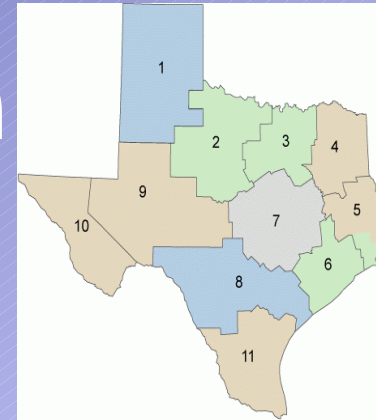
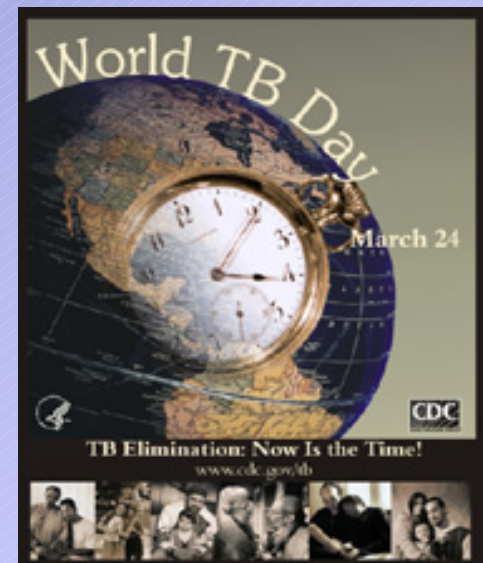


The Face Of Tuberculosis In



Smita G. Chatterjee, M.S.
Epidemiologist
*Infectious Disease Intervention and
Control Branch*



What do:

**John Keats,
Robert Lewis Stevenson,
Feodor Dostoyevsky,
Katherine Mansfield and
George Orwell**

have in common?

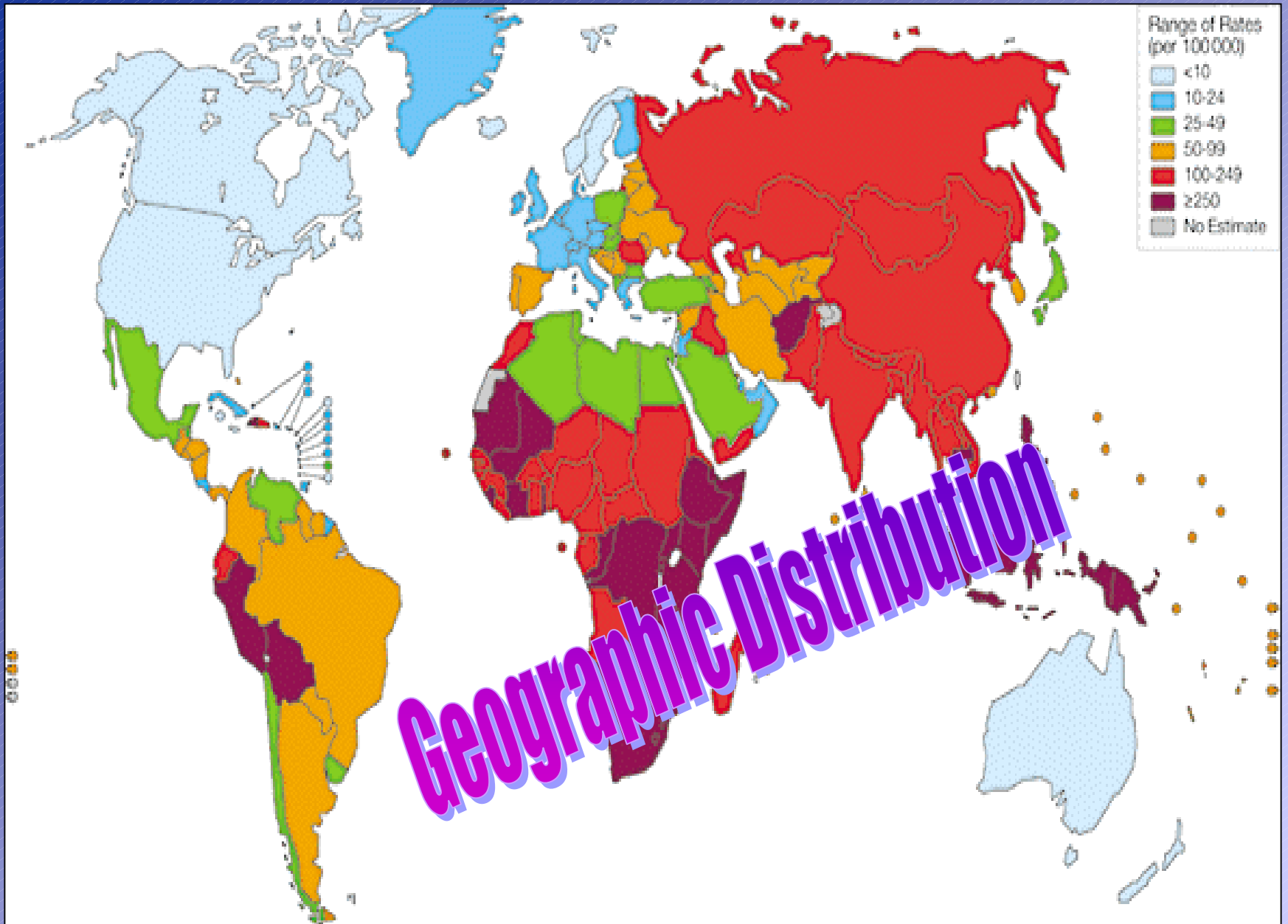


Did you know?

- **Worldwide, TB kills 8,000 people per day.**
- **One third of the world's population is infected with TB.**
- **If a person is sick with TB that person is likely to infect another 10 to 15 other people in just one year.**
- **Multiple Drug Resistant (MDR) is 1400 times more expensive and takes longer to treat than regular TB disease.**
- **Worldwide, over 100,000 children will die from TB this year. In Texas, on average, a new case of pediatric TB is diagnosed every 4-5 days.**
- **A person who is HIV positive is 30 times more likely to get sick with TB.**

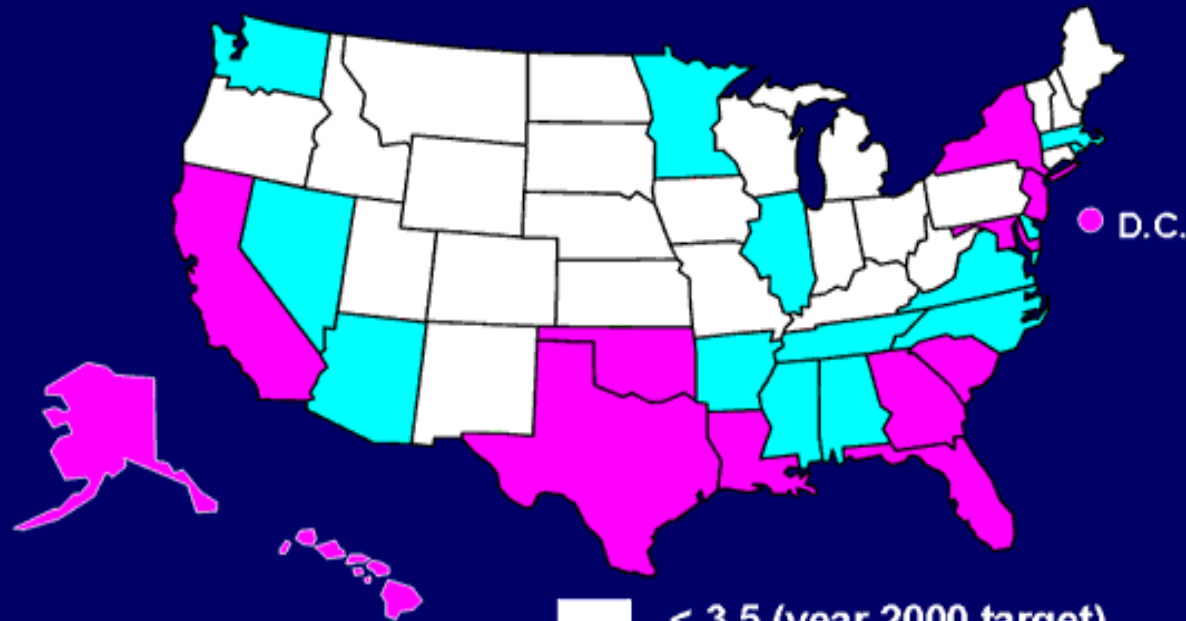
Outline

- **Tuberculosis Epidemiology**
 - **Distribution – Person, Place and Time**
 - **Determinants – Risk Factors**
- **Drug Resistant Tuberculosis**
- **Binational Cases**
- **Impact of Katrina**
- **Accomplishments**



TB Case Rates, U.S 2004

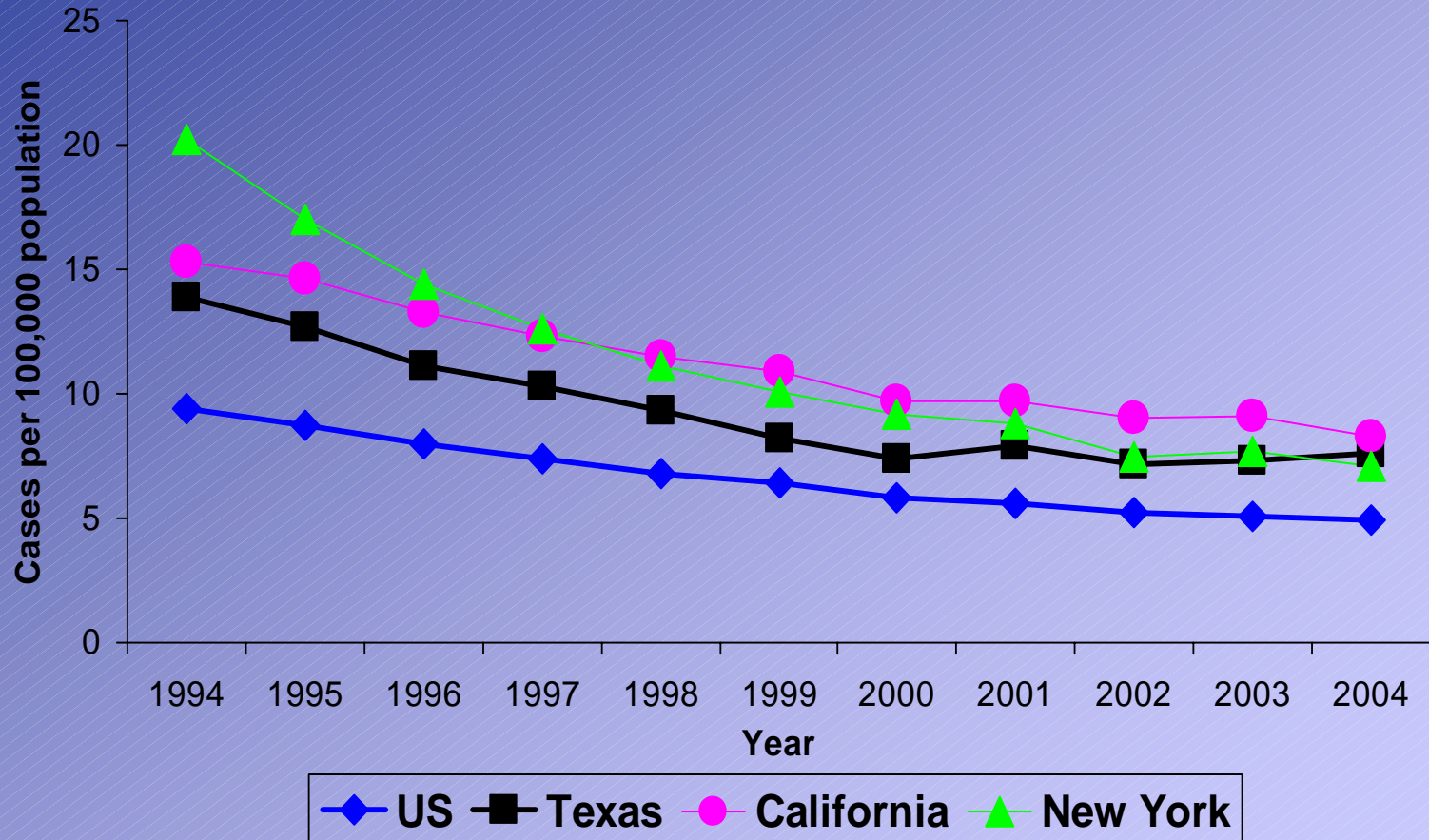
TB Case Rates,* United States, 2004



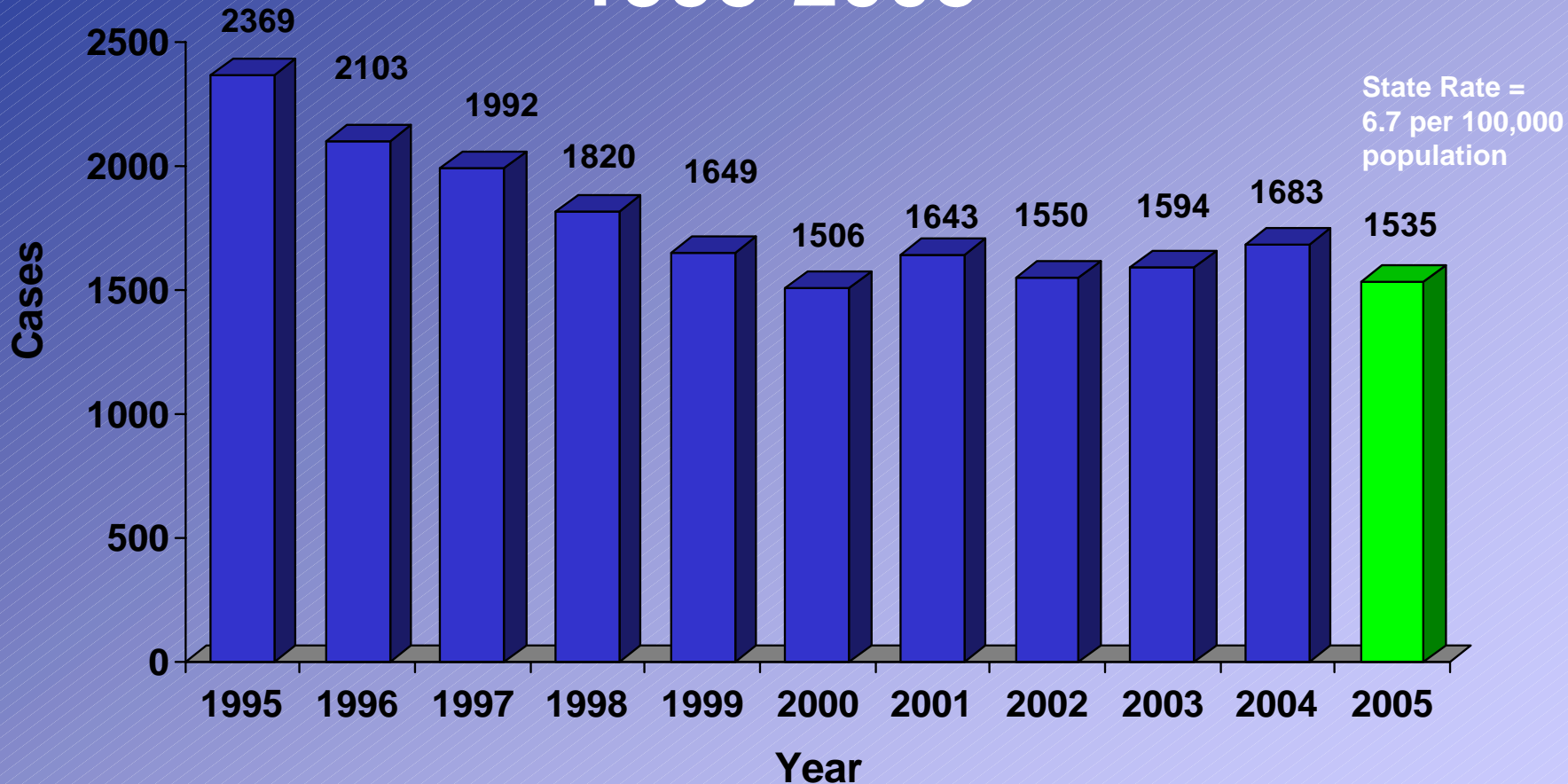
*Cases per 100,000.



