cases


HP2020 Target: 0 cases

Obj. IID-1.8
 Maintain elimination

SOURCE: National Notifiable Disease Surveillance System (NNDSS), CDC/NCIRD.
Polio - Global

NOTE: *As of May 3, 2012

SOURCE: http://www.cdc.gov/polio/progress/
Measles - U.S. Acquired Cases

Total Cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>75</td>
</tr>
<tr>
<td>1999</td>
<td>65</td>
</tr>
<tr>
<td>2000</td>
<td>55</td>
</tr>
<tr>
<td>2001</td>
<td>45</td>
</tr>
<tr>
<td>2002</td>
<td>35</td>
</tr>
<tr>
<td>2003</td>
<td>25</td>
</tr>
<tr>
<td>2004</td>
<td>15</td>
</tr>
<tr>
<td>2005</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>5</td>
</tr>
<tr>
<td>2007</td>
<td>2</td>
</tr>
<tr>
<td>2008</td>
<td>10</td>
</tr>
<tr>
<td>2009</td>
<td>15</td>
</tr>
<tr>
<td>2010</td>
<td>20</td>
</tr>
<tr>
<td>2011</td>
<td>140</td>
</tr>
</tbody>
</table>

HP2020 Target: 30 cases

Obj. IID-1.4
Decrease desired

SOURCE: National Notifiable Disease Surveillance System (NNDSS), CDC/NCIRD.
Global Circulation of Seasonal Influenza

Flu Vaccine Coverage
2010-2011 Influenza Season

NOTES: Data are for children age 6 months to 17 years and adults age 18 and older. Data are for the total US population.
SOURCE: National Health Interview Survey (NHIS), CDC/NCHS.
Data Presentation Outline

- Vaccination coverage
- Vaccine-preventable diseases
- Global Health
- Tuberculosis (TB): U.S. and abroad
Global Health

- Plays an increasingly crucial role in global security and the security of the U.S. population.

- Rapid identification and control of emerging infectious diseases helps:
  - Promote health abroad
  - Prevent the international spread of disease
  - Protect the health of the U.S. population

SOURCE: HealthyPeople.gov
Global Public Health Impact: Malaria

- A leading cause of death and disease in many developing countries.
- About 3.3 billion people live in areas at risk of malaria transmission in 106 countries and territories.
- In 2010 malaria caused 216 million clinical episodes and 655,000 deaths worldwide.
- Direct costs are estimated to be at least $12 billion per year (in US dollars).

SOURCE: http://www.cdc.gov/malaria/malaria_worldwide/impact.html
Malaria Transmission Worldwide

SOURCE: http://www.cdc.gov/malaria/malaria_worldwide/impact.html
Malaria in the U.S., 2008-2010

Cases

2008 2009 2010

HP2020 Target: 999

NOTE: Data for this objective are an aggregate of cases reported to CDC by the data systems.

SOURCE: National Notifiable Diseases Surveillance System (NNDSS), CDC/PHSPO; National Malaria Surveillance System (NMSS), CDC/CGH
Data Presentation Outline

- Vaccination coverage
- Vaccine-preventable diseases
- Global Health
- Tuberculosis (TB): U.S. and abroad
## Global Leading Causes of Death, 2008

<table>
<thead>
<tr>
<th></th>
<th>Global</th>
<th>Low-Income Countries</th>
<th>Middle-Income Countries</th>
<th>High-Income Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heart disease</td>
<td>Pneumonia</td>
<td>Heart disease</td>
<td>Heart disease</td>
</tr>
<tr>
<td>2</td>
<td>Stroke</td>
<td>Diarrheal diseases</td>
<td>Stroke</td>
<td>Stroke</td>
</tr>
<tr>
<td>3</td>
<td>Pneumonia</td>
<td>HIV/AIDS</td>
<td>Chronic lung disease</td>
<td>Lung cancer</td>
</tr>
<tr>
<td>4</td>
<td>Chronic lung disease</td>
<td>Heart disease</td>
<td>Pneumonia</td>
<td>Alzheimer’s disease</td>
</tr>
<tr>
<td>5</td>
<td>Diarrheal diseases</td>
<td>Malaria</td>
<td>Diarrheal diseases</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>6</td>
<td>HIV/AIDS</td>
<td>Stroke</td>
<td>HIV/AIDS</td>
<td>Chronic lung disease</td>
</tr>
<tr>
<td>7</td>
<td>Lung cancer</td>
<td>Tuberculosis</td>
<td>Road traffic accidents</td>
<td>Colon cancer</td>
</tr>
<tr>
<td>8</td>
<td>Tuberculosis</td>
<td>Premature birth</td>
<td>Tuberculosis</td>
<td>Diabetes</td>
</tr>
<tr>
<td>9</td>
<td>Diabetes</td>
<td>Birth trauma</td>
<td>Diabetes</td>
<td>Heart failure</td>
</tr>
<tr>
<td>10</td>
<td>Road traffic accidents</td>
<td>Neonatal infections</td>
<td>Heart failure</td>
<td>Breast cancer</td>
</tr>
</tbody>
</table>

