Tuberculosis Update 2010: Information for Field Staff

Satellite Conference and Live Webcast
Wednesday, April 21, 2010
8:00 - 9:00 a.m. Central Time

Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

Faculty

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Objectives

- Participants will be able to describe statistics associated with TB at the national, state and county levels
- Participants will be able to describe the difference between latent TB infection and active TB disease
- Participants will be able to state the signs and symptoms of active TB disease

Objectives

- Participants will develop an understanding of the social issues associated with the management and care of individuals with active TB Disease

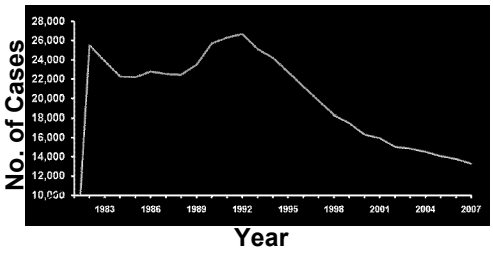
What is Tuberculosis?

- Tuberculosis or TB, is a disease caused by M.*tuberculosis*
- It is passed from person to person when someone, coughs, sneezes, sings, or shouts causing the bacteria to become airborne

What is Tuberculosis?

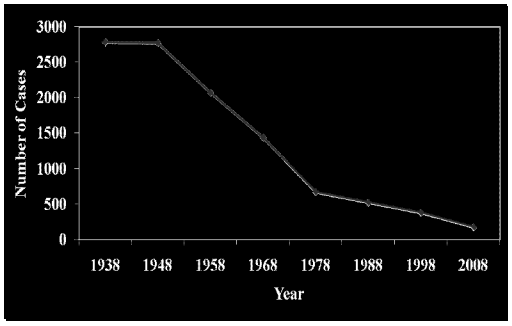
- Symptoms include
  - Cough
  - Weight loss
  - Night sweats
  - Fever
  - Loss of appetite
  - Fatigue
  - Hoarseness
  - Shortness of breath
  - Chest pain

Reported TB Cases* United States, 1982–2007

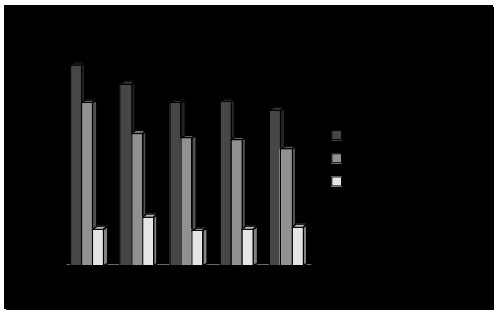


*Updated as of April 23, 2008

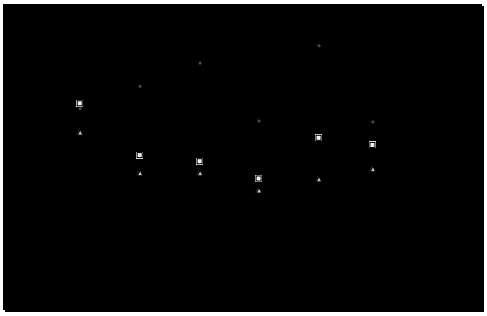
Historical Trend of TB in Alabama (1938 – 2008)



U.S. vs. Non- U.S. Born TB Cases (2005 to 2009)



Single County TB Morbidity 2005 to 2009



TB in Special Populations 2005 - 2009

	2005	2006	2007	2008	2009
Homeless	5.1%	5.1%	4.0%	2.3%	4.8%
Foreign Born	18.5%	27%	21.7%	22.7%	25%
Single Drug Resistance	6.5%	2.5%	0.6%	1.1%	4.8%
HIV +	4.1%	4.5%	5.1%	4.0%	7.7%

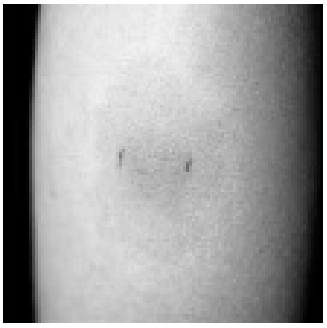
TB Infection vs. TB Disease

- Infection
  - Skin test positive
  - Normal chest x-ray
  - Has no symptoms
  - Cannot pass the TB bacteria to others

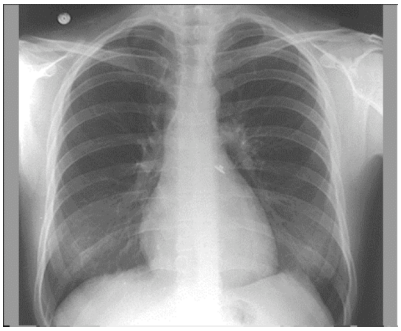
TB Infection vs. TB Disease

- **Disease**
  - **Skin test is usually positive**
  - **Abnormal chest x-ray**
  - **Usually has symptoms**
  - **Can pass the TB bacteria to others**