Tuberculosis Incidence Rates Texas and U.S., 1994-2004



Number of TB Cases in Texas 1995-2005



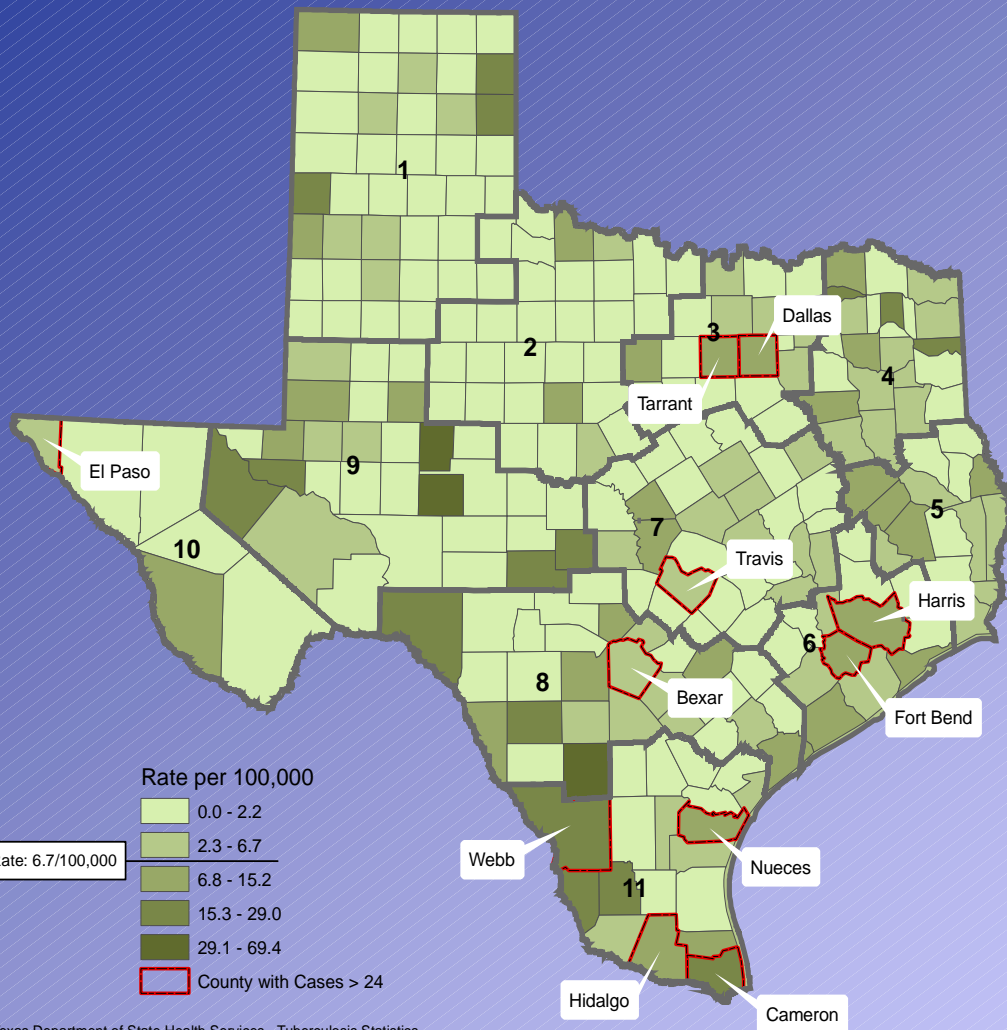
There is a 9% decrease in the number of cases from 2004 to 2005

There was a 5.6% increase in the number of cases from 2003 to 2004

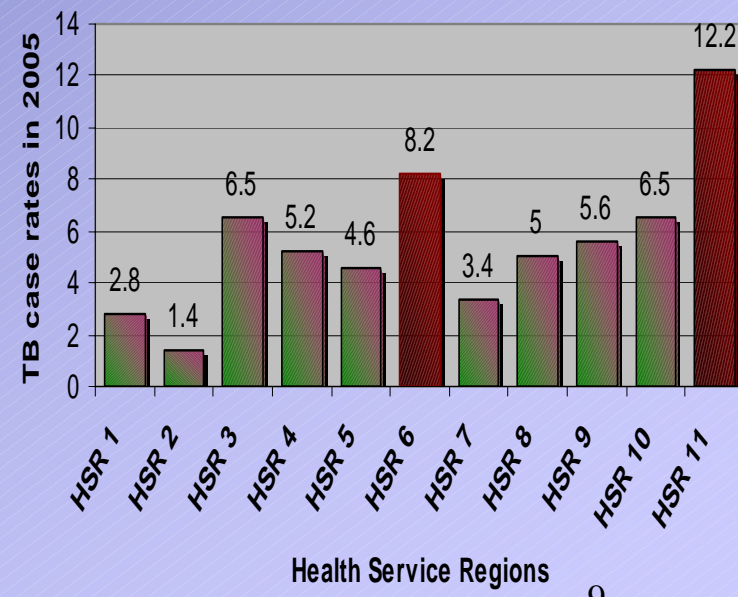
TB Case Rates in Texas

2005

Top 10 High Morbidity Counties	Cases
Harris	380
Dallas	224
Tarrant	129
Hidalgo	92
Bexar	74
Cameron	68
El Paso	49
Travis	48
Webb	42
Fort Bend	34



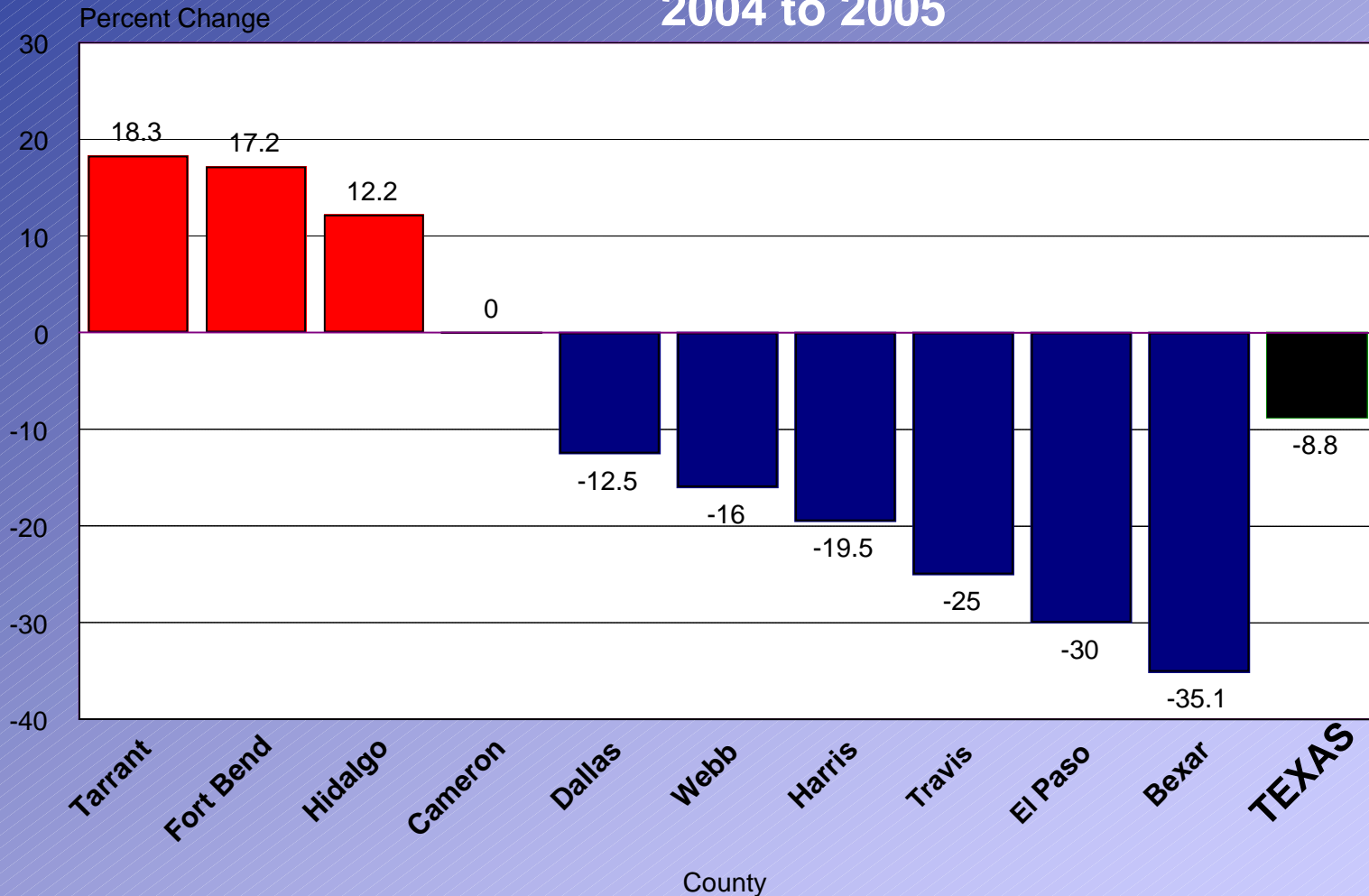
State Rate: 6.7/100,000



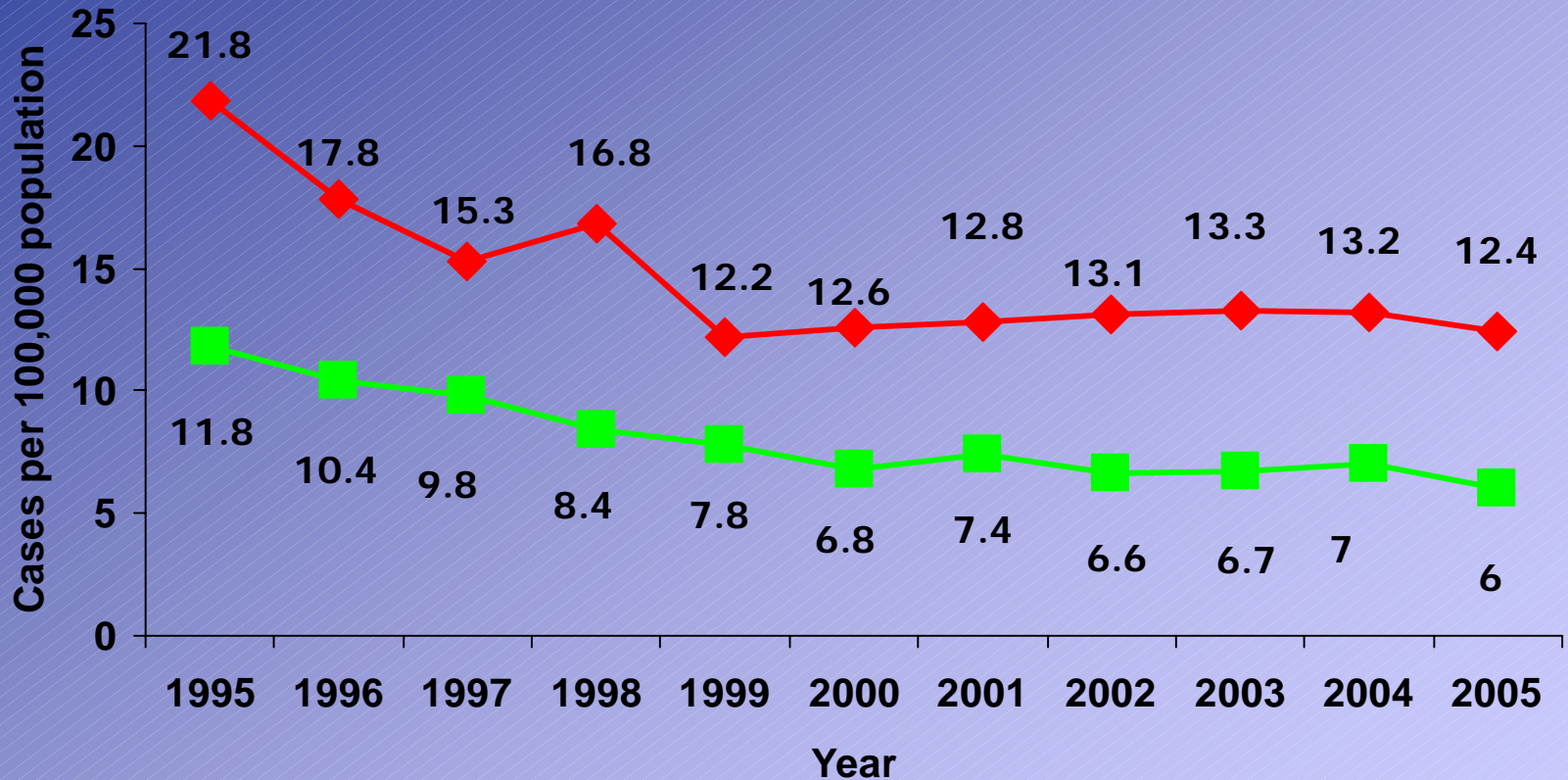
Source: Texas Department of State Health Services - Tuberculosis Statistics

Percent Change in Number of Reported Tuberculosis Cases for top 10 high morbidity counties