Progress in reducing TB globally
- New cases decreased by 2.2% between 2010 and 2011.
- Mortality decreased by 41% between 1990 and 2011.

Global burden of TB remains high
- In 2011
  - 8.7 million people fell ill with TB (1.1 million cases among people with HIV)
  - 1.4 million deaths (430,000 among people with HIV)
  - 10 million children orphaned by TB
  - 500,000 cases of multi-drug resistant TB

Leading cause of death among people with HIV

Second leading cause of death from a single infectious agent

SOURCE: WHO.int
New TB Cases per 100,000: Global, 2011

New TB Cases per 100,000: U.S., 2011

NOTE: The national average in 2011 was 3.4 cases per 100,000.

SOURCE: National Tuberculosis Surveillance System Highlights From 2011, CDC/NCHHSTP.
New TB Cases per 100,000: U.S., 1993-2011

Cases per 100,000

1993 1995 1997 1999 2001 2003 2005 2007 2009 2011

Male
Female
Total

HP2020 Target: 1 case per 100,000

Obj. IID-29
Decrease desired

SOURCE: National Tuberculosis Surveillance System (NTSS), CDC/NCHHSTP.
New TB Cases per 100,000: U.S., 1993-2011

Cases per 100,000

- Asian
- Black
- Hispanic
- Am Indian/AK Native
- Native HI/Pacific Islander
- Total
- White

HP2020 Target: 1 case per 100,000

Source: National Tuberculosis Surveillance System (NTSS), CDC/NCHHSTP.

Obj. IID-29
Decrease desired
HIV Co-infection Among New TB Cases: Global, 2011


SOURCE: National Tuberculosis Surveillance System Highlights from 2011, CDC/NCHHSTP.
Completion of Treatment: Active and Latent TB
U.S., 2005-2010

HP2020 Target: 93%

Active TB – Completion of Treatment

HP2020 Target: 87%

LTBI – Completion of Treatment

NOTE: LTBI, Latent Tuberculosis Infection

SOURCE: National Tuberculosis Indicators Project, CDC/NCHHSTP.
Overall, U.S. TB rates are decreasing.

However, disparities persist for racial and ethnic minorities and those born outside the U.S.

TB remains an urgent public health problem in Asia and Africa.

Health issues abroad – TB, flu, and measles – can directly impact the health of the U.S.
Healthy People 2020 Progress Review slides can be accessed on the web at:

www.cdc.gov/nchs/healthy_people.htm
Presentation Outline

• Domestic Tuberculosis Overview
  – Program details, then and now
  – Data
  – Projections

• Global Tuberculosis Overview
  – Return on investment in global TB control
  – CDC partners & resources
  – Paradox of programmatic success

• Challenges and Successes
# TB Elimination Overview

## PROGRAM

- 50 states, 10 big cities, and 8 territories
  - FY 2012 $140 million
- 22 countries, in partnership with USAID, WHO, and others
  - FY 2012 $8.6 million from USAID; $6m from CDC
- 2 consortia for program-relevant research (TBTC, TBESC)

## PRIORITIES

- Interrupt transmission
- Reduce TB in foreign-born persons
- Reduce TB in U.S. racial/ethnic minority populations.
- Reduce multidrug resistant (MDR) & extensively drug resistant (XDR) TB
- Reduce HIV-associated TB

Conditions
- Weakened infrastructure
- HIV epidemic
- Immigration
- Institutional transmission
- MDR-TB
TB Case Rates in U.S.-born vs. Foreign-born Persons
United States, 1993-2011*

