

TB Update for Civil Surgeons

April 15, 2010

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Topics

1. Discuss overseas screening and the importance of civil surgeons in TB elimination
 2. Review the new I-693 Technical Instructions for TB screening
 3. Who, when and how to refer patients to Public Health for TB follow-up
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Objectives

After this course, you will be able to:

1. Describe the role of the civil surgeon in TB elimination
 2. Complete the I-693 correctly
 3. Explain when and how to refer patients to the Denver Metro TB Clinic
 4. Describe when and how to treat latent TB
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Tuberculosis Epidemiology

~ 2 billion people are infected -

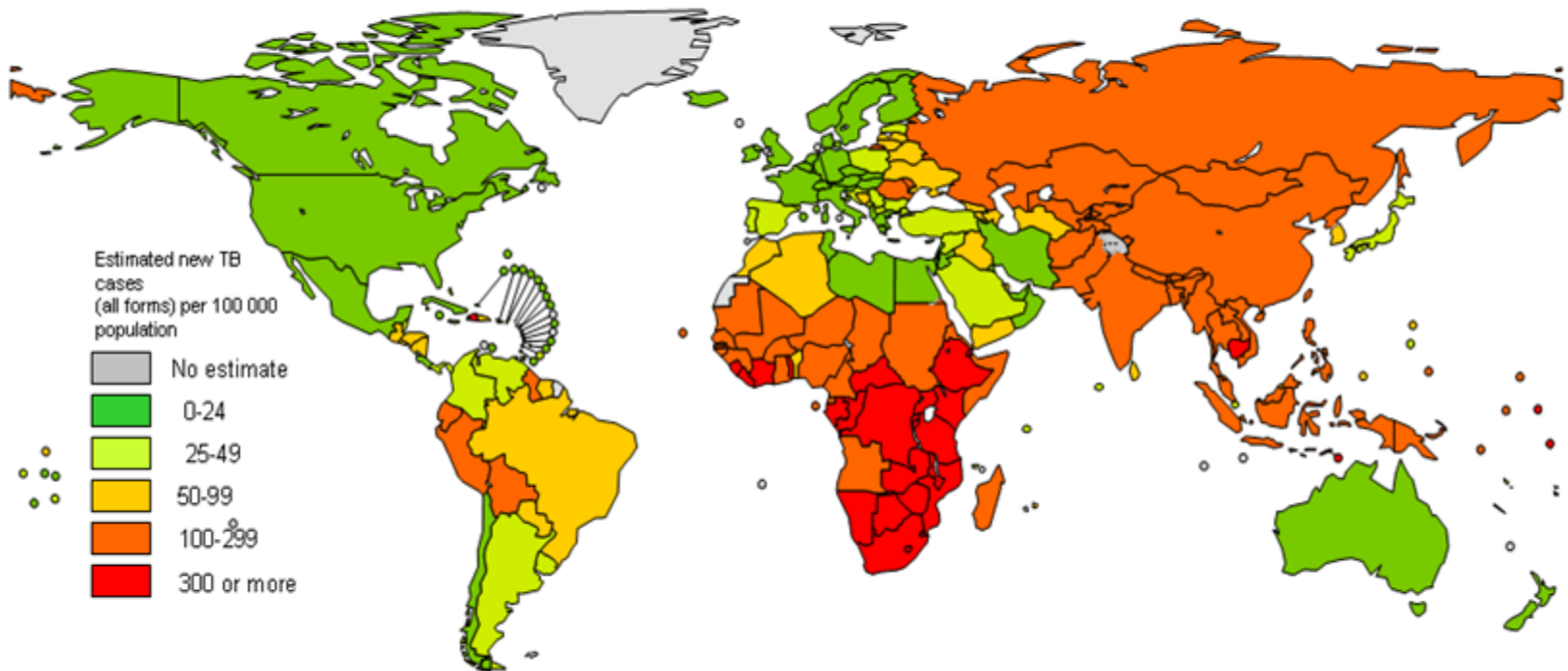
A Third of the World!