2004 to 2005

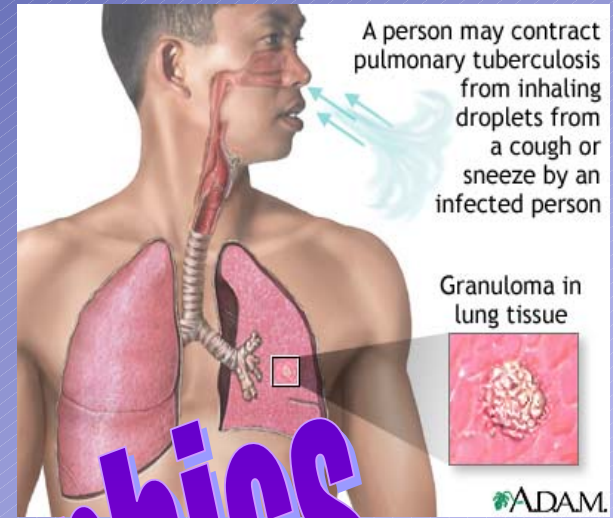
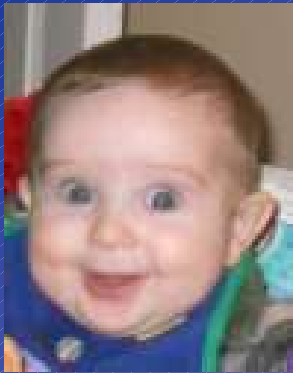


Incidence Rates Along Texas-Mexico Border 1995-2005



*14 border counties

◆ Texas Border ■ Texas NonBorder



version 1.0

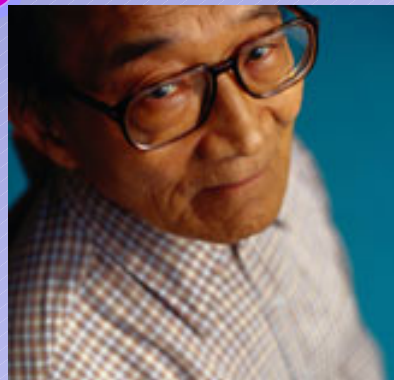
SAFER • HEALTHIER • PEOPLE™

October 2004

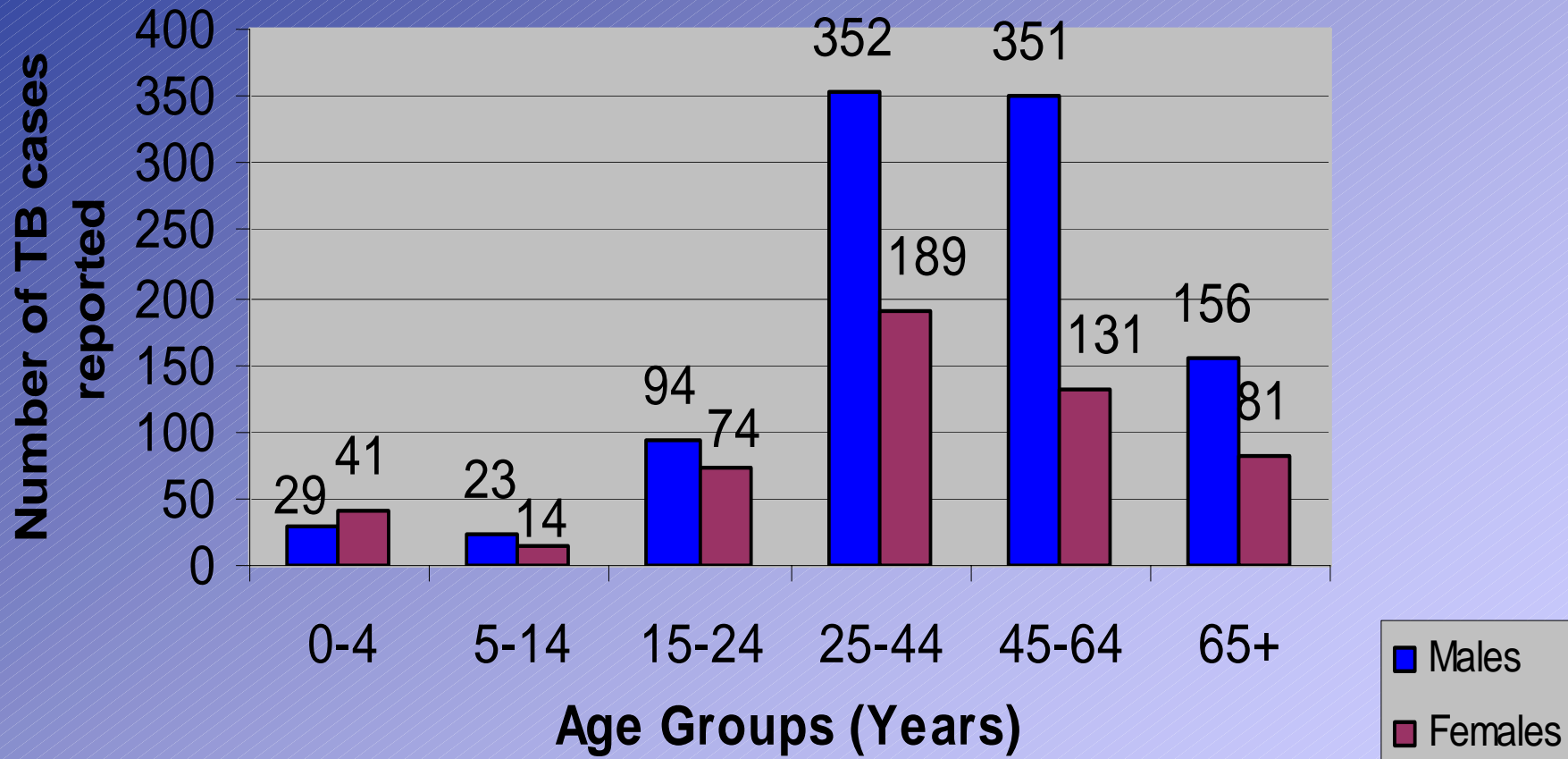
TB Elimination

A collage of images related to tuberculosis: a doctor in a white coat examining a patient's chest with a stethoscope, a chest X-ray showing a white spot, and a magnified view of a granuloma. The CDC logo and the slogan "SAFER • HEALTHIER • PEOPLE™" are at the bottom, along with the date "October 2004" and "TB Elimination".

Demographics



Age Groups By Gender 2005

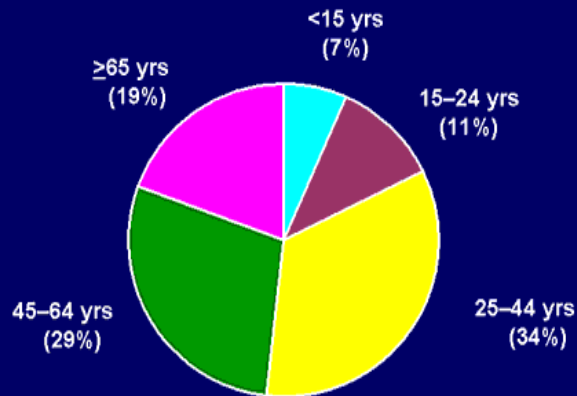


65% Male, 35% Female

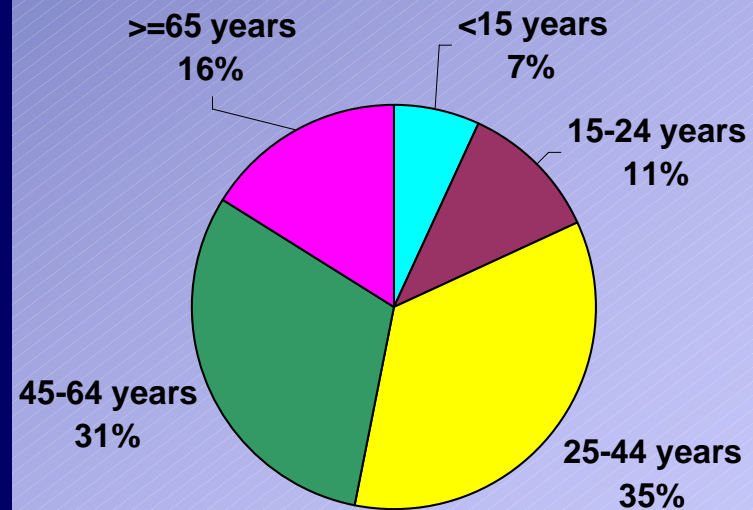
Incidence rate for Males = 8.7, Females = 4.6

Percent TB Cases by Age Groups U.S. (2004) and Texas (2005)

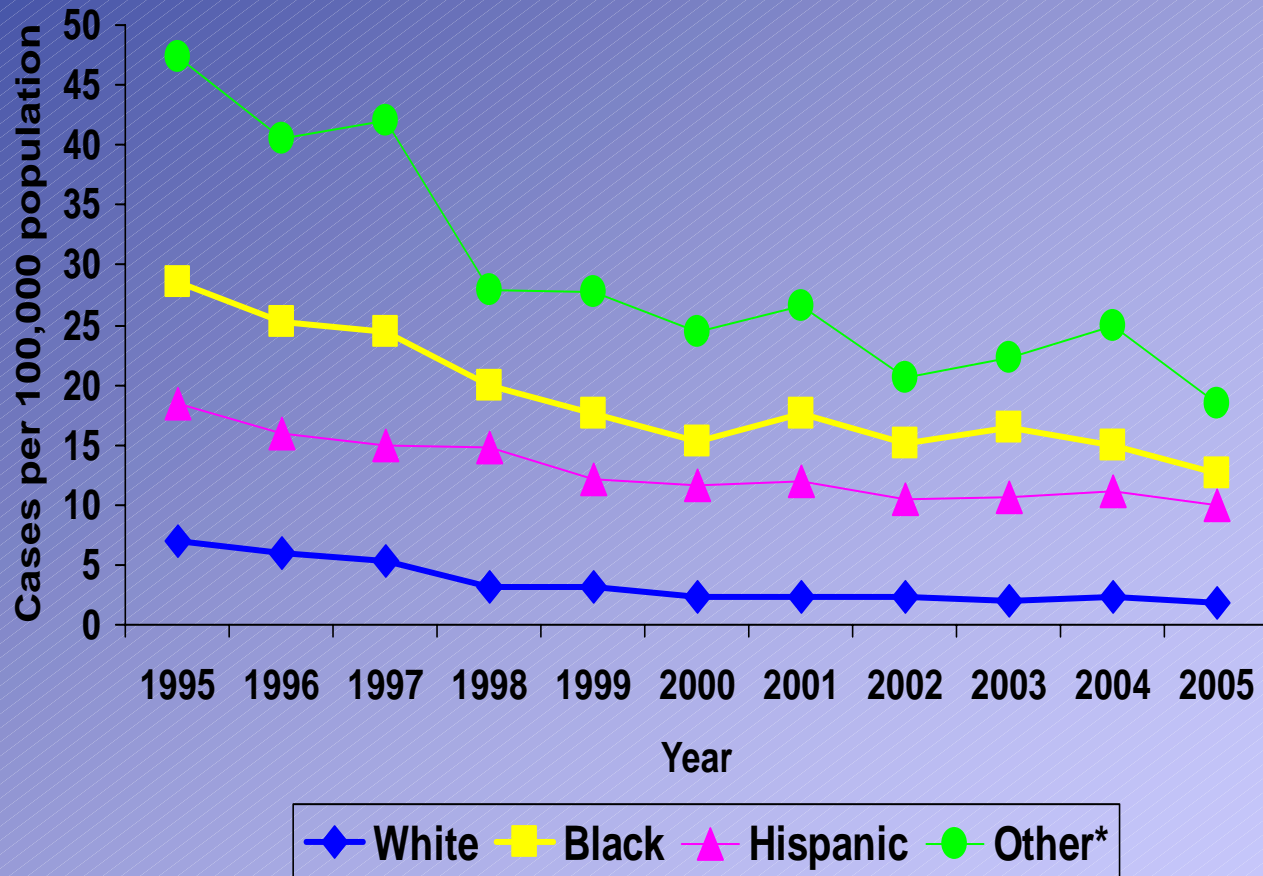
Reported TB Cases by Age Group United States, 2004



