The Challenges of Managing Tuberculosis in Rural Texas

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The Challenges of Managing Tuberculosis in Rural Texas

- There’s not enough money and not an adequate number of personnel to do the job.
- Thank you very much, this concludes this morning’s program.
- Enjoy your lunch.

TEXAS

- Texas is really, really BIG.

Fun Texas Facts

- Population 1990: 16,986,000
- Population 2004: 22,490,000 (up 28%)
- 2nd most populous state
- 4th fastest growing state
- 4th highest number of immigrants
- 2nd highest birth rate
- Total area: 268,581 sq. miles (171,891,840 acres)
- State motto: “Friendship”

How Big is Texas? (PDB)

- Region 10

	Population	Area
El Paso	713,126	1015 sq. miles
Hudspeth	3,300	4572 sq. miles
Culberson	2,727	3813 sq. miles
Jeff Davis	2,253	2265 sq. miles
Presidio	7,639	3856 sq. miles
Brewster	9,226	6193 sq miles
Total	738,271	21,714 sq. miles (8%)

TEXAS

- Texas is also really, really RURAL.

More Fun Texas Facts

- #1 State: Most # of farms
- #1 State: Most land in farming
- Total area: 171,892,000 acres
  - Water 4,342,000 (3%)
  - Cropland 26,938,000 (16%)
  - Pasture 15,914,000 (9%)
  - Rangeland 95,745,000 (56%)
  - “Rural” TX 142,939,000 (84%)!

There is Rural, and then there is RURAL

	Smith Co. (Tyler)	Region 10	Region 10 (- El Paso)
Population	186,414	738,271	25,145
Area (sq. miles)	949	21,714	20,699
Population/ sq. mile	196	34	1.2

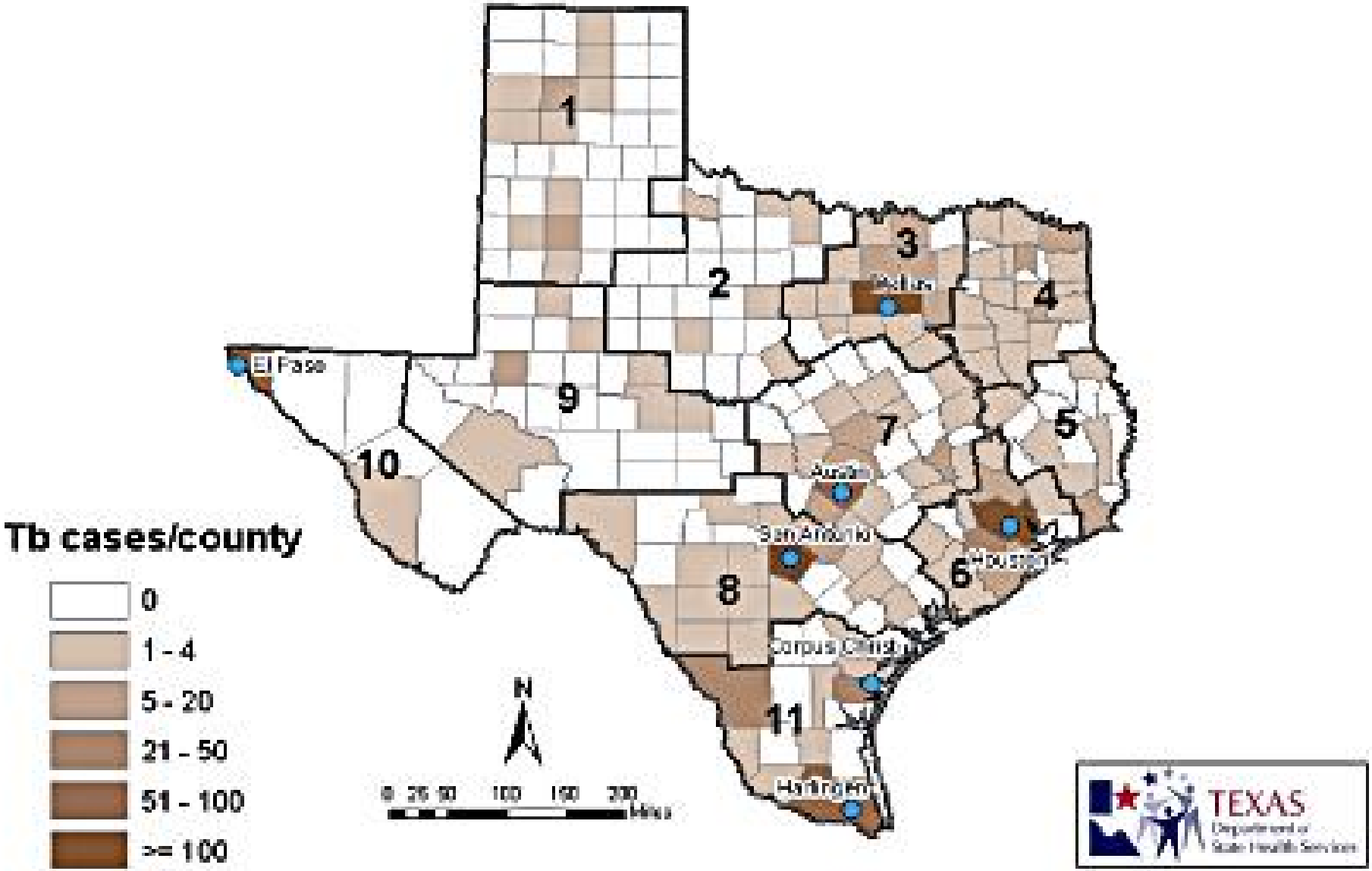
The Challenges of Managing Tuberculosis in Rural Texas