10% will develop active TB in their lifetime

→ 10 million new active TB / yr

→ 2 million deaths / yr

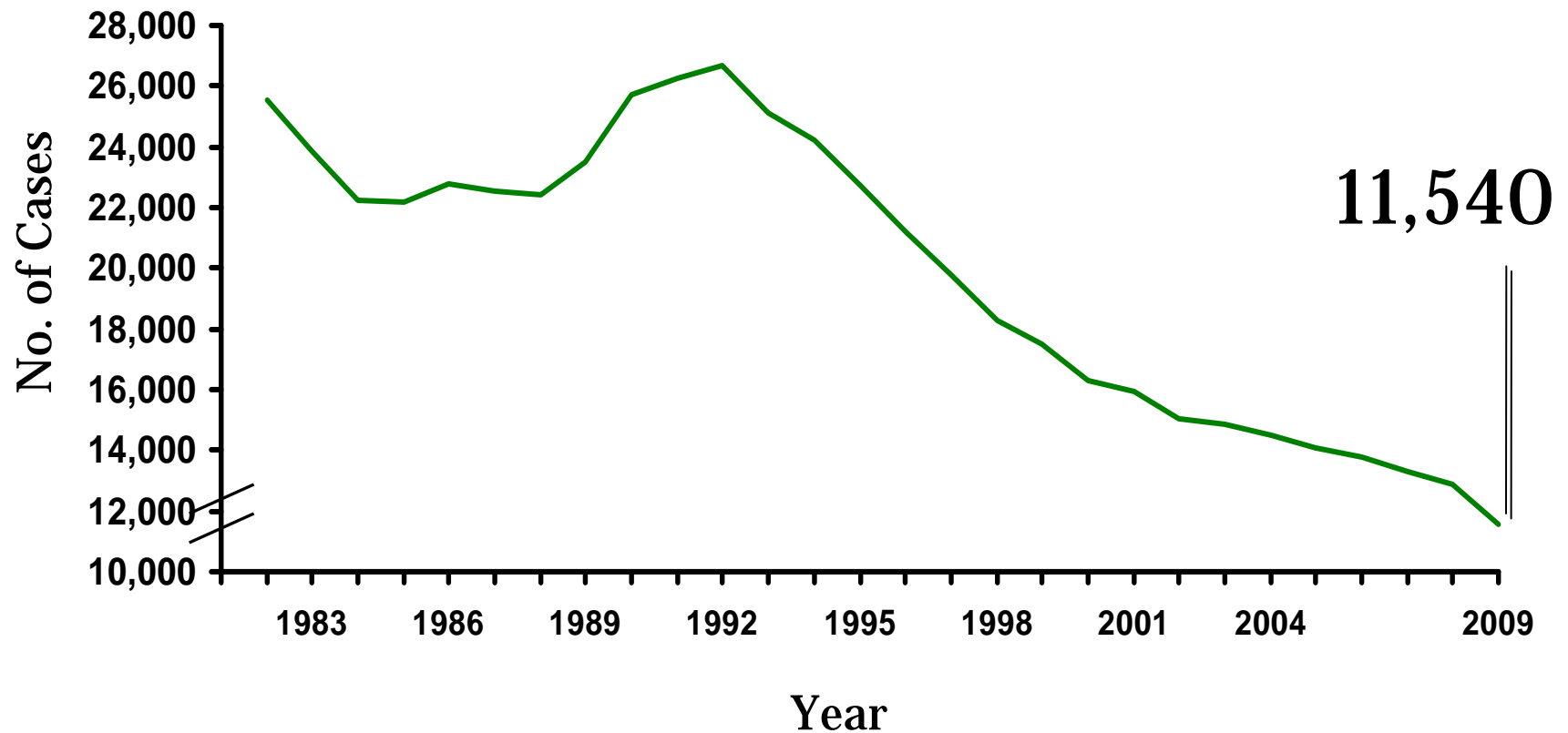
Estimated TB incidence rate, 2005



WHO Global Surveillance Report, 2008

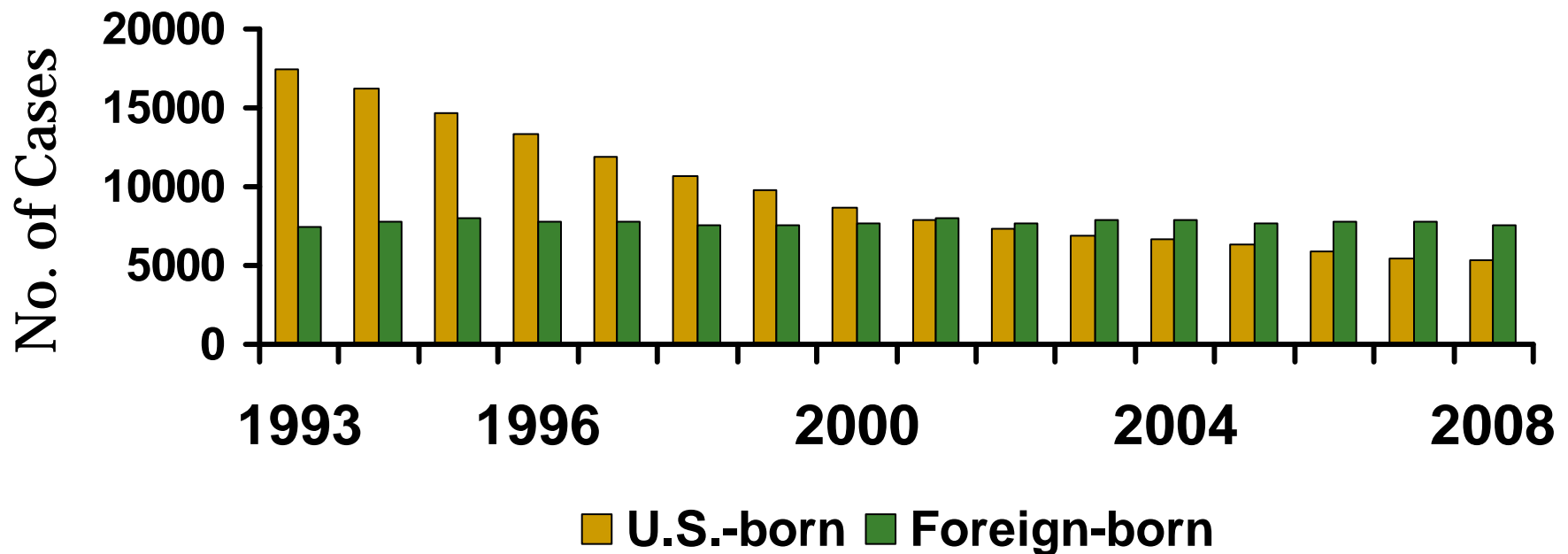
- 10.2 million new cases
- 14.4 million prevalent cases
- 1.5 million deaths
- 500,00 cases of MDR TB