Reported TB Cases by Age Group Texas, 2005

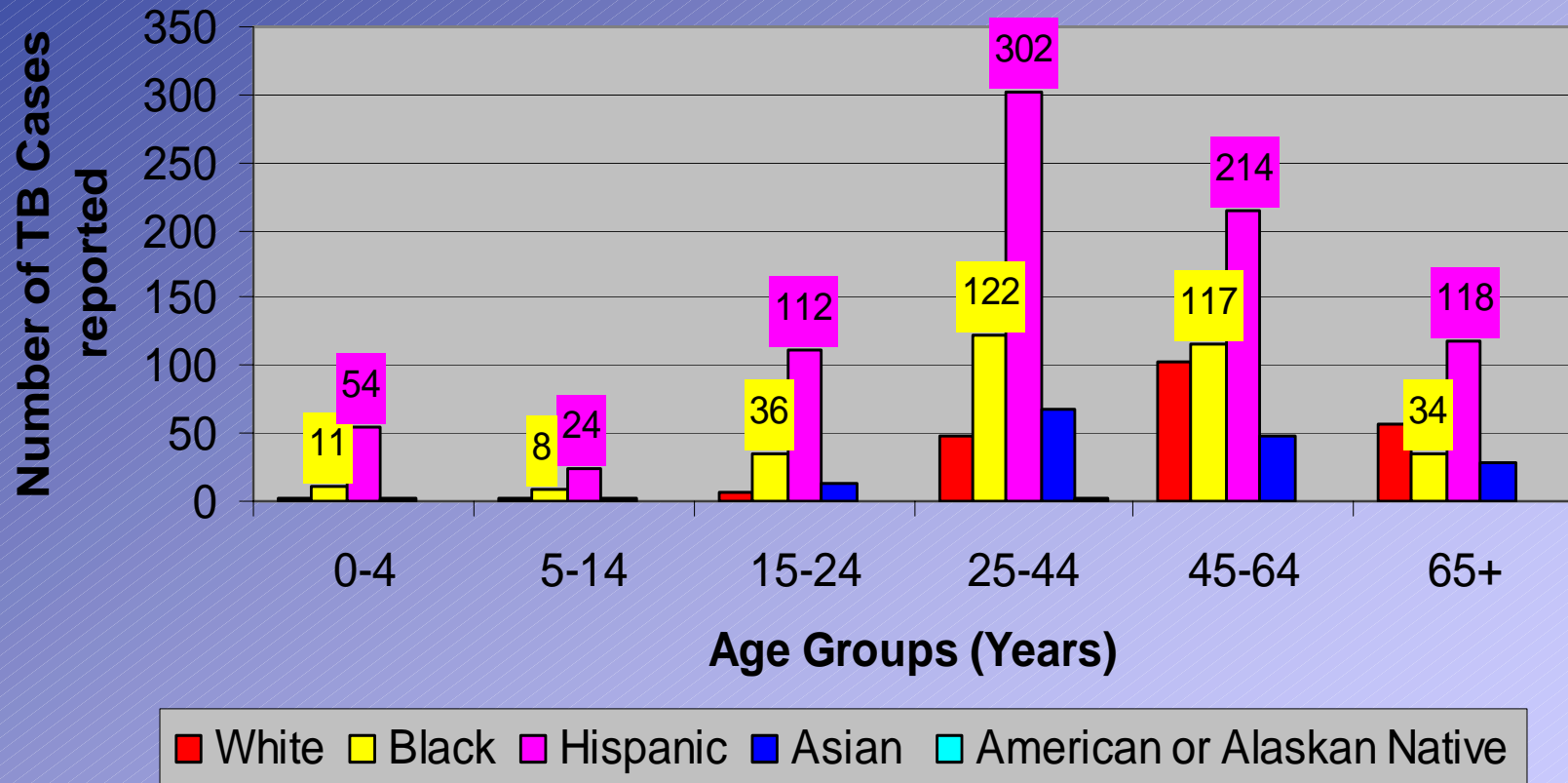


TB Incidence By Race and Ethnicity 1995-2005

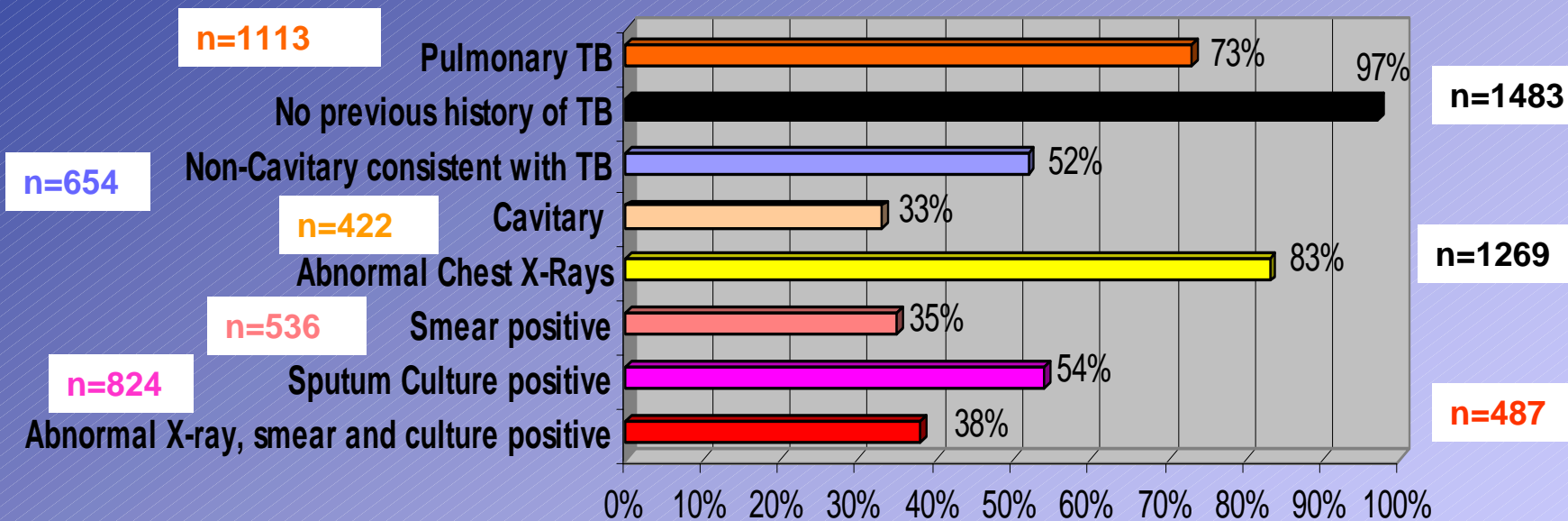


*Other includes Asians, American Pacific Islanders, American Indians, Alaskan Natives

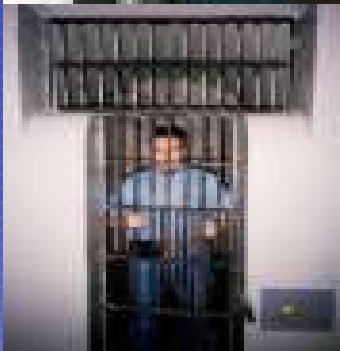
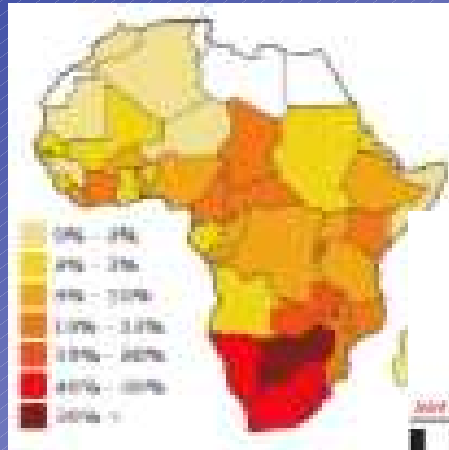
Age Groups By Race and Ethnicity 2005



TB Disease in Texas 2005

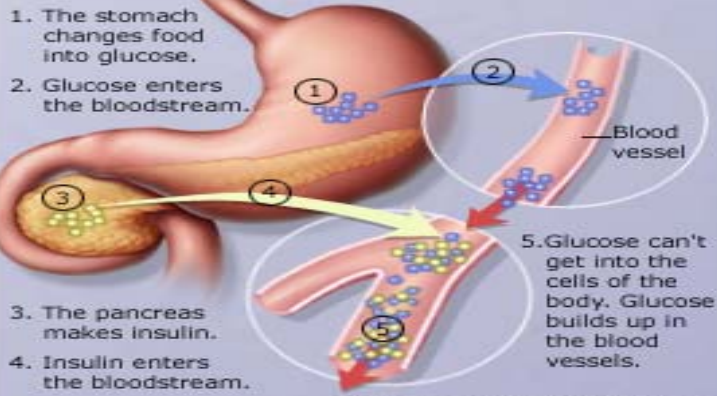


Total cases reported in 2005 =1535

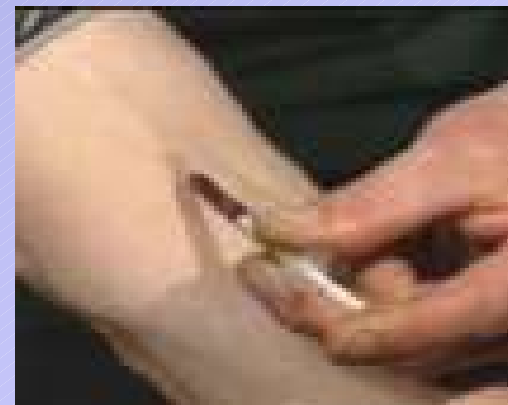
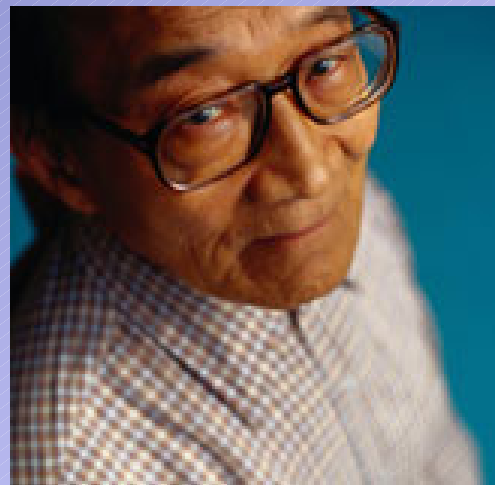