- Texas is a big rural state
- Tuberculosis is an urban disease

Texas TB Cases 2004: 10 Largest Cities (Counties)

Houston (Harris)	472
San Antonio (Bexar)	114
Dallas &Garland (Dallas)	256
Austin (Travis)	64
Fort Worth & Arlington (Tarrant)	109
El Paso (El Paso)	70
Corpus Christi (Nueces)	23
Plano (Collin)	14
Total	1122 (67%)

2004 Tuberculosis cases in Texas



Tuberculosis Cases by DSHS Region 2004

- Urban DSHS Region

3	419
6	566
7	118
8	149
11	243
	1495 (90%)

- Rural DSHS Region

1	27
2	10
4	42
5	6
9	11
10	71
	167 (10%)

Tuberculosis Cases in Texas 2004

- # of Texas counties (total): 254
- # of counties with 0 TB cases: 132 (52%)
- # of counties with 1 or 2 cases: 71 (28%)
- # of counties with 0 to 2 cases: 203 (80%)

Drug Resistant Tuberculosis Cases (Current)

REGION	MDR-TB	TOTAL DRUG RESISTANT
State	16	76
Region 3	4	10
Region 6	5	32
Region 8	1	6
Region 11	6	19
Total (3,6,8,11)	16 (100%)	67 (88%)

The Challenges of Managing TB in Rural Texas

What are you expected to do?

Controlling Tuberculosis in the United States
Recommendations from the ATS, CDC, IDSA

MMWR Nov. 2005, vol. 54 RR-12

Controlling TB in the U.S.
MMWR 11/05, 54-RR12
Core Public Health Responsibilities

- Collection and analysis of data
- Developing policies and procedures
- Assurance of diagnostic, clinical, and preventive services needed to implement the TB control plan
- Monitoring the TB control plan
- Providing information and education

Controlling TB in the U.S.
MMWR 11/05, 54-RR12
National Perfomance Measures and Objectives for TB Control

- Increase the percentage of TB patients who complete a course of curative TB treatment in < 12 mos.
- Increase the percentage of TB patients with initial cultures who also have drug susceptibility results.
- Increase the percentage of contacts of persons with infectious TB who are placed on therapy for LTBI and complete a treatment regimen.

Controlling TB in the U.S.
MMWR 11/05, 54-RR12

- All clinical services, including diagnostic evaluation, medications, clinical monitoring, and ***transportation***, should be available without consideration of the patient's ability to pay and without placing undue stress on the patient that might impair completion of treatment.