Reported TB Cases United States, 1982–2009

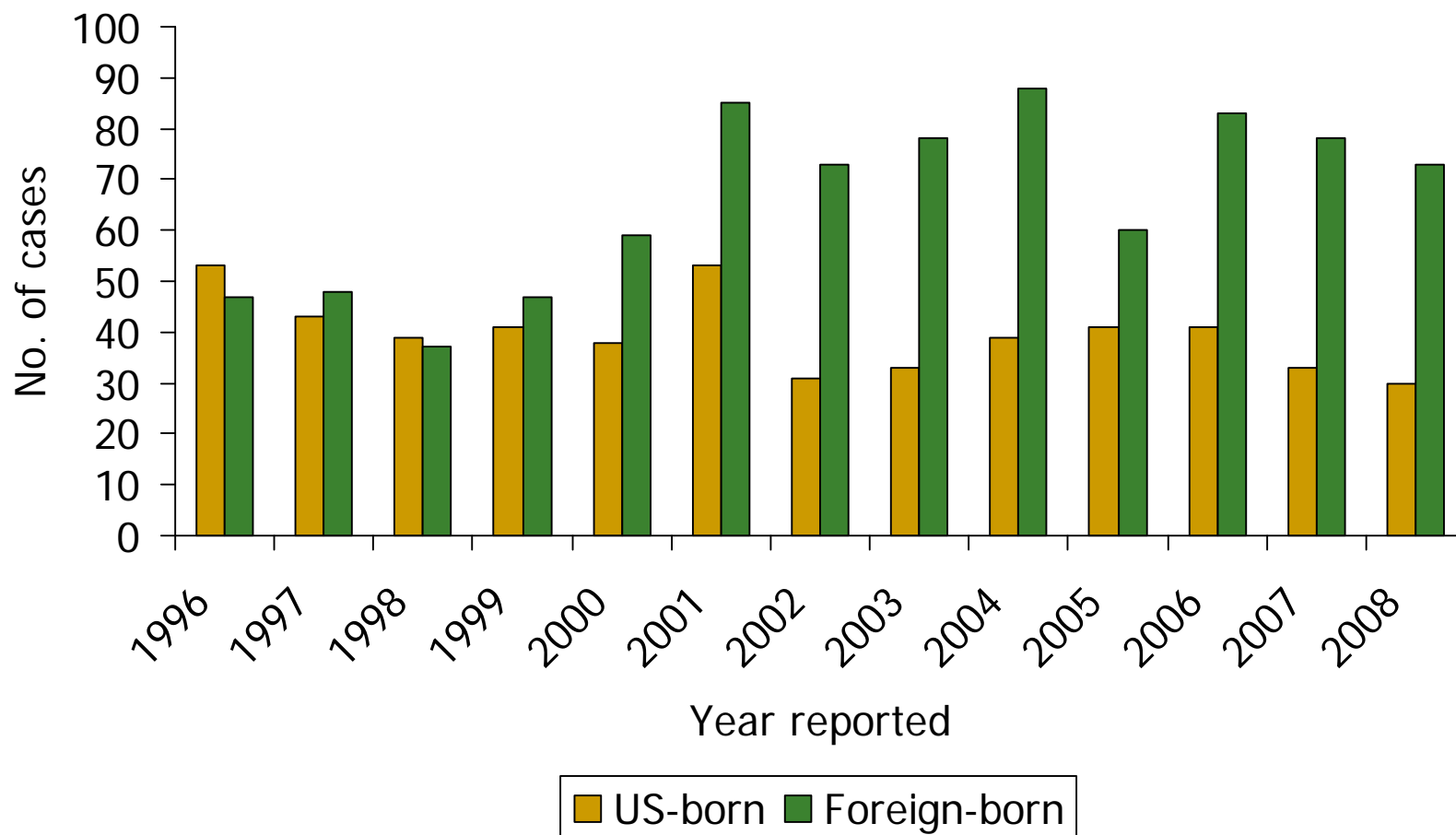


CDC Report of Tuberculosis in the United States, 2009.