Risk Factors

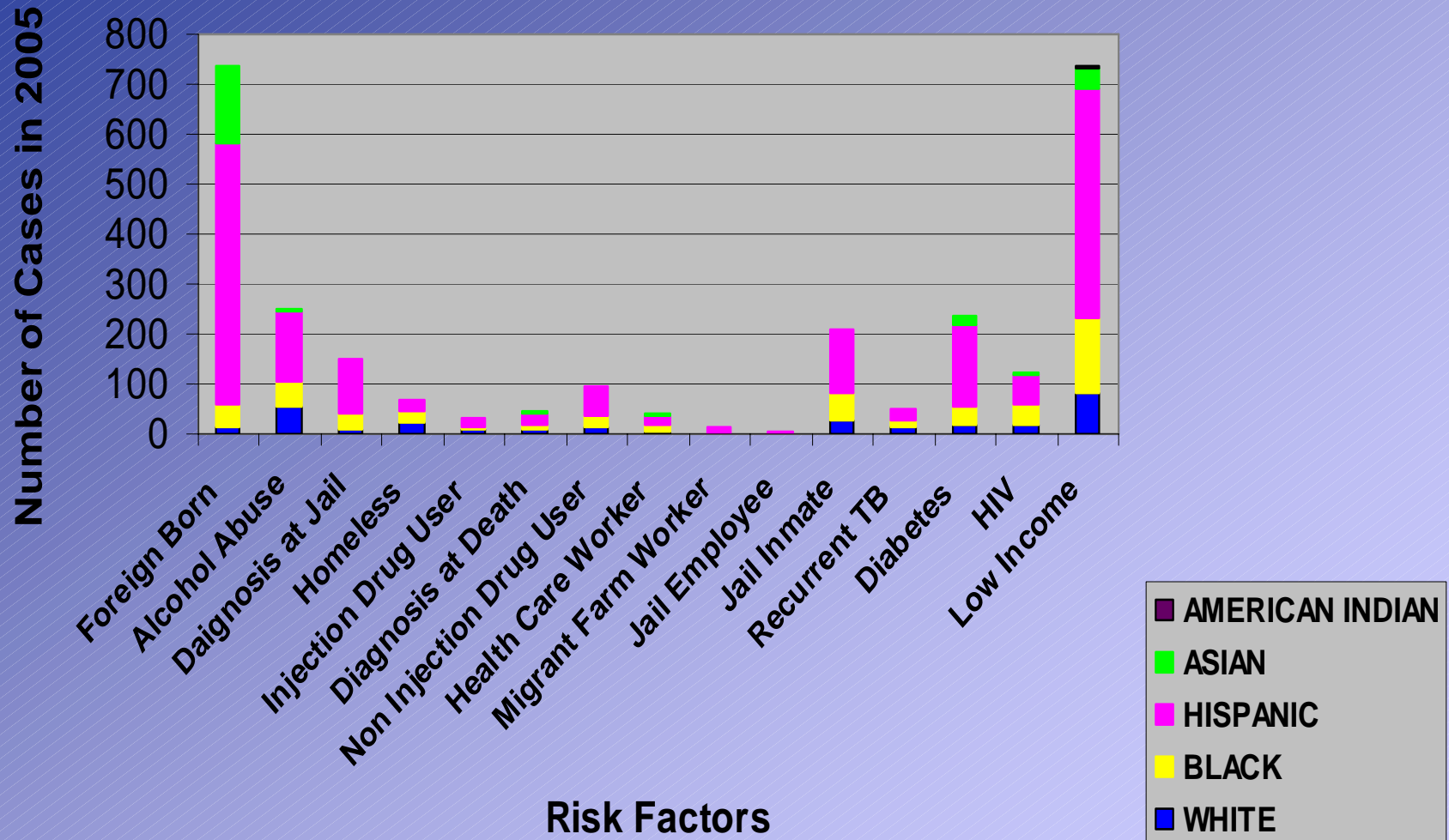
Type 2 Diabetes



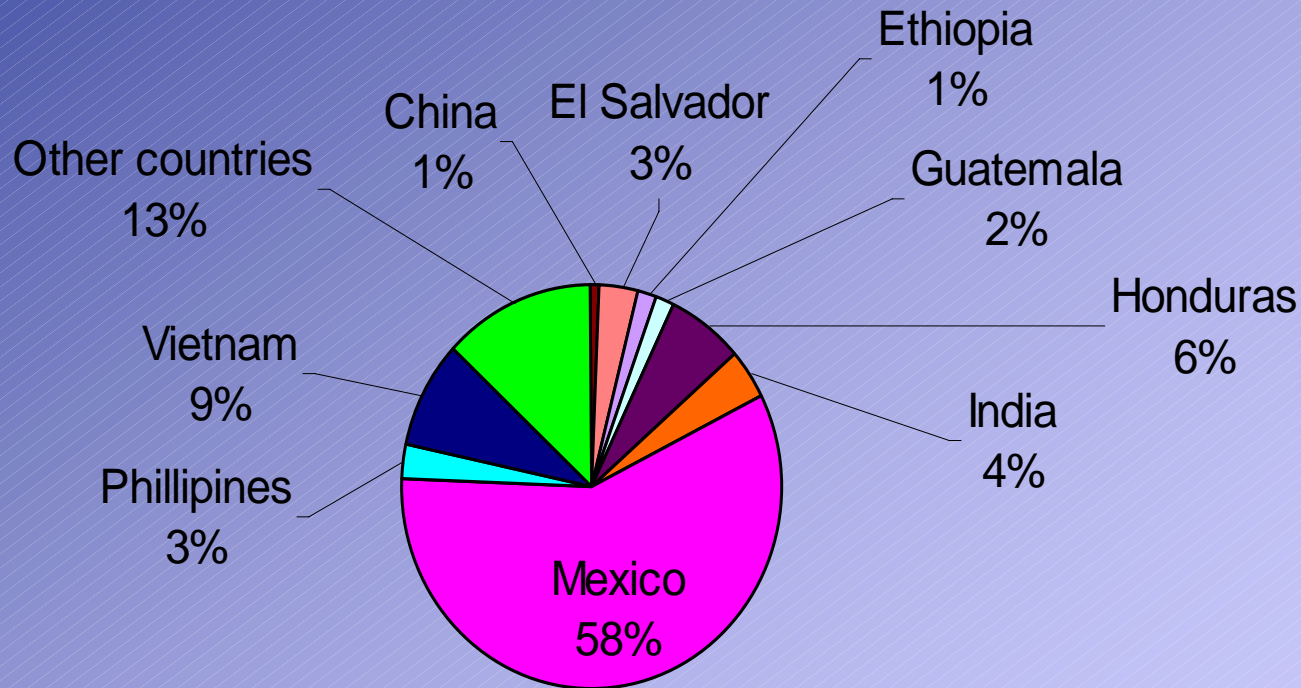
Copyright © 2001 WebMD Corporation



Risk Factors by Race/Ethnicity 2005

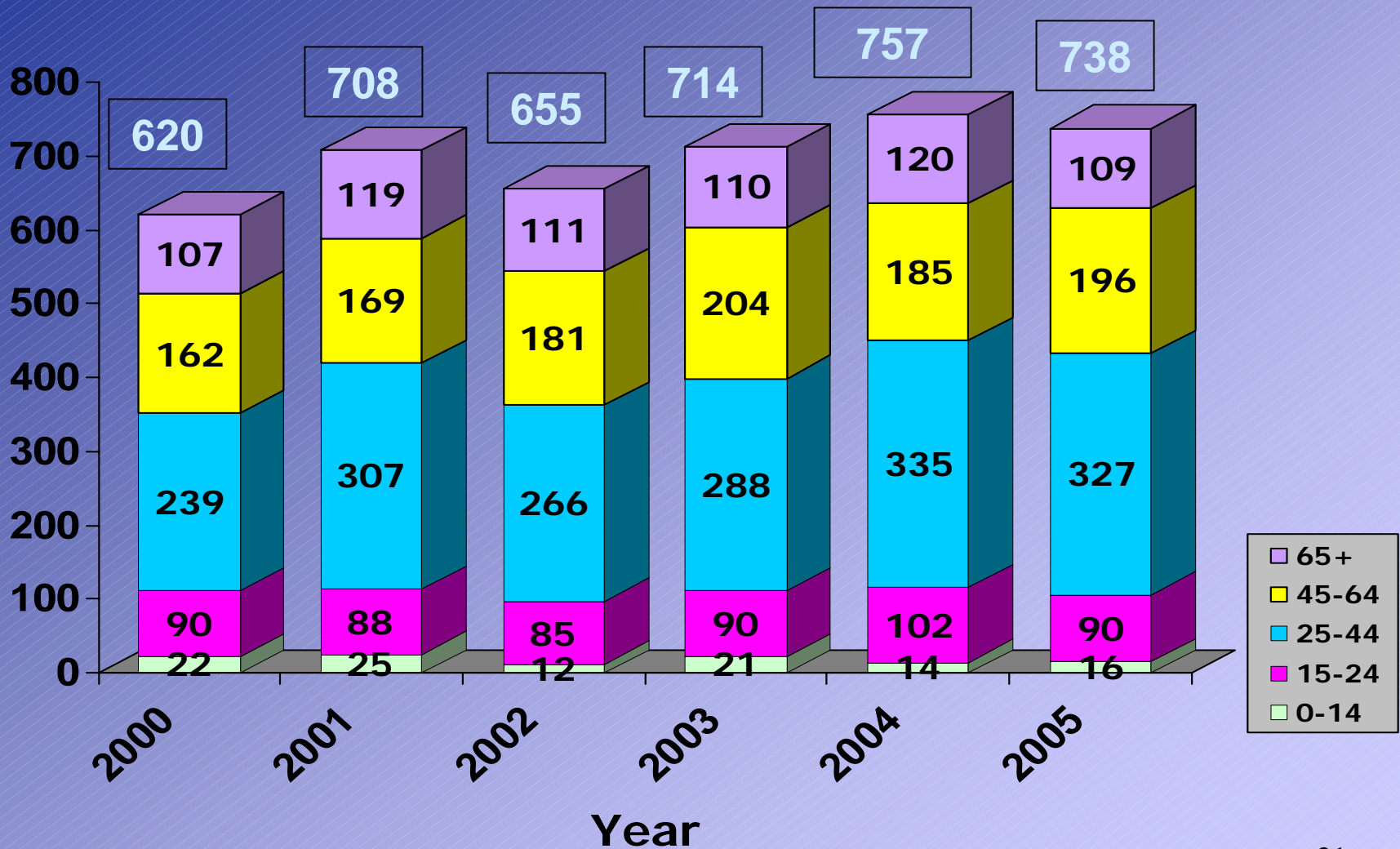


Percent of Foreign Born TB Cases in Texas By Country Of Origin 2005

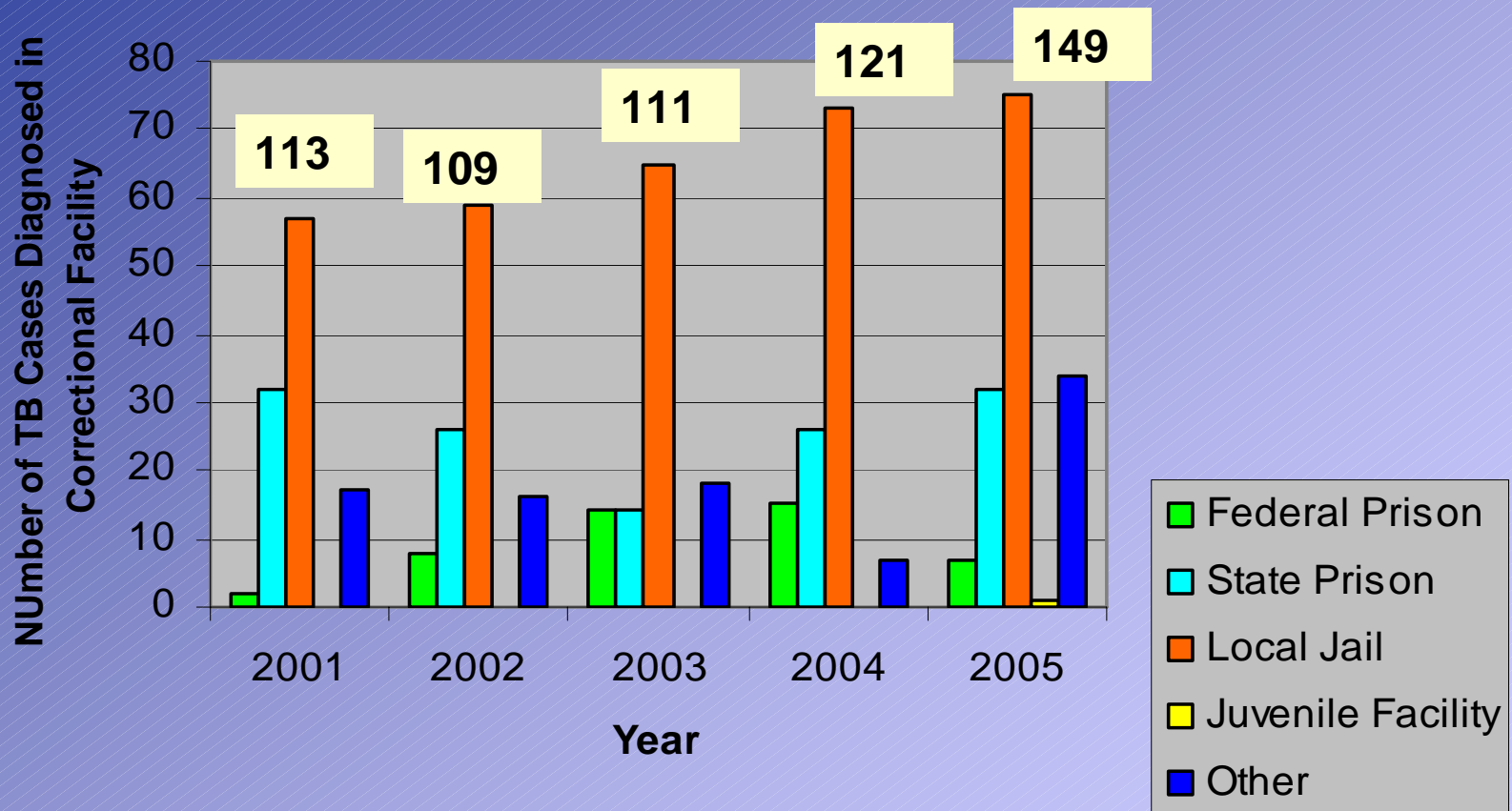


51 foreign countries represented

Foreign-Born TB Cases by Age Group 2000 - 2005

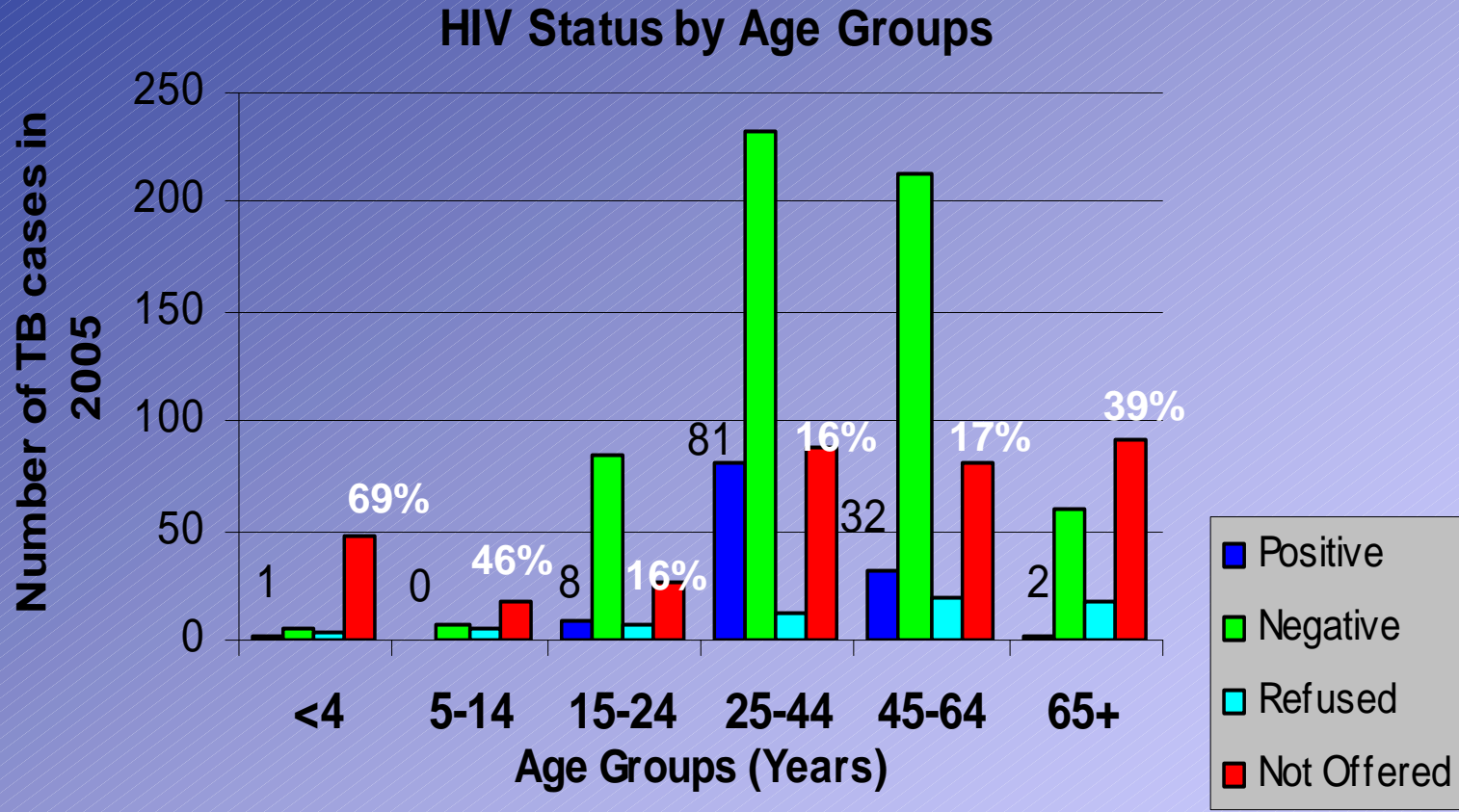


TB Cases diagnosed in Correctional Facility by Type of Facility 2005

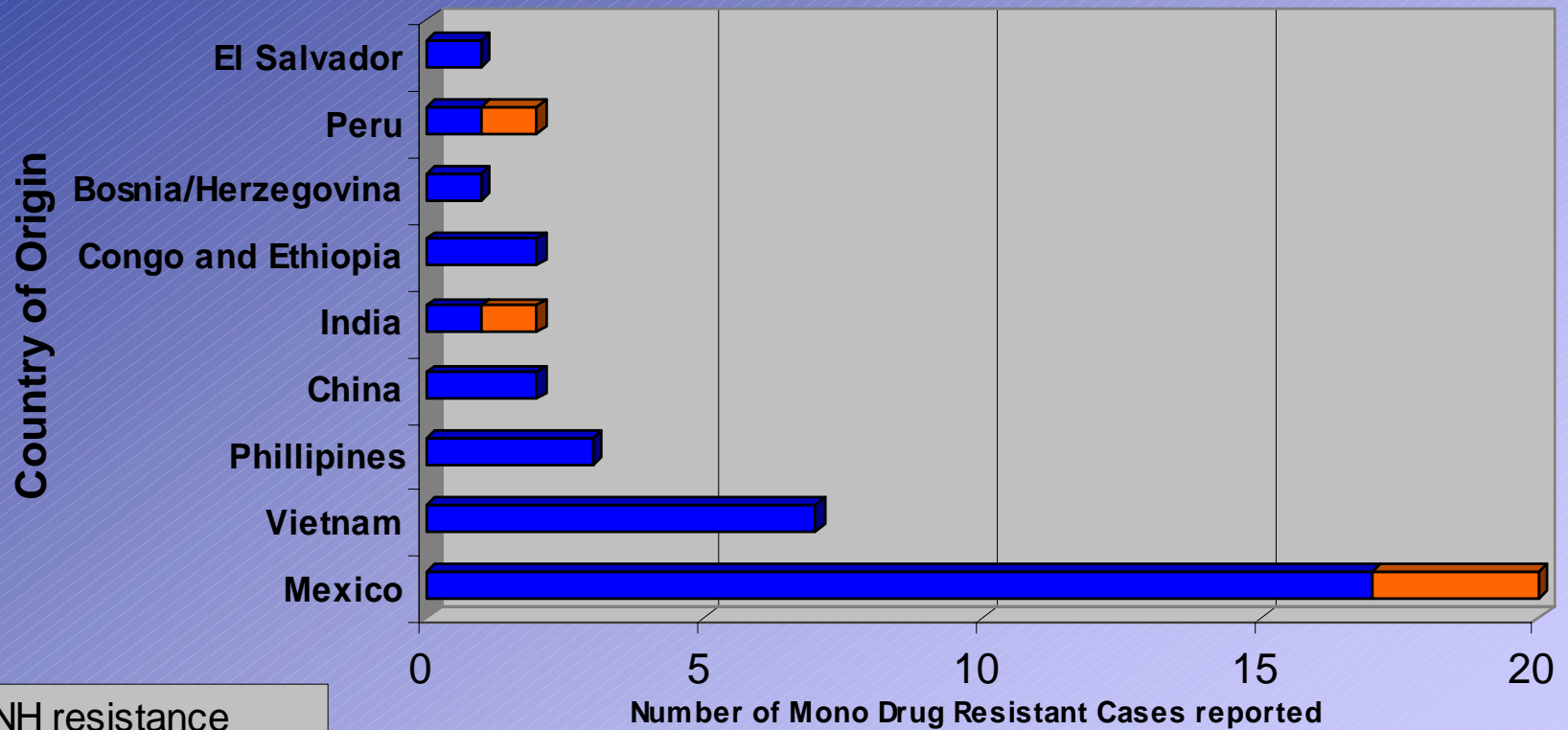


Other includes Immigration and Customs Enforcement (ICE) Detention Centers

HIV Status By Age Groups 2005



Primary Isoniazid and Rifampin Resistant TB Cases among Foreign Born 2005