Trends in TB Cases in Foreign-born Persons
United States, 1991 - 2011

No. of Cases

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000

Percentage

Primary MDR TB in U.S.-born vs. Foreign-born Persons
United States, 1993 - 2011

% Resistant

Based on initial isolates from persons with no prior history of TB. MDR TB defined as resistance to at least isoniazid and rifampin.
Countries of Birth of Foreign-born Persons Reported with TB, United States, 2011

- Mexico (22%)
- Philippines (11%)
- Vietnam (8%)
- India (8%)
- China (6%)
- Guatemala (3%)
- Haiti (3%)

Other Countries (39%)
TB Incidence Projections

Eliminating Transmission

- Cutting transmission does not block progression to disease
- Latent TB infection (LTBI) continues to be imported into the foreign-born population

Hill AN, et al., Modelling TB Trends in the USA. Epidemiology and Infection, 2012 Oct;140(10)
TB Incidence Projections

- A substantial proportion of foreign-born individuals arriving in the USA each year are latently infected.
- Targeting LTBI allows focus on individuals who are at risk of reactivation.

Hill AN, et al. , Modelling TB Trends in the USA. Epidemiology and Infection, 2012 Oct;140(10)
Investment Upfront Leads to Big Dividends for TB Control

Figure 1. Net Savings or Added Costs of Implementing a Strategy of Radiographic Screening plus Either Expansion of the DOTS Program or Tuberculin Skin Testing over a 20-Year Period among Migrants from Mexico to the United States.
USG TB Program: A Global Collaboration

Partner Ministries of Health

USG Tier One Countries
## Global TB Work and Coordination at CDC

<table>
<thead>
<tr>
<th>Strategic Approach</th>
<th>Priority Areas</th>
<th>Technical Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide technical support and strengthen in-country capacity</td>
<td>Strengthen surveillance and laboratory systems</td>
<td>Division of TB Elimination</td>
</tr>
<tr>
<td>Build evidence base for implementation of effective TB control and prevention strategies</td>
<td>Conduct programmatically relevant research</td>
<td>Division of Global HIV/AIDS</td>
</tr>
<tr>
<td>Translate research into practice</td>
<td>Strengthen capacity to address TB/HIV, drug-resistant TB, infection control, and pediatric TB</td>
<td>Division of Global Disease Detection and Emergency Response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Division of Global Migration and Quarantine</td>
</tr>
</tbody>
</table>
Low TB Incidence Paradox

- Misperception of need
- Loss of medical proficiency and expertise
- Outbreaks
### Key Takeaways

#### CHALLENGES
- Funding gaps in supporting scale-up
- TB among foreign-born persons
- Rise of multidrug-resistant TB
- HIV-associated TB
- Complacency in low burden settings

#### SUCCESSES
- Decrease in overall counts and rates
- Building international partnerships to meet domestic needs
- Recent research developments and opportunities for scale-up
Healthy People 2020
Global Health Objectives

- GH-1: Malaria in the United States
- GH-2: Tuberculosis in foreign-born persons
- GH-3: Global disease detection centers worldwide
- GH-4: Global disease detection training for public health professionals
- GH-5: Global disease detection diagnostic testing capacity
Goal 1: Health Impact: Improve the Health and Well-being of People around the World

Goal 2: Health Security: Improve Capabilities to Prepare and Respond to Infectious Diseases, Other Emerging Health Threats, and Public


Goal 4: Organizational Capacity: Maximize Potential of CDC’s Global Programs to Achieve Impact

Global Health Security

- Global health risks are increasing
- Weak surveillance in any country is a risk to all
- Strengthening Ministries of Health capabilities is critical
- Supporting implementation of International Health Regulations will help to manage serious health threats
Framework for Public Health System Strengthening

- Surveillance and health information systems
- Research
- Workforce development
- Laboratory strengthening
- Health infrastructure
- Program implementation, emergency response
Global Disease Detection (GDD) Centers

- Located in each of the WHO regions

- Work closely with ministries of health to identify, control and combat infectious diseases