Controlling TB in the U.S. MMWR 11/05, 54-RR12

- Inpatient care should be available to all persons with suspected or proven TB, regardless of the person's ability to pay. Hospitalized patients with suspected or proven TB should have access to expert medical and nursing care, essential diagnostic services, medications, and clinical monitoring to ensure that diagnostic and treatment standards are met.

Controlling TB in the U.S. MMWR 11/05, 54-RR12

- TB-control programs should ensure that patients with suspected or confirmed TB have ready access to diagnostic and treatment services that meet national standards
- Regardless of where a person receives medical care, ***the primary responsibility for ensuring the quality and completeness of all TB-related services rests with the jurisdictional health agency***.

Controlling TB in the U.S. MMWR 11/05, 54-RR12

- There is no separate discussion or acknowledgement in this document of the problems of rural TB control.
- There are no distinctions made between the performance measures and objectives for urban TB control and rural TB control.

The Challenges of Managing Tuberculosis in Rural Texas

- Money
- Distances (DSHS transportation)
- Poverty (patient transportation)
- Time (everybody's)
- Transient populations
- Trained personnel
- TB expertise

The Challenges of Managing Tuberculosis in Rural Texas

- Worst case scenario: the system will be squeezed until there is failure of some critical function.
- Directly Observed Therapy is the sentinel pigeon (or chicken) for rural TB control.
- When DOT is no longer possible (affordable), the apocalypse is upon us.

Tuberculosis Cases Managed by Directly Observed Therapy 2002

	DOT only (%)	DOT and Self Administra-tion (%)	Total (%)
United States	55.3	27.8	83.1
Texas	71.5	25.4	96.9