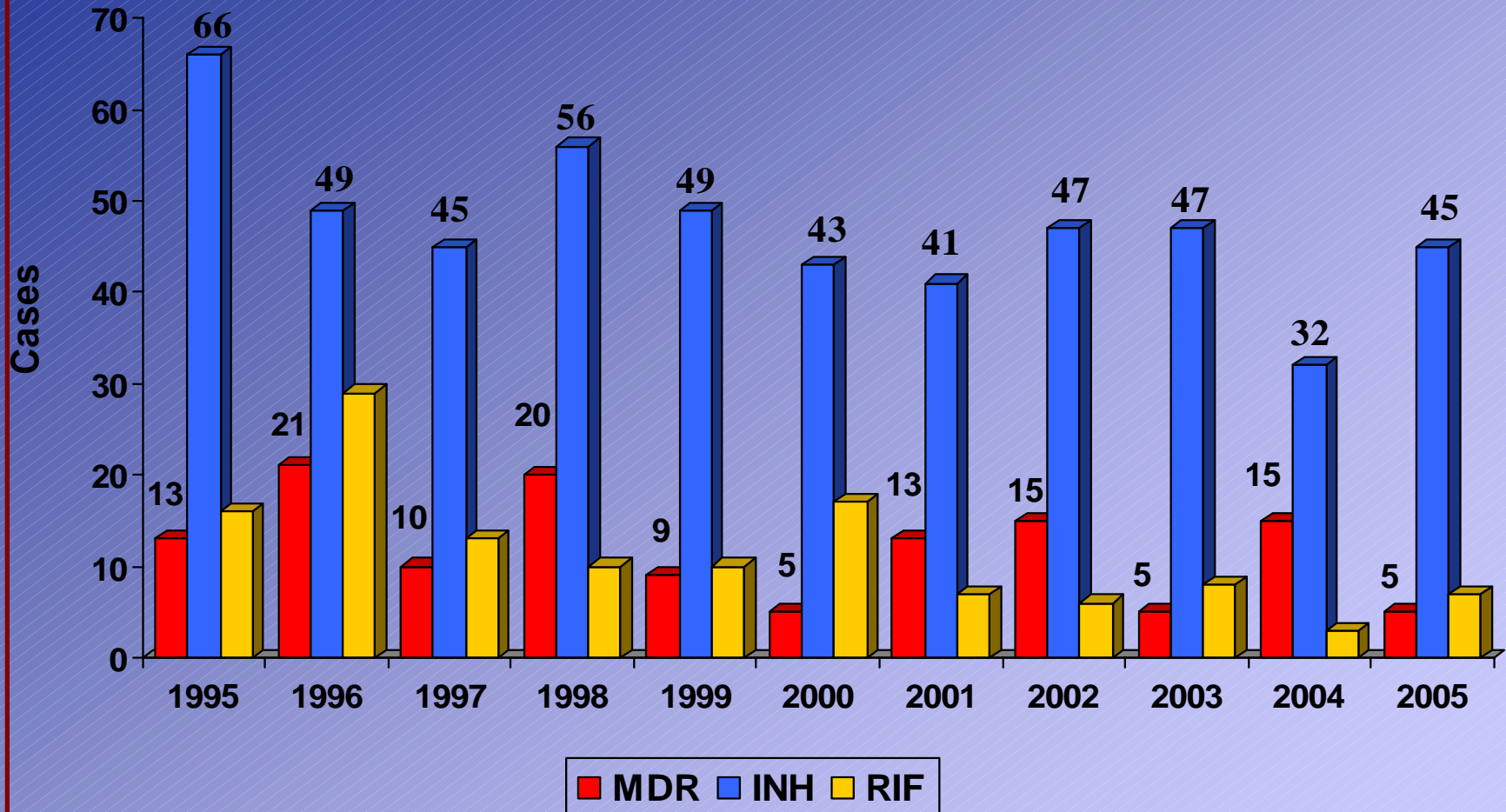


■ INH resistance
■ Rifampin resistance

6% of the foreign born were INH resistant

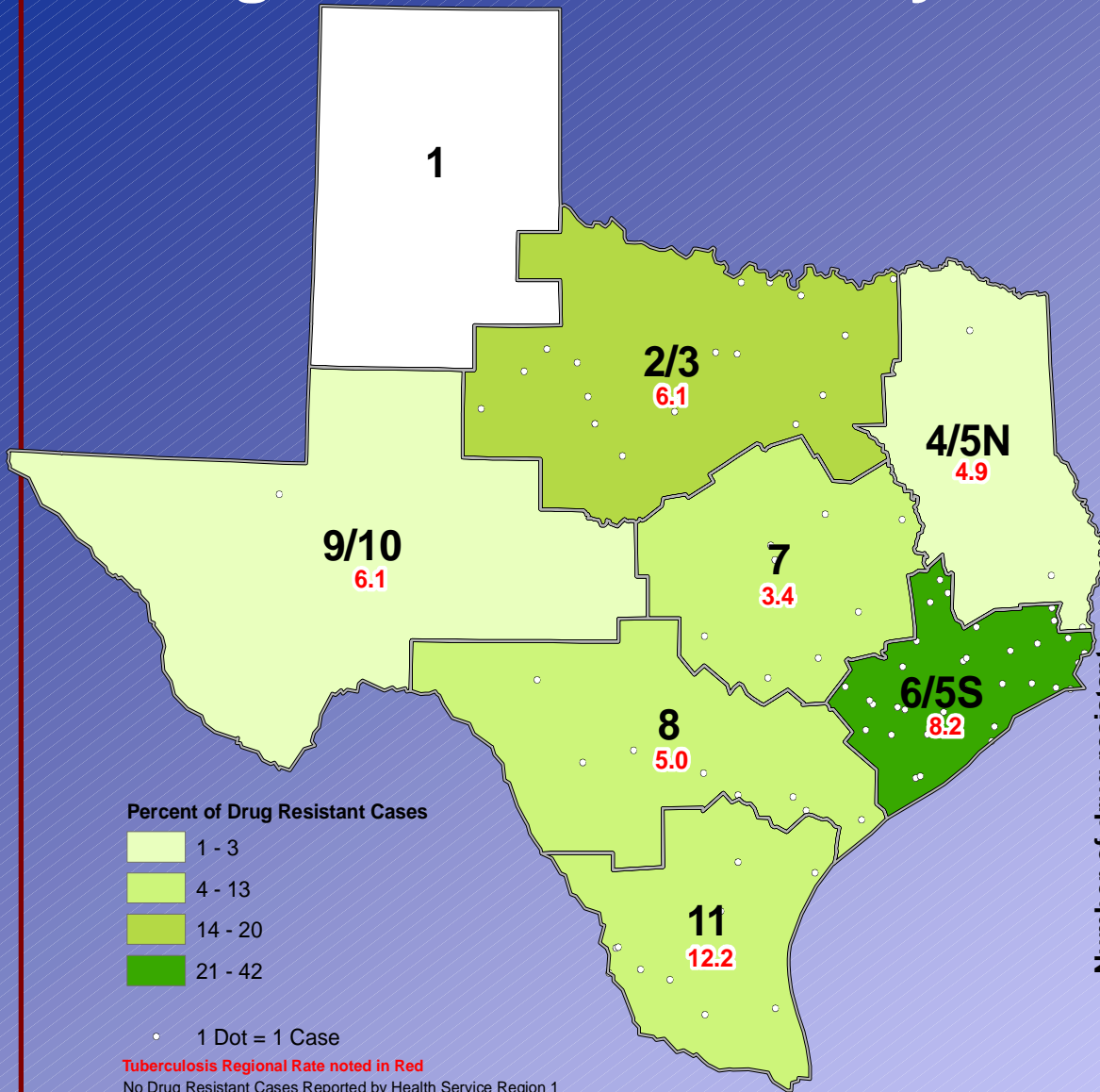
<1% of the foreign born were Rifampin resistant

Multidrug Resistant Cases 1995-2005



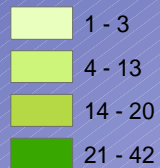
*2005 drug-resistant data is preliminary

Drug Resistant Cases By Health Service Region 2005



N=83 cases

Percent of Drug Resistant Cases

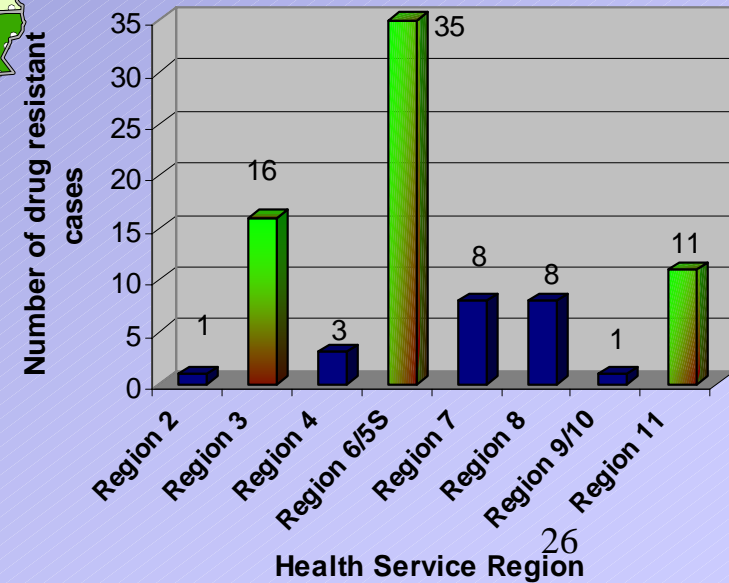


• 1 Dot = 1 Case

Tuberculosis Regional Rate noted in Red

No Drug Resistant Cases Reported by Health Service Region 1

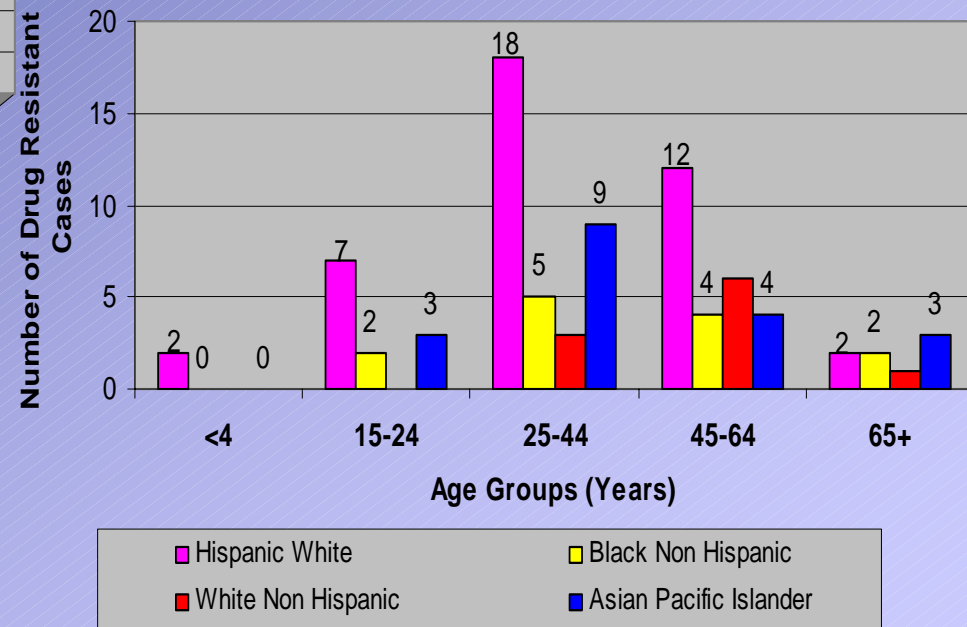
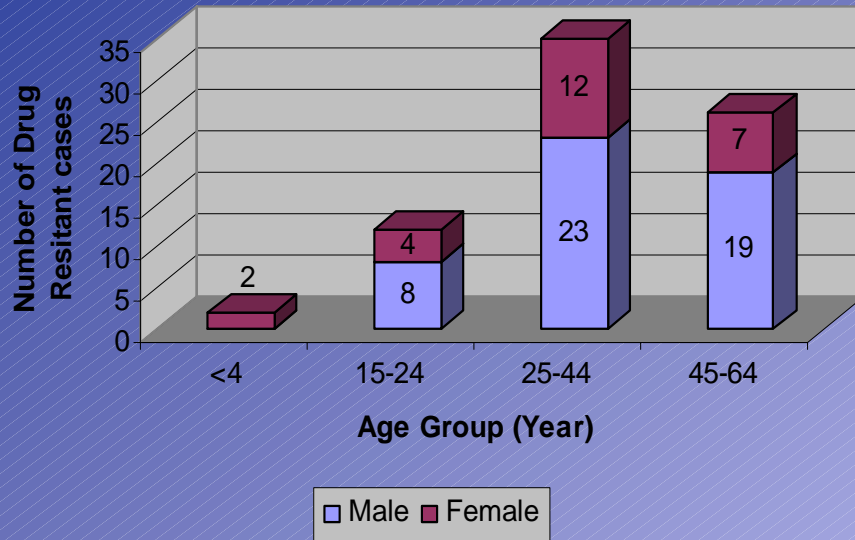
Source: Texas Department of State Health Services - Tuberculosis Statistics