Number of TB Cases in U.S. vs Foreign-born Persons United States, 1993–2007



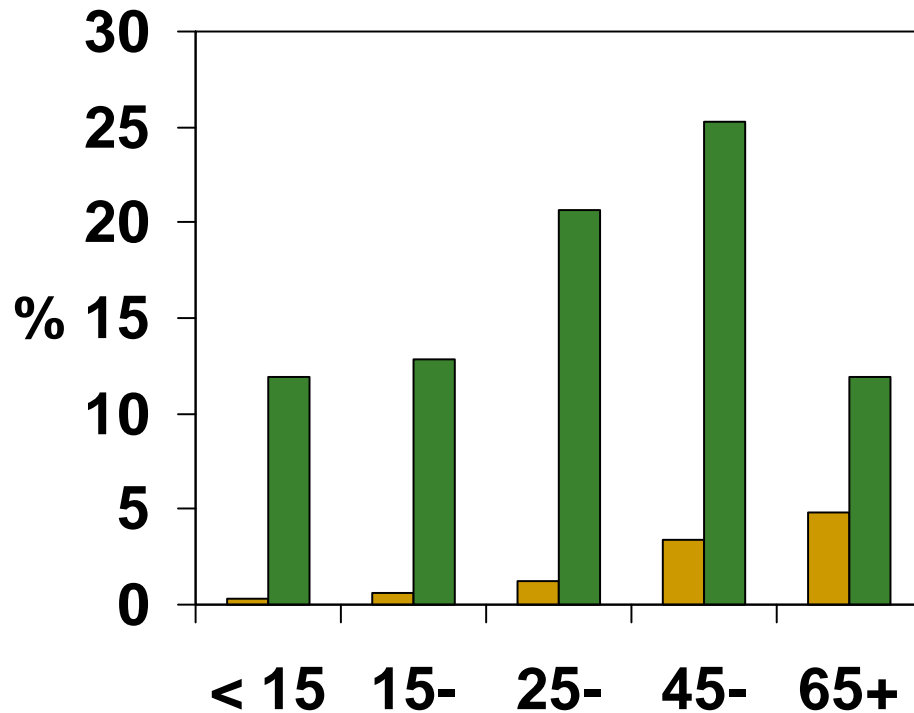
Colorado TB Cases US-born and Foreign-Born (1996-2008)



US-born and Foreign-born Prevalence of LTBI & Case Rates by Age, 1999-2000 & 2000

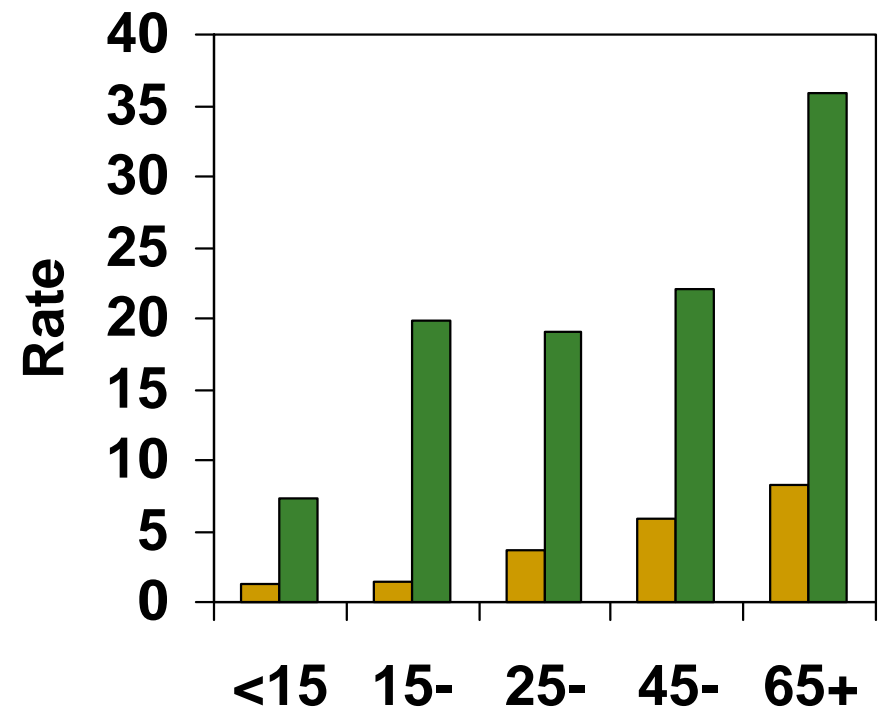
Bennett 2007, CDC 2000

LTBI Prevalence



■ US-B ■ FB

TB Case Rate

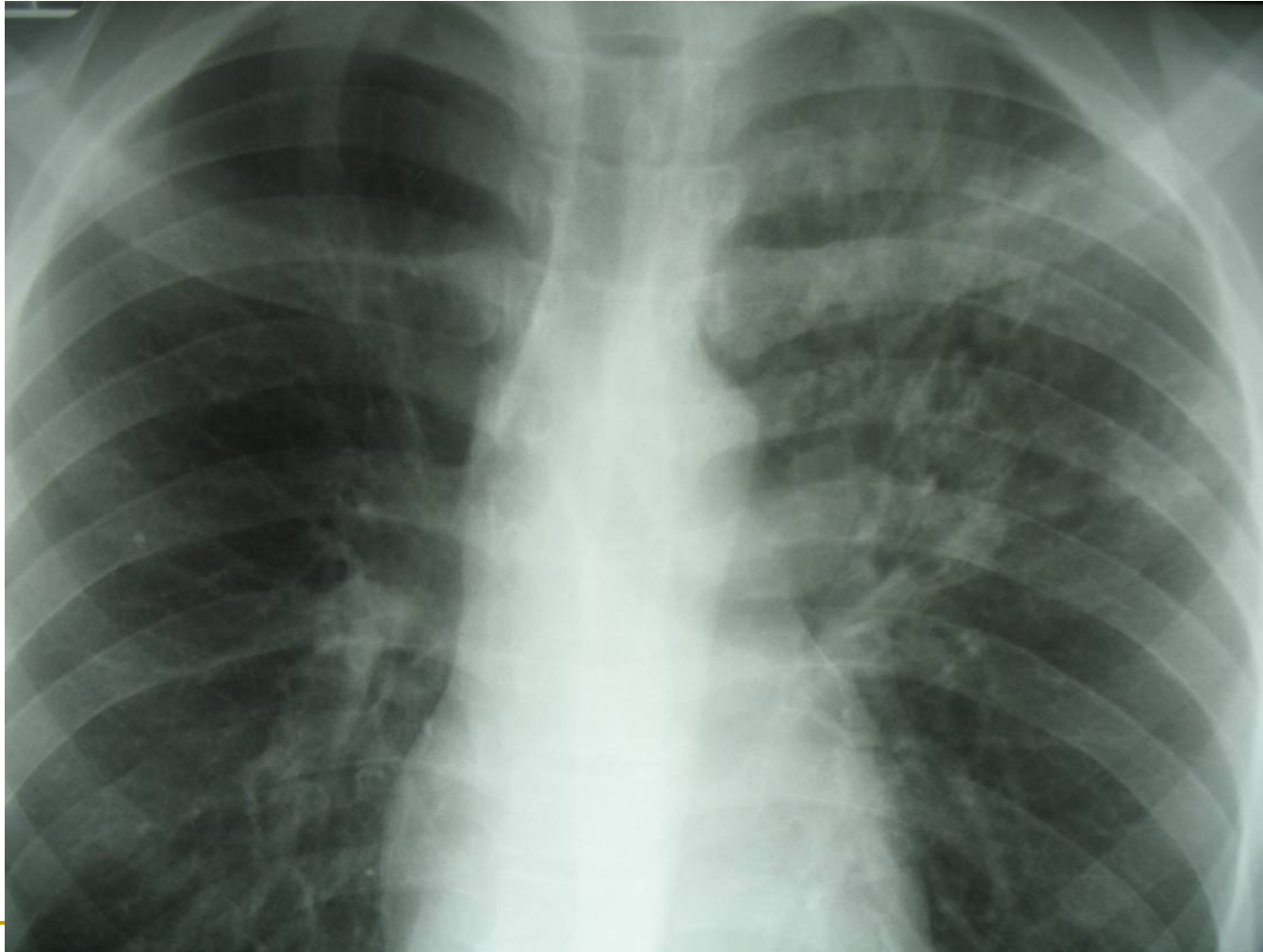


■ US-B ■ FB

18y/o male from Somalia

- in the U.S. for 5 months
- moved to Denver from Chicago and presents to the TB Clinic
- Empty bottle of rifampin prescribed 2 months earlier
- Denies any symptoms or signs of TB

18y/o male from Somalia



18y/o male from Somalia

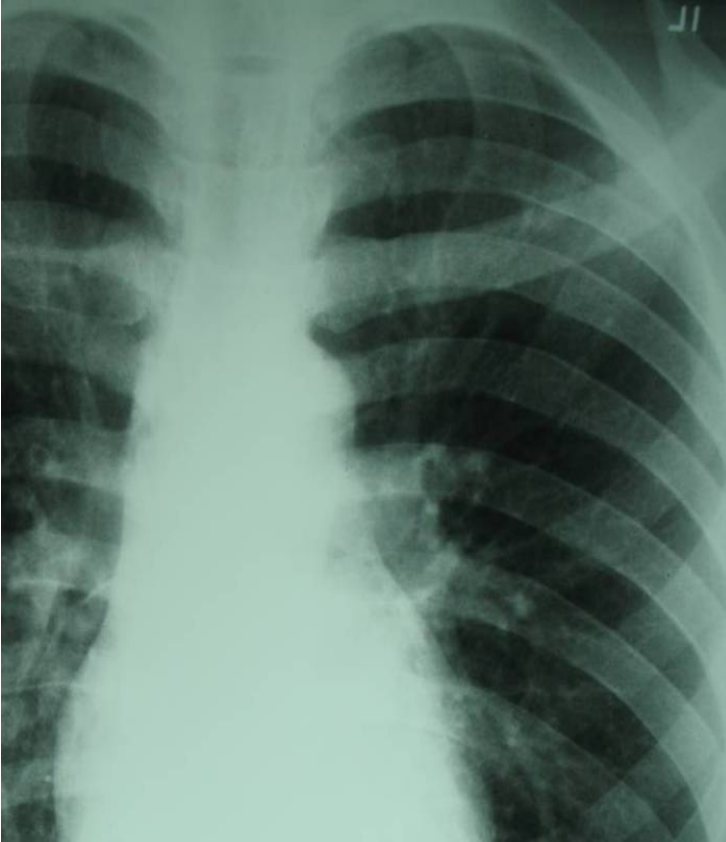
- Fax report from Chicago: patchy LUL infiltrate, 3 negative smears & cultures
- Is this active TB?
- What is the likelihood of drug resistance?
- Should he be isolated (quarantined)? Where?

18y/o male from Somalia

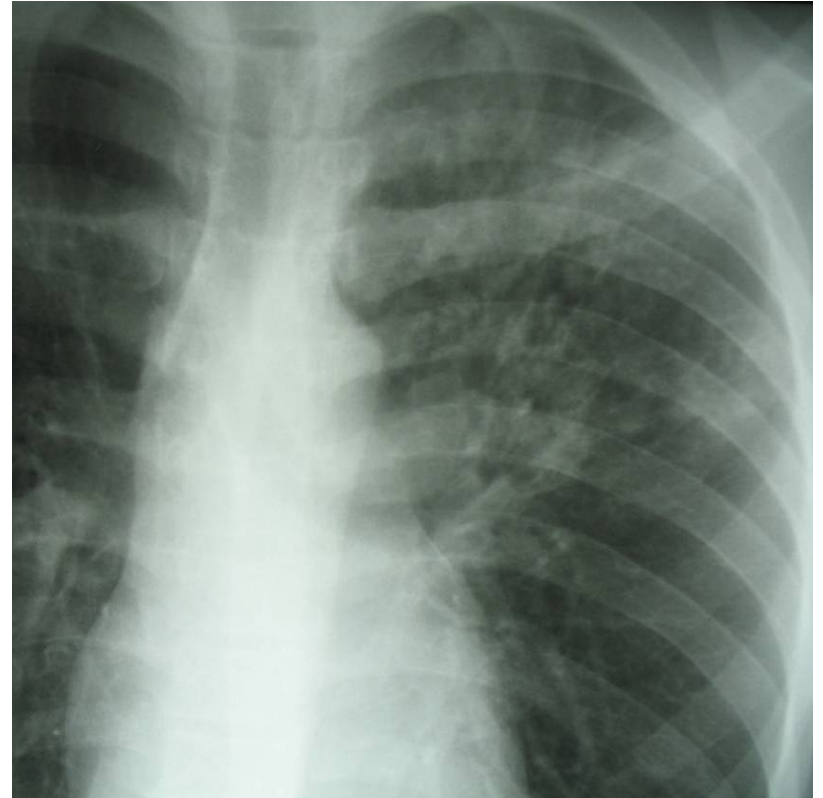
- He is instructed to remain isolated at home except to come to the TB clinic
(including a written letter / isolation order read via an interpreter)
- HIV (-)
- Sputum AFB smears are:
Neg, Neg, 1(+)

CXR from Chicago Arrives

August



October



18y/o male

- 3 weeks later, cx (+) TB resistant to all first-line drugs:
 - ❑ INH, Rif, PZA, EMB, and Streptomycin
 - ❑ Second-line susceptibilities are unknown
-

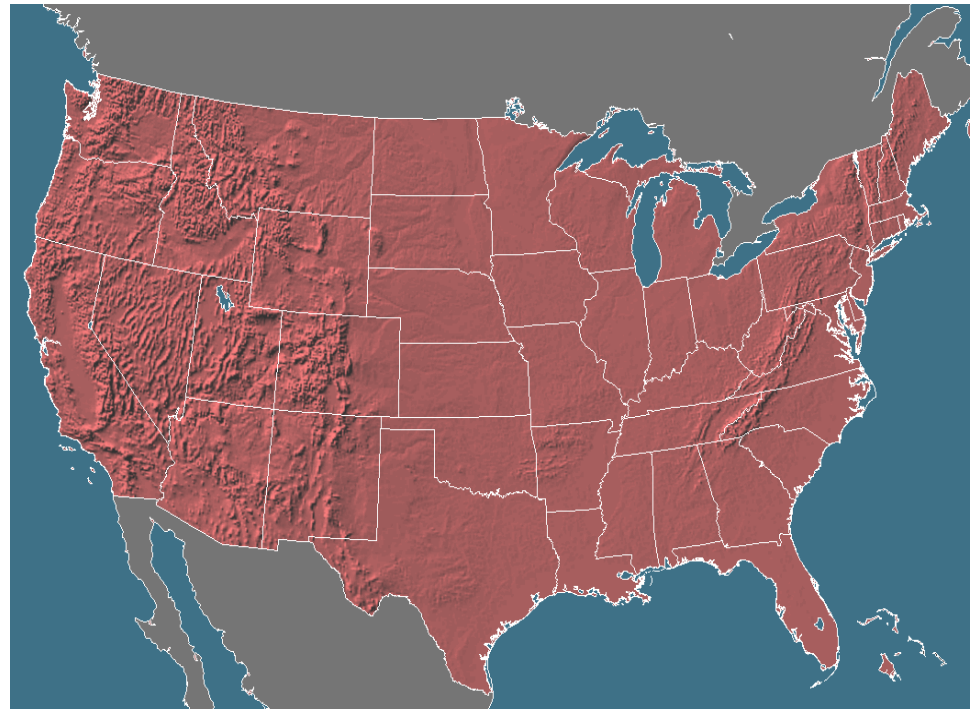
Estimated Migrants “Entering” U.S., 2008

Temporary visa holders
~ 35 million

→
Legal Permanent Residents (LPR), overseas
527,000

→
Undocumented immigrants
~ 9 million living in US

→
Total ~ 45,168,000



↑
Status adjusters already in U.S.
641,000

Source: Dept. of Homeland Security,
Office of Immigration Statistics

TB Screening of Migrants “Entering” U.S. (1)

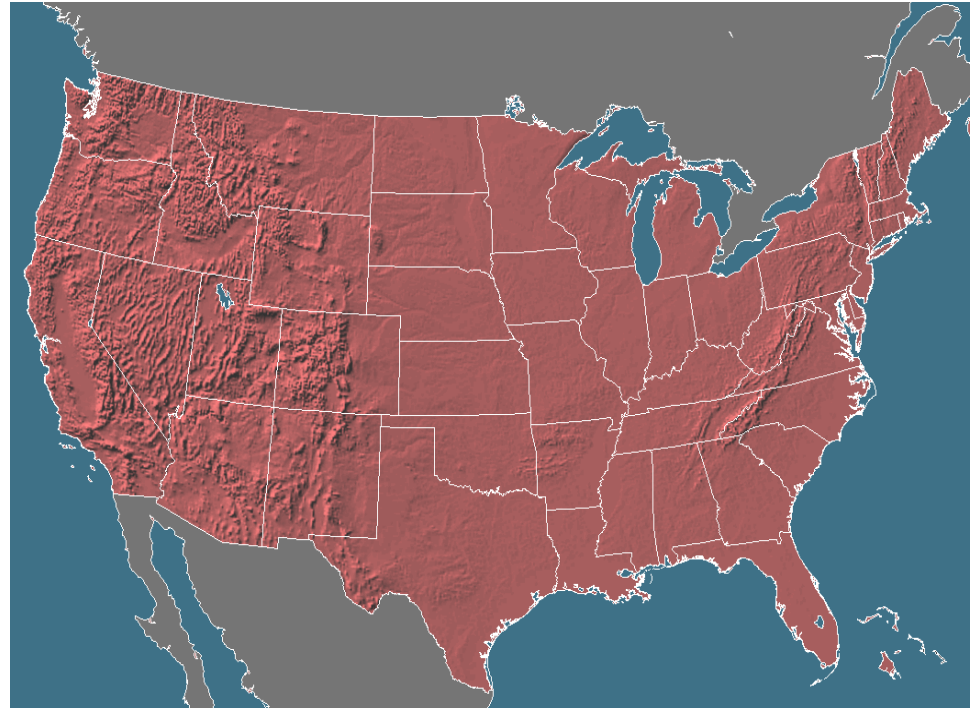
Panel Physicians



**Legal Permanent
Residents (LPR), overseas
527,000**



**98% from countries
with higher TB
burden**



Status adjusters already in U.S.

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Civil Surgeons

TB Screening of Migrants “Entering” U.S. (2)

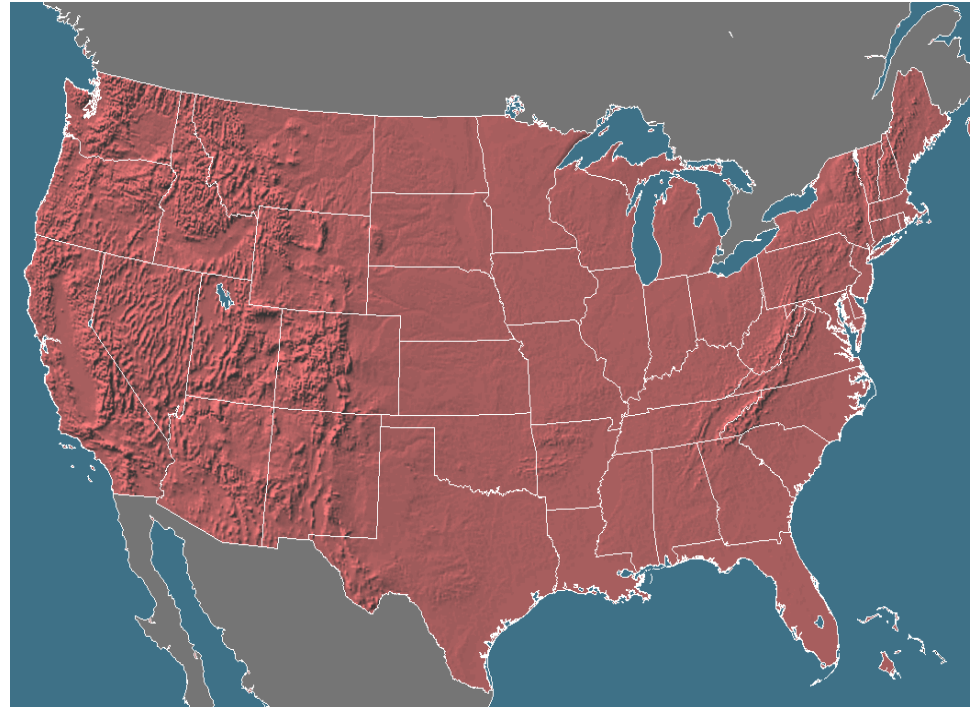
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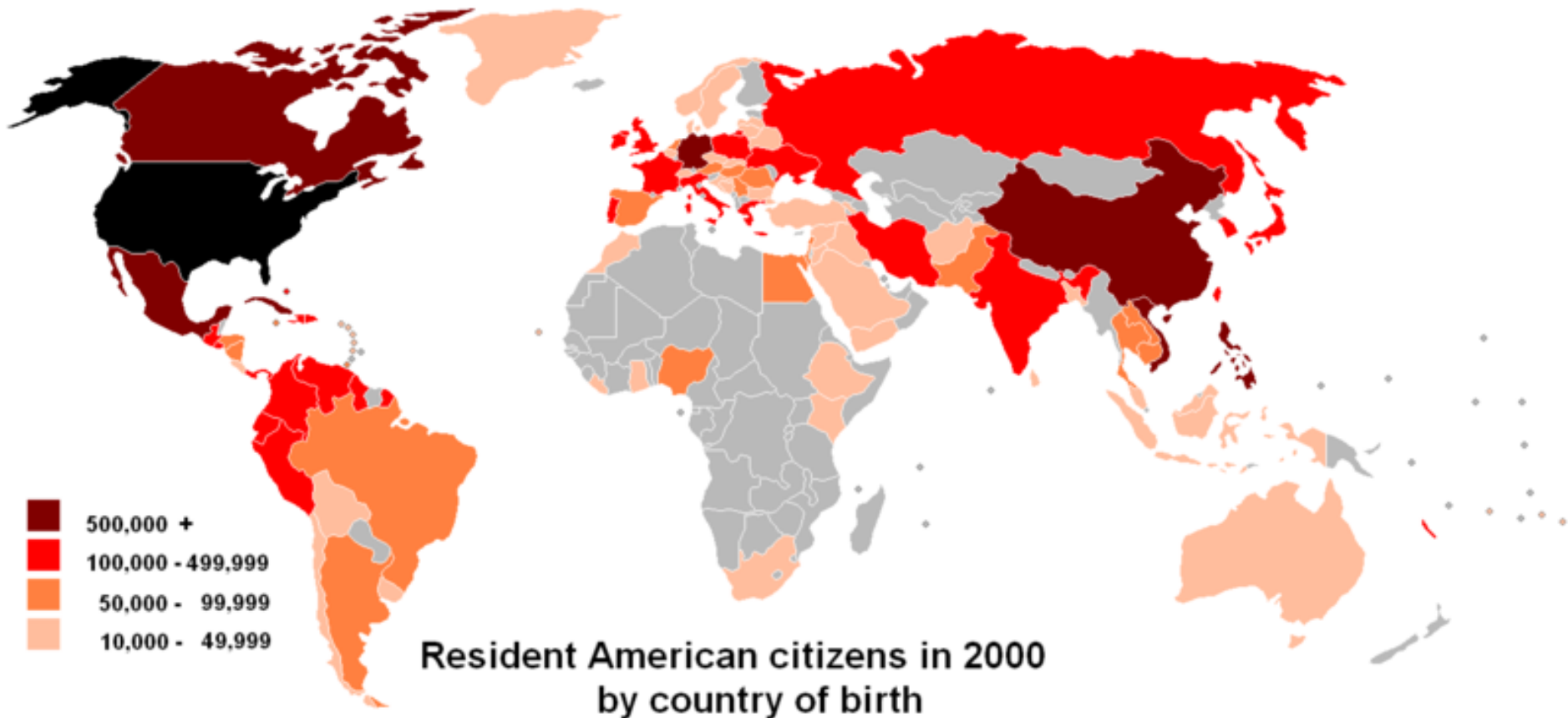
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