Directly Observed Therapy

- Costs of DOT identifiable in rural setting

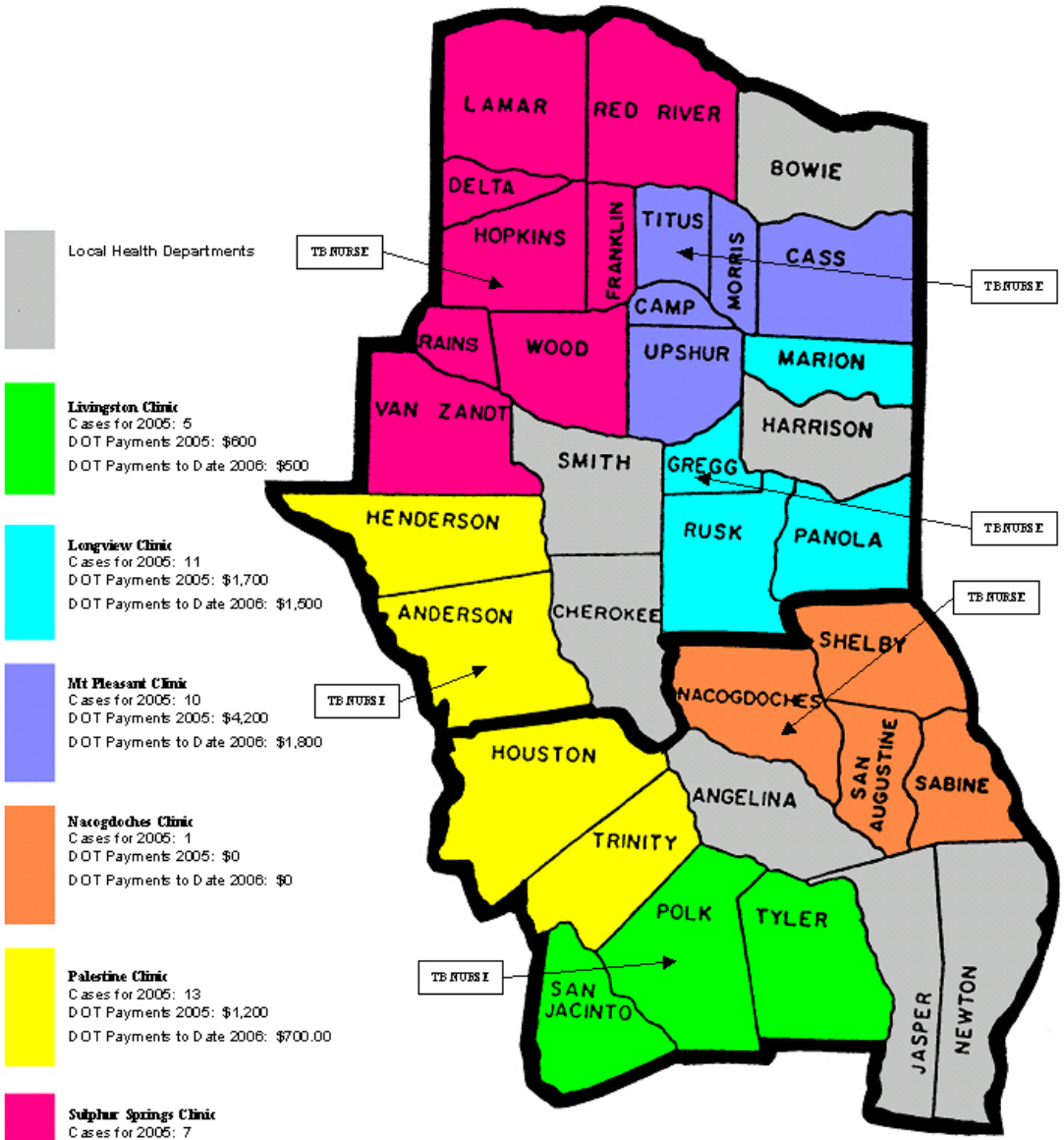
  Payment to providers

  Mileage reimbursement to DSHS personnel

Directly Observed Therapy (DOT) Providers in a Rural Setting

- DSHS personnel
- School nurses
- EMT
- Pharmacist
- Visiting nurses
- Trained civilian (not family)

HEALTH SERVICE REGION 4&5N
CLINIC COVERAGE



Livingston Clinic
Cases for 2005: 5
DOT Payments 2005: $600
DOT Payments to Date 2006: $500

Longview Clinic
Cases for 2005: 11
DOT Payments 2005: $1,700
DOT Payments to Date 2006: $1,500

Mt Pleasant Clinic
Cases for 2005: 10
DOT Payments 2005: $4,200
DOT Payments to Date 2006: $1,800

Nacogdoches Clinic
Cases for 2005: 1
DOT Payments 2005: $0
DOT Payments to Date 2006: $0

Palestine Clinic
Cases for 2005: 13
DOT Payments 2005: $1,200
DOT Payments to Date 2006: $700.00

Sulphur Springs Clinic
Cases for 2005: 7
DOT Payments 2005: $7,000
DOT Payments to Date 2006: $3,500

Total DOT Paid:
FY 2005: $14,700
FY 2006 to Date: $8,000

File Name: CLINIC COVERAGE MAPB
Updated: 03-09-06

DOT Costs
FY 2005, Region 4 & 5

- 5 Clinics
- 46 tuberculosis cases
- Total DOT cost: $14,700
- DOT cost per case: $320 ($100-$1000)

DOT Costs YTD
FY 2006, Region 4 & 5

- 5 Clinics
- 32 Tuberculosis cases
- Total DOT costs (YTD): $7738
- DOT cost per case: $242 (< $100 - $1876)
- Projected total cost: > $15,000

Solution: MONEY

- Money doesn’t grow on trees
- Money is the root of all evil
- Money can’t buy happiness
- Money can’t buy me love
- But…

Solution: MONEY (aka “Resources”)

- Money DOES fix Public Health problems (please see next slide, re: TB epidemic in the United States 1986-1996).

Controlling TB in the U.S. MMWR 11/05, 54-RR12

The 44% decrease in incidence of TB in the U.S. during 1993-2003 has been attributed to the development of effective interventions enabled by ***increased resources***. A primary objective of these efforts was to increase the rate of completion of therapy among persons with TB, which was achieved by innovative case-management strategies, including greater use of directly observed therapy (DOT).

The Challenges of Managing Tuberculosis in Rural Texas

- What might we be missing as a result of limited resources?

  Case identification

  Contact identification

  LTBI therapy completion

  Case therapy completion

  Parenteral drug administration

  We don’t know what we don’t know

The light at the end of the tunnel...