HP2020 Goal: 18 GDD Centers
## Global Disease Detection Capacity and Growth

<table>
<thead>
<tr>
<th>Reduced Geographic Vulnerability</th>
<th>Increased Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDD Centers</td>
<td>International Emerging Infections</td>
</tr>
<tr>
<td>Kenya (2004)</td>
<td>Yes</td>
</tr>
<tr>
<td>Thailand (2004)</td>
<td>Yes</td>
</tr>
<tr>
<td>China (2006)</td>
<td>Yes</td>
</tr>
<tr>
<td>Egypt (2006)</td>
<td>Yes</td>
</tr>
<tr>
<td>Guatemala (2006)</td>
<td>Yes</td>
</tr>
<tr>
<td>India (2009)</td>
<td>Yes</td>
</tr>
<tr>
<td>South Africa (2010)</td>
<td>Yes</td>
</tr>
<tr>
<td>Bangladesh (2011)</td>
<td>Yes</td>
</tr>
<tr>
<td>GDD Centers Under Development</td>
<td>Yes</td>
</tr>
<tr>
<td>Kazakhstan (2008)</td>
<td>Yes</td>
</tr>
<tr>
<td>Rep. of Georgia (2012)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- **Comprehensive and sustained activities with dedicated staff**
- **Comprehensive activities with dedicated staff (existing or expected within 12 mos)**
- **Initial activities underway**
- **No activities currently underway**
Increased Capacity through GDD Centers

Number of Public Health Professionals Trained by GDD Programs Worldwide (HP2020 GH-4)

Number of Pathogen-Specific Tests Established In-Country by GDD Centers (HP2020 GH-5)
Field Epidemiology Training Programs (FETPs)

- 2-year, full-time postgraduate programs
- Modeled after CDC’s Epidemic Intelligence Service
- Since 1980, 41 FETPs trained >2,600 epidemiologists
- Residents assigned to positions that provide epidemiologic service to MOH
- >80% stay in-country after graduating
- Over the last six years 485 doctoral level epidemiologists have been trained in GDD Centers
Global TB Capacity-Building through FETPs

- Evaluation of national or regional tuberculosis surveillance systems
- Evaluation of TB control programs
- Investigation of TB outbreaks
- Conduct studies of clinical management and TB diagnosis
Global TB Capacity-Building Through GDD Centers

- TB projects are carried out in several GDD Centers, including those under development.

- TB-related prevention and control activities include:
  - Surveillance
  - Case finding, reporting, and treatment
  - Outbreak response
  - Infection control
  - Laboratory diagnostics
Key Takeaways

- There is a continuing need to strengthen public health systems worldwide and assure global health security.
- The challenges of TB are not unique.
- Efforts to address global TB control are underway but need to be enhanced.
- TB elimination in the U.S. is not possible without addressing TB among the foreign-born.
<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>Rate (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>United States overall</strong></td>
<td>11,171</td>
<td>3.6</td>
</tr>
<tr>
<td>California</td>
<td>2,324</td>
<td>6.2*</td>
</tr>
<tr>
<td>Texas</td>
<td>1,385</td>
<td>5.5*</td>
</tr>
<tr>
<td>Arizona</td>
<td>282</td>
<td>4.4*</td>
</tr>
<tr>
<td>New Mexico</td>
<td>50</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Mexico overall</strong></td>
<td>18,848</td>
<td>16.8</td>
</tr>
<tr>
<td>Baja California</td>
<td>1,707</td>
<td>54.1*</td>
</tr>
<tr>
<td>Tamaulipas</td>
<td>1,175</td>
<td>35.9*</td>
</tr>
<tr>
<td>Sonora</td>
<td>832</td>
<td>31.2*</td>
</tr>
<tr>
<td>Nuevo Leon</td>
<td>1,126</td>
<td>24.2*</td>
</tr>
<tr>
<td>Chihuahua</td>
<td>719</td>
<td>21.1*</td>
</tr>
<tr>
<td>Coahuila</td>
<td>506</td>
<td>18.4*</td>
</tr>
</tbody>
</table>

Source: CDC (US); DGE SSA (Mexico)  
*Exceeds national rate
Challenges Addressing TB along the U.S.-Mexico Border

- Highly mobile population
- Limitations in access to care
- Treatment issues
- Data issues
Objective

- Convene experts to address binational response to TB issues

Partners

- Mexican Federal Government (including Secretariat of Health, Mexican Consulates, National Institute of Migration)
- State and local health departments
- NGOs: Migrant Clinicians Network, Cure TB, Heartland National TB Center
- Pan American Health Organization
Continuity of Care
- Identify barriers to completion of treatment
- Develop standards for Meet and Greet program

Legal Issues
- Guide to be developed on practical applications of public health law, including patients’ rights and physician obligations
- Increase providers’ awareness of legal issues