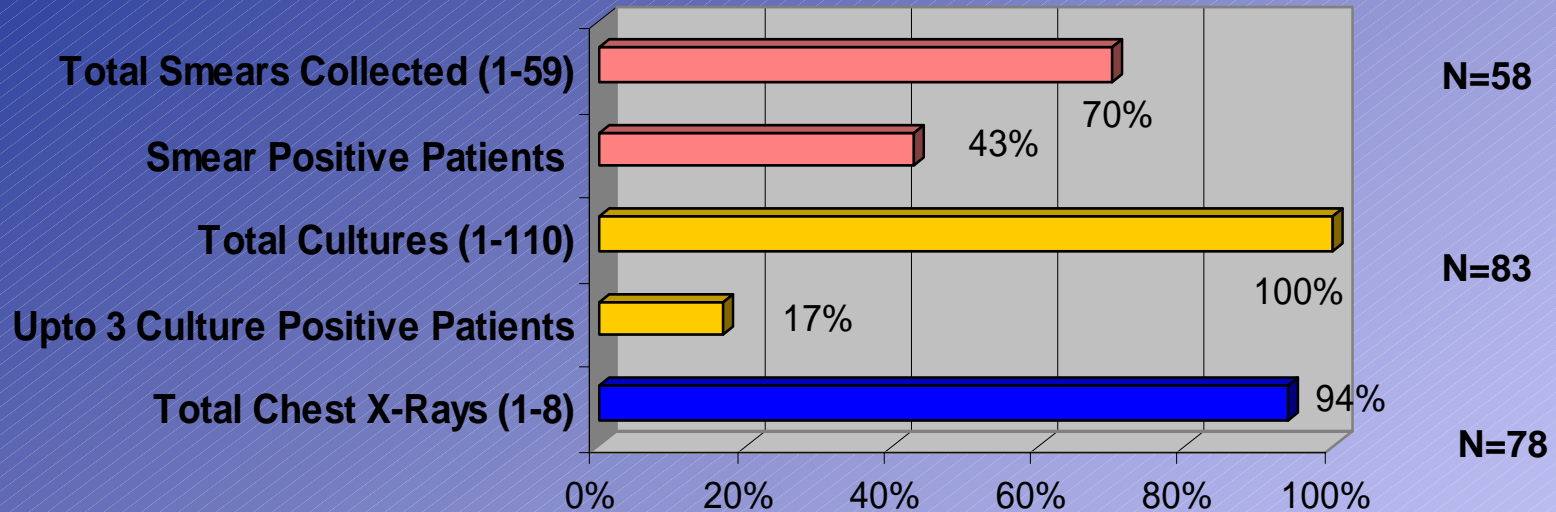
Drug Resistant Cases

Age Groups By Gender and Race/Ethnicity

2005



Estimated Costs for Drug Resistant Cases 2005



Cost Rates for MTB Confirmation

Smear and Culture = \$ 45

Smear and MTB+ culture that is pan susceptible = \$ 115

Smear and MTB+ that is drug resistant = \$ 245

Chest X-Rays = \$15 - \$ 95

701 smears tested @ \$45/specimen

= \$ 31,545 at a minimum

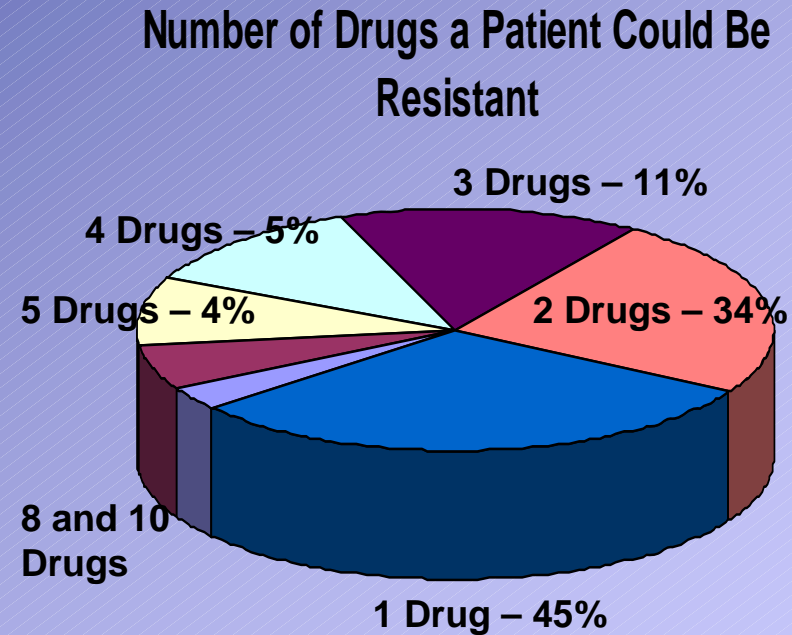
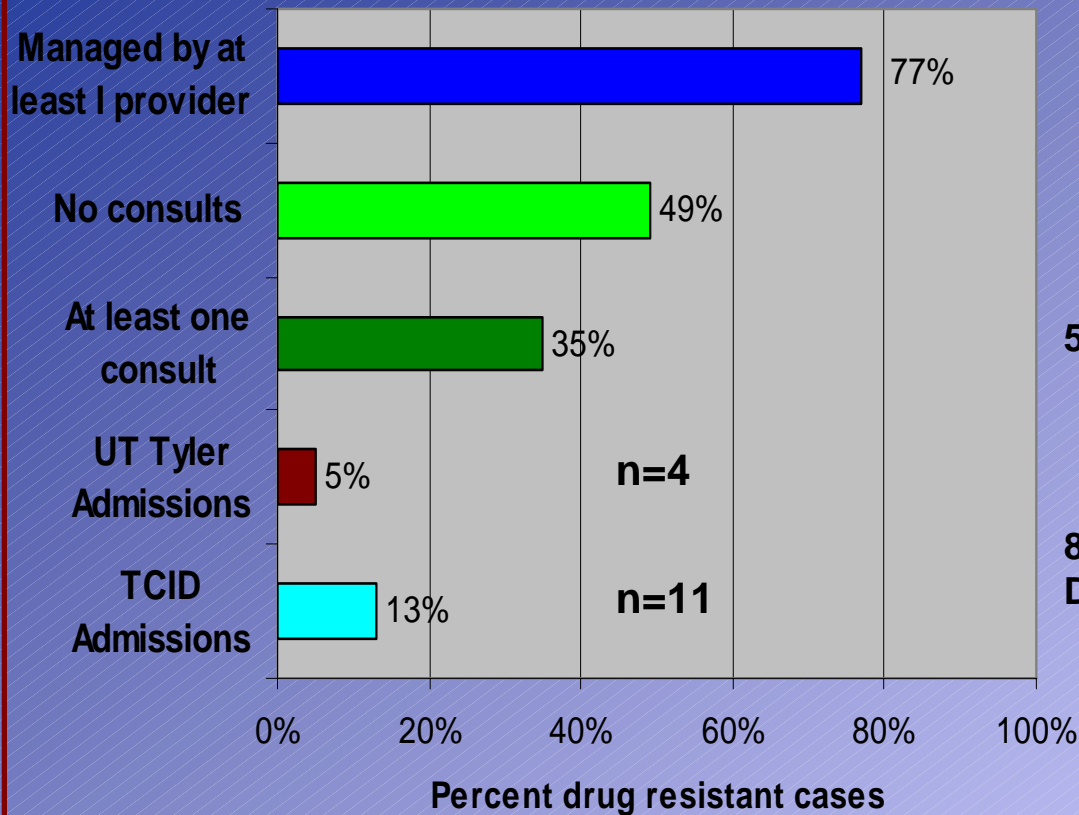
1381 cultures tested @ \$45/specimen

= \$ 62,145 at a minimum

167 Chest X-Rays @ \$15/view

= \$ 2,505 at a minimum

Drug Resistant Case Management 2005



Cases as of 12/31/2005

Open = 54
Closed = 29

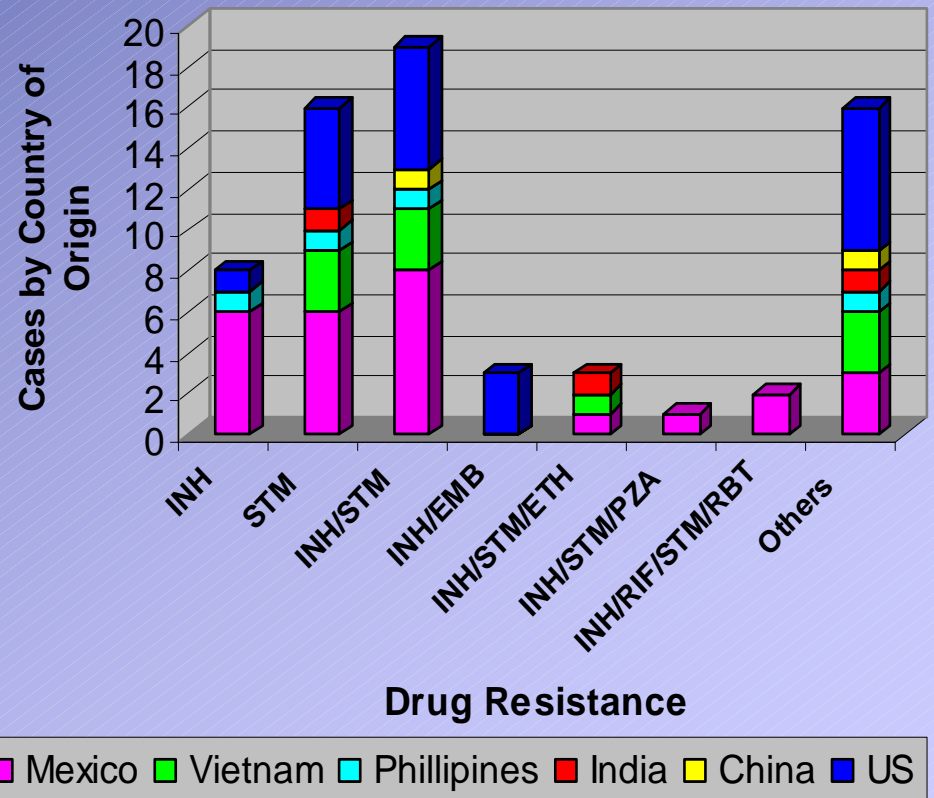
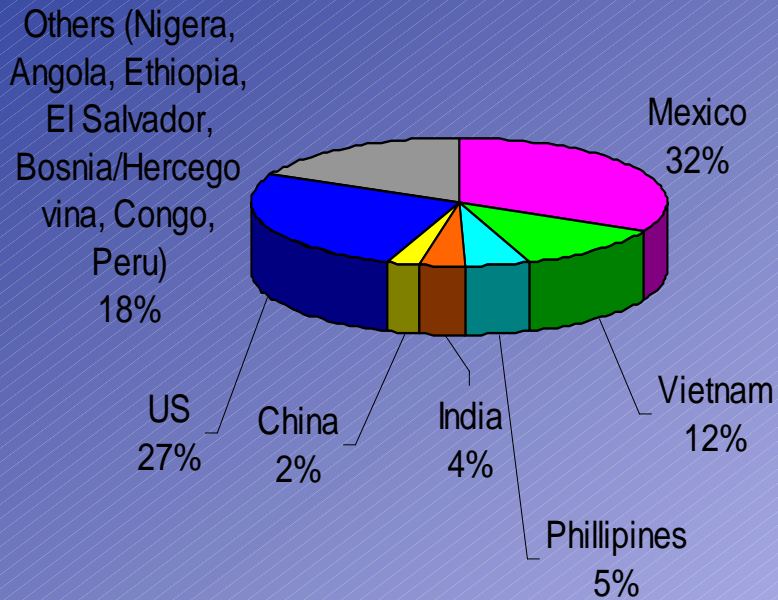
Completed Treatment = 15

Lost = 3

Died = 4

Moved out of county or outside Texas = 7

Drug Resistant Cases by Country of Origin 2005





Binational Cases

MCN TB Net ■ Diabetes Track II ■ CAN-track
Medical Records and Care Coordination Card
Tarjeta de Expedientes Médicos y Coordinación de Salud

ID Number/Número ID: 220 100 001

Name/Nombre: _____

Migrant Clinicians Network, Inc.
PO Box 164285 • Austin TX 78716 • 1-800-825-8205
www.migrantclinician.org

This is not an insurance card. Esta no es una tarjeta de seguro médico.



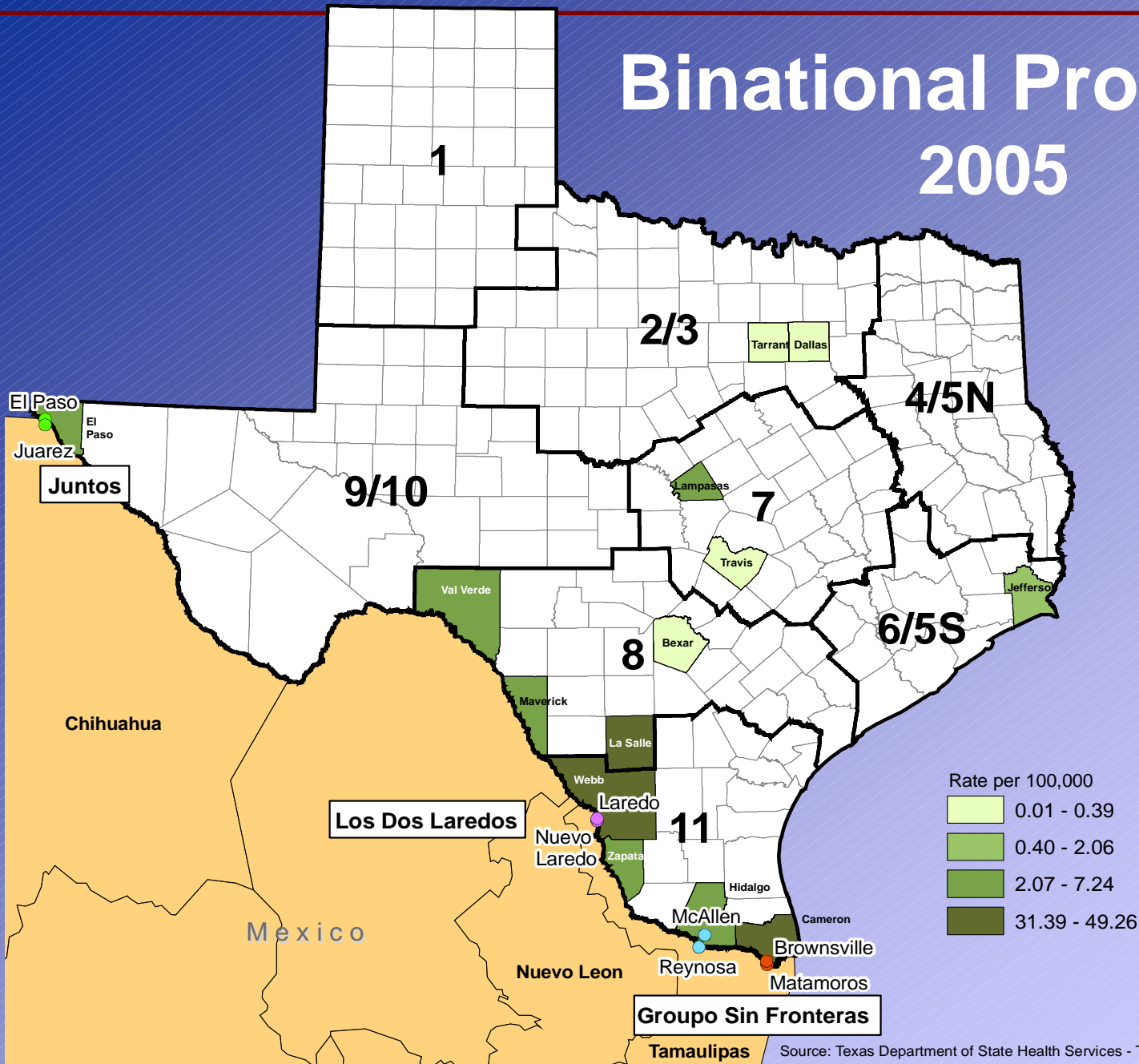
Definition of Binational Cases

A person who meets the US or Mexican case definition for active TB disease plus one of the following criteria:

- 1.) Optimal case management requires communication or collaboration with TB control programs or healthcare providers on the opposite side of the border. Transfer of clinical or laboratory data, refer patient for treatment completion or share information for contact investigation with Mexican TB control program
- 2.) Case-Patient is a contact of a binational TB case-patient or is the TB source case-patient for contacts on opposite side of the US-Mexico border.

Note: Binational TB patients are located throughout US and not only along US-Mexico border. This definition is not limited to “border crossers” or persons that frequently cross US-Mexico border.