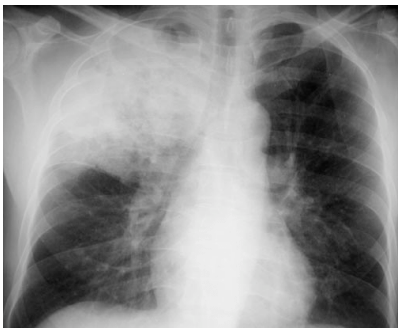
Positive PPD Skin Test



Normal Chest X-ray



Abnormal CXR Consistent with TB



TB Protocol/Visit Standards (Standing Orders)

- **Lawful under direct guidance of Area TB Physician**
- **TB Area Manager responsible for overall implementation and application of visit standards**
- **Area or County Public Health Nurses and TB Program Disease Intervention Specialists covered by these visit standards**

When to Contact TB Manager

- **Initiation of treatment for cases, suspects, TB contacts and tuberculin reactors**
- **Any order deviates from protocol**
- **Abnormal lab results are received**
- **A patient on treatment for active TB misses a single dose**
- **If patient is or becomes pregnant**

When to Contact TB Manager

- A woman is taking oral contraceptives and Rifampin is ordered
- PRN medication order has failed to stop side effects (itching or nausea)
- Possibility of drug resistance exists
- When the regimen changes from daily to intermittent
- Patient is in an institutional setting

Important Actions When Starting Therapy 1

- Collect a sputum sample on 3 consecutive days
- Collect baseline labs
  - AST, Billirubin, Serum Creatinine, Serum Uric Acid, CBC, and HIV (must be offered)
- Weight

Important Actions When Starting Therapy 1

- Vision check for patients on Ethambutol
- Hearing check for patients on Streptomycin

Case Study #1

- 46 y/o Vietnamese male
- 10/8/2008, patient seen in the adult health clinic at Mobile County Health Department with complaints of productive cough, fever, chills, fatigue, and shortness of breath for 3 months

Case Study #1

- X-ray ordered and the reviewing physician immediately sent the patient to USA Medical Center for admission
- 10/9/2008 patient has numerous AFB identified in sputum
- 10/10/2008 patient started on Therapy 1 per state protocol

Case Study #1

- 10/27/2008 patient released from hospital, housed in a local motel until 11/17/2008
- December 2008 patient began to miss doses of medication
- 2/18/2009 to 3/30/2009 no contact with patient

Case Study #1

- 3/24/2009 Health Officer Order signed
- 3/30/2009 patient returns to treatment
- 4/30/2009 patient began to intentionally vomit after ingesting medication
- 5/15/2009 increased incentives to keep patient in clinic longer
- 1/7/2010 patient completes treatment

Case Study #1 Challenges

- Homelessness
- Substance abuse
- Drug resistance
- Language/cultural barriers
- Possible mental health issue
- Verbally abusive toward staff
- Non-adherent

Case Study #1 Attempted Interventions

- Housed patient until non-infectious
- Attempted to place in a substance abuse treatment facility (patient refused)
- Attempted to place in a local shelter (patient refused)

Case Study #1 Attempted Interventions

- Referred for mental health evaluation (patient refused)
- Increased incentives (adherence improved slightly)

Case Study # 2

- 23 month old Hispanic boy admitted to PICU at Children's Hospital with 3 wk hx of low grade fever and vomiting
- Transferred from Nport DCH with altered mental status and R hemiparesis
- CT and MRI/MRA are abnormal

Case Study # 2

- CXR is normal
- PPD placed on 10/19/2009 - no known exposure to TB
- Because of basilar meningitis, TB treatment is started
- PPD = 10 mm
- Child is neurologically devastated

Case Study # 2

- Discharged home with seizure disorder, VP shunt, g-tube
- To received rehab services as out-pt
- TB meds per Area 3 TB Control, twice weekly home visits

Case Study # 2

- On 11/17/2009 MTB (1 colony) reported from the culture of CSF
- Child is a Tuscaloosa County WIC client, he is being followed by Patient First
- Contact investigation revealed a household contact with + smears from sputum and a cavitary CXR

Case Study # 2

- This source case worked at a local fast food restaurant for many months
- Evaluation of child's and source case's contacts included household/family members and co-workers

Case Study # 2

- Child's 3 yr old brother was put on INH, DOPT, twice weekly, by TB staff when child was first diagnosed as a TB suspect
- Source case was not allowed back to work when released to return by TBC after 3 negative sputum smears and 14 days of daily DOT

Case Study # 2

- Moved to Illinois and was quickly hired to work in a restaurant - again with NO screening for TB

Case Study # 2 Challenges

- Language/cultural barriers
- Housing for adult case during infectious period
  - Apartment paid for by DTBC for a few weeks

Case Study # 2 Challenges

- Child's mother continues to need assistance from case managers
  - Helping with appointments and follow-up visits
- Child does have Medicaid

Contact Information

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Area Managers
http://www.adph.org/TB