Coordination of binational efforts on MDR-TB
- Establish binational network of experts
- Educate and train physicians
- Analyze treatment strategies
Overview
- Binational project to enhance surveillance and treatment to prevent TB, including MDR-TB

Partners
- New Mexico Department of Health Office of Border Health
- Chihuahua State Services Health Jurisdiction
- Migrant Clinicians Network

Methods
- Promote TB testing
- Provide education to providers and patients
- Implement adherence strategies

Outcomes (2010-2012)
- Training completed for 150 physicians and nurses
- Active case management (>2,000 home visits)
- Improved understanding of border TB management issues
Key Takeaways

- TB rates higher in the U.S.-Mexico border region
- Major challenges include continuity of care and harmonizing treatment protocols across state and national lines
- Efforts of the U.S.-Mexico Border Health Commission are aimed to promote:
  - Binational collaboration (federal, state and local levels)
  - Cross-border sharing of information and resources for prevention and treatment
Achieving Healthy People 2020 Goals of TB Elimination in Hard to Reach Populations

July 30, 2013

Ed Zuroweste, MD
Chief Medical Officer

July 30, 2013

Ed Zuroweste, MD
Chief Medical Officer
OUR MISSION

To be a force for justice in healthcare for the mobile poor
About Migrant Clinicians Network

- 10,000 constituents
- Founded in 1984
- Oldest clinical network serving the mobile poor
- MCN’s primary constituents
  - Federally funded Migrant & Community Health Centers
  - State and local health departments

Photo © Alan Pogue
Tuberculosis Disproportionately Affects the Foreign Born and Recent Immigrants
• Federally funded M/CHC are often “medical home” for FB
• To achieve TB elimination will require partners outside of public health to identify/treat TB Infection
• Front line primary care providers need continued education and reminders to “think TB”
• Continuity of care often significant barrier to completion of treatment for active TB and TB infection.
MCN’s Health Network provides continuity of care to mobile patients and their providers.
TBNet Bridge Case Management

- An innovative approach for over 17 years
- 5,190 total TB enrollments
- 2,951 total clinics in U.S. and over 70 countries
TBNet’s International Reach
Class 3 Active TB: TBNet Treatment Success (2005-2011)

✔ 1,145 Class 3 Active TB Cases Referred
  • 34 treatment not recommended by destination country

✔ 1,111 Treatment Recommended
  • 13 deceased

✔ 1,098 Followed by TBNet for Active TB
  • 112 lost to follow up
  • 64 refused treatment

922 Complete Treatment = 84.0%
## TBNet 2005-2011

### TBNet Patient and Clinic Contacts: 2005-2011

<table>
<thead>
<tr>
<th></th>
<th>Total Patients</th>
<th>Patient Contacts</th>
<th>Average Contacts per patient</th>
<th>Clinic contacts</th>
<th>Average Contacts per patient</th>
<th>Total contacts</th>
<th>Total contacts per patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,238</td>
<td>19,623 (2.41 hrs)</td>
<td>8.8</td>
<td>45,211 (5.65 hrs)</td>
<td>20.2</td>
<td>64,834</td>
<td>29.0 (8.06 hrs)</td>
<td></td>
</tr>
</tbody>
</table>
February, 2010
- Screened in an ICE facility
- Negative smear
- RUL consolidation
- TST 20 mm
- Asymptomatic
- Medication was not started

Enrolled in TBNNet prior to being deported to Central America
March, 2010 TBNet notified of positive culture results

Medical records sent to his home country and family notified
May 2010, wife calls TBN to say that her husband is being held by "coyotes" on the west coast of the United States.
TBNet case manager calls and is able to speak to the patient to explain the need for treatment.

TBNet staff then initiates a human trafficking investigation via ICE.
June 2010 patient contacts TBNNet from the east coast having been released by “coyotes”

Medical records sent to clinic by TBNNet and patient started on 4 drug regimen using DOT
September 2010 patient calls TBNNet to say he had moved to another east coast state
September 2010 patient calls TBNet to say he had moved to another east coast state

- Clinic found
- Appointment made
- Medical records transferred from both previous clinics
- Patient resumed DOT
- Wife in Central America updated on his progress
TB Case Study, part 8

September 2010 patient calls TBNNet to say he had moved to another east coast state

Treatment completed April, 2011

- Clinic found
- Appointment made
- Medical records transferred from both previous clinics
- Patient resumed DOT
- Wife in Central America updated on his progress
Contact

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Please submit your questions through the Q&A function
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