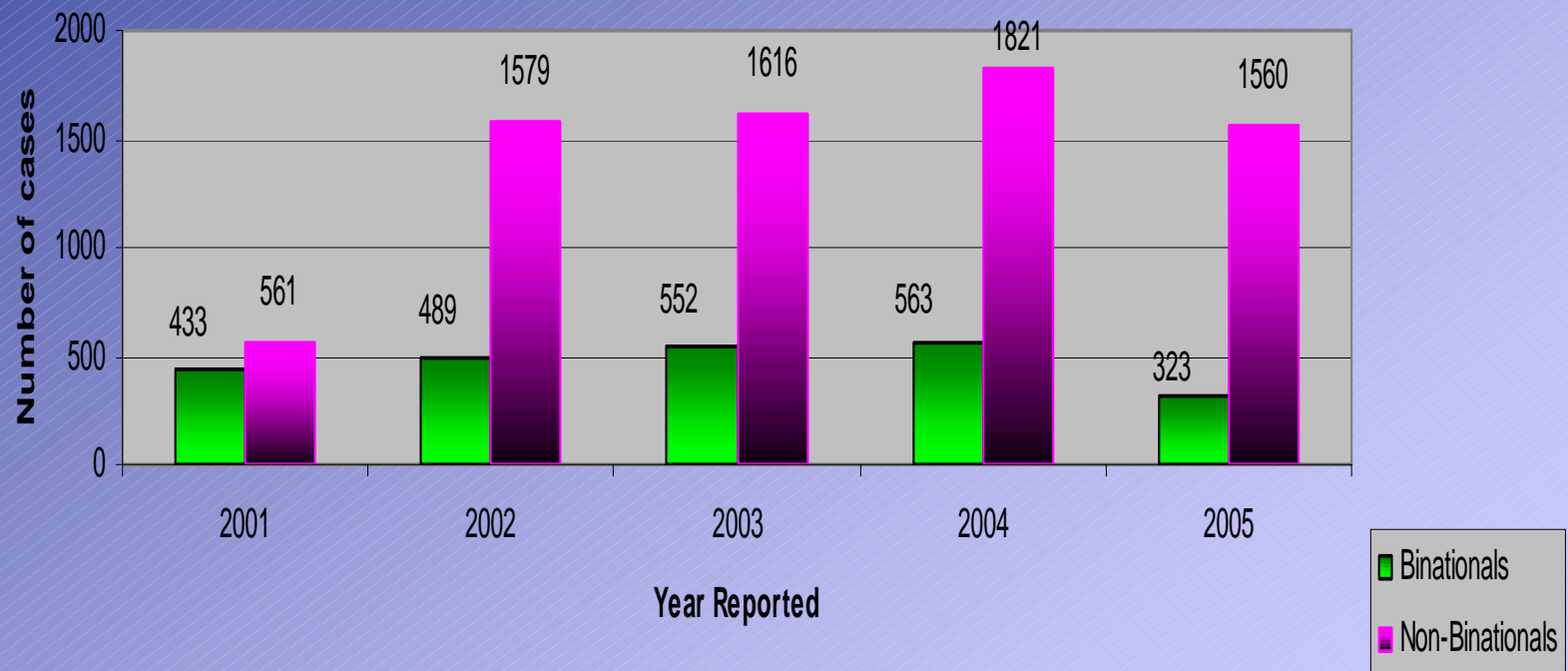
Binational Programs 2005



Binational Programs 2005

Binational Project	Number of new cases	Completed Treatment	Treatment Completion Rate (%)	LTBI	Contacts Identified
Juntos	86	46	53%	81	320
Los Dos Laredos	56	47	84%	41	172
Grupo Sin Fronteras	59	18	31%	18	534

Binational and Non-Binational Cases Reported to Texas 2001-2005

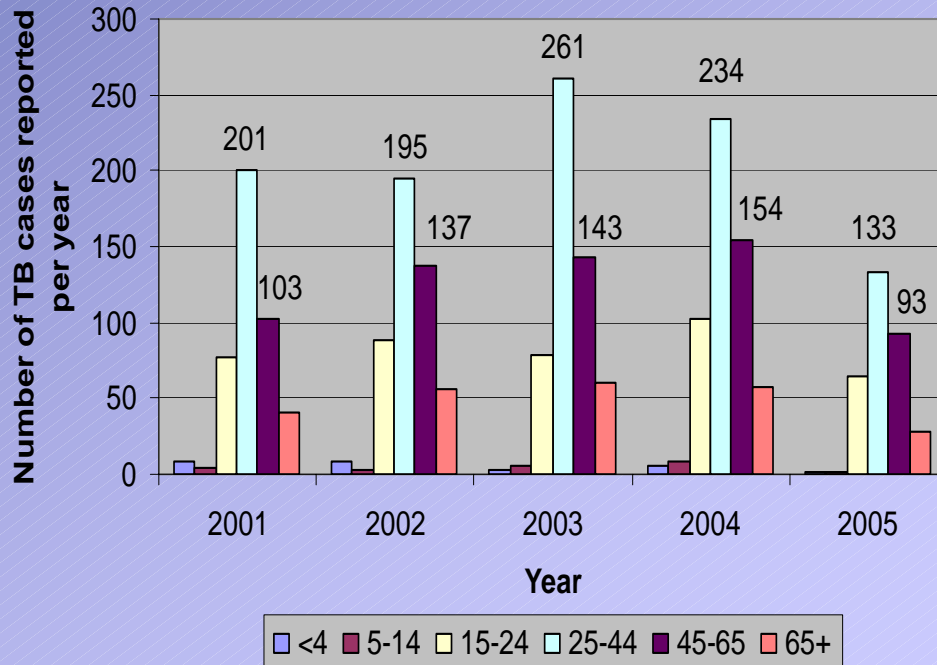
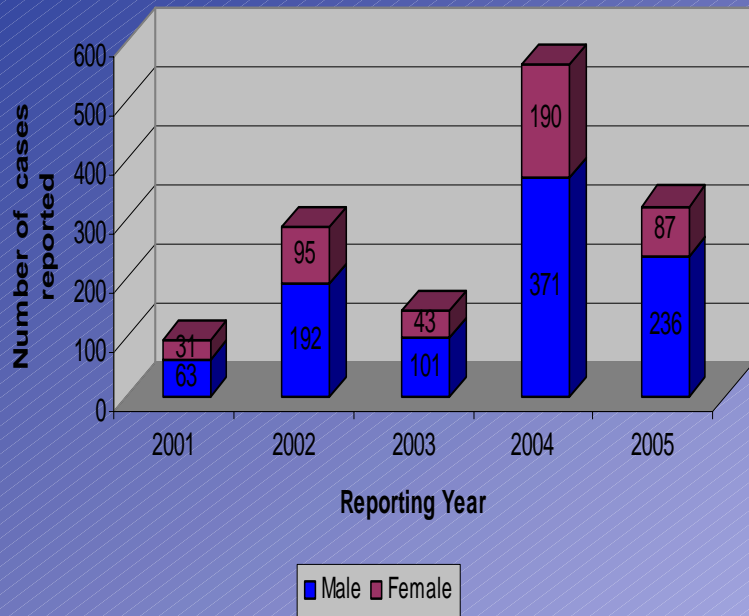


In 2005, 21% of all TB cases reported were binationals, a 42% decrease since 2004

Binational Cases

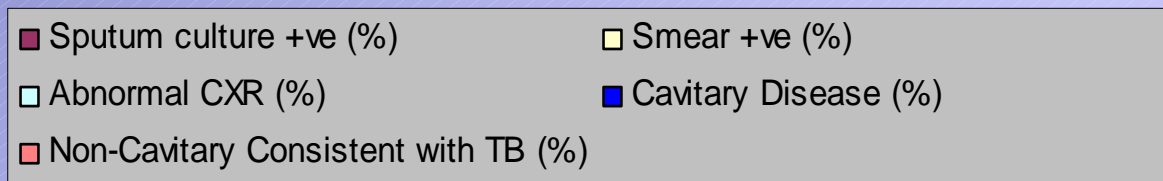
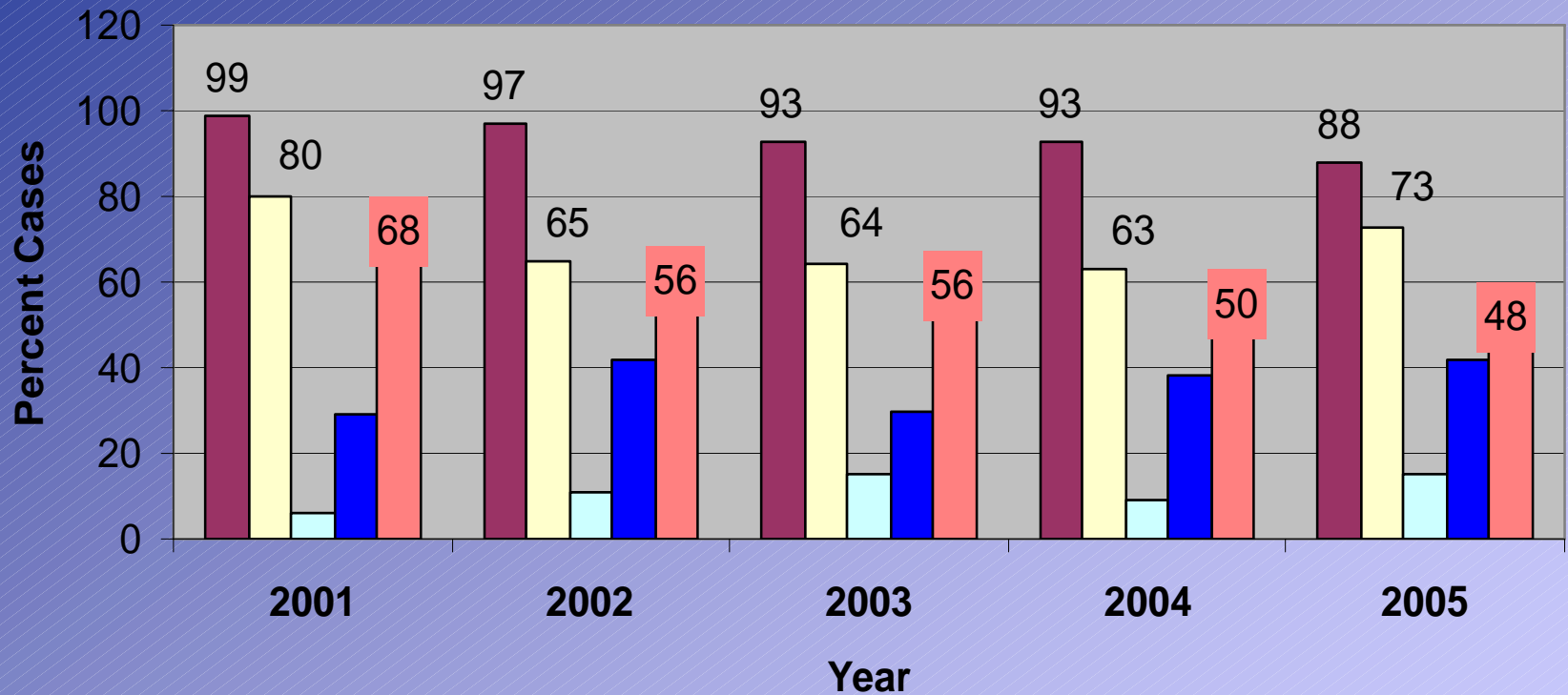
Trends in Gender and Age Groups

2001-2005



In 2005: 72% Male, 28% Female

TB Disease Among Binationals 2001-2005



Summary (1)

- **Who is most affected by TB in Texas?**
 - Hispanic males in age groups 25-64 (working group). Same for drug resistant and binational cases
- **Where do most TB cases reside?**
 - 59% of the cases reside in Harris (380), Dallas (224), Tarrant (129), Hidalgo (92) and Bexar (74) counties
 - Border county incidence rates are double than that of non-border county rates (12.4 compared to 6)
 - 14 Border counties account for 18% of all TB cases in Texas (254 counties in Texas)

Summary (2)

- **What are the primary risk factors?**

- Foreign Birth (48%)
- Low Income (48%)
- Alcohol Abuse (16%)
- Diabetes (15%)
- Prison/Jail Inmate (14%)
- Diagnosis at Jail (10%)
- HIV/AIDS (8%)

****Risk Factors will vary by region:**

- HIV/AIDS more common in larger urban areas
- Diabetes more common along border

Summary (3)

- **Is drug resistance a problem in Texas?**
 - Drug resistant cases could be resistant from 1-10 drugs, treatment taking much longer and being more expensive, at a minimum of \$100,000
 - 69% of drug resistant cases were foreign born as compared to 48% foreign born cases reported statewide
 - The leading drugs that the drug resistant patients were resistant were INH and Streptomycin
- **Are binational cases different?**
 - 21% of all TB cases reported to Texas were binational
 - Almost half of binational cases have non-cavitary disease consistent with TB

Katrina Cases 2005

- 132 cases (aged 9-101 years) identified by LA department of Health
- 76 (58%) remained in LA (including 1 death)
- Texas received 33 (25%) of evacuees who were under treatment
- 23 (17%) relocated to:
 - AR, FL – 5 each
 - GA, IL – 2 each
 - CO, MA, MD, MS, MO, OH, SC, TN, WA – 1 each
- 4 new cases of TB confirmed among those who were displaced to other states

Activities related to Katrina

- Preparing line lists of patients in counties that would potentially be affected
- Providing patients 2 weeks' worth of medication in case DOT was interrupted
- Ensuring patients had a list of phone numbers to re-establish contact with the health departments if they were displaced
- Obtaining contact information for patients' relatives and friends in other parts of the country
- Ensuring back-up copies of patient records and forwarding them to new jurisdictions who were taking care of them
- Laboratory confirmation including genotyping isolates through Texas State Laboratory. As of this week, isolates from 59 LA cases have been collected:
 - 51(86%) have been sent to CA for genotyping
 - 44 (75%) have already been genotyped
 - 14 PCR clusters have been identified in 2 groups
 - 1 is a cluster of 12 and the other is a cluster of 2

And the journey continues...

- **Management and Control of TB in Texas**
- **Coordinated multi-jurisdictional response to Katrina**
- **Genotyping efforts – forging ahead towards universal genotyping**
- **Exploring new technologies - Quantiferon**
- **Implementation of TWICES - Surveillance and Epidemiology Improvements**
- **Tuberculosis Research Endeavors – Active participation in TB Epidemiologic Studies (TBESC)- Translating Research to Practice Workgroup**

Acknowledgments

- **Gail Shevick and Maria Rodriguez**
(Infectious Disease Surveillance and Epidemiology Branch)
- **Jose Reyes and Julia Ramirez**
(Communicable Disease Control Group)
- **Patricia Raimondo**
(Center for Health Statistics)
- **Charles Wallace**
(Infectious Disease Intervention and Control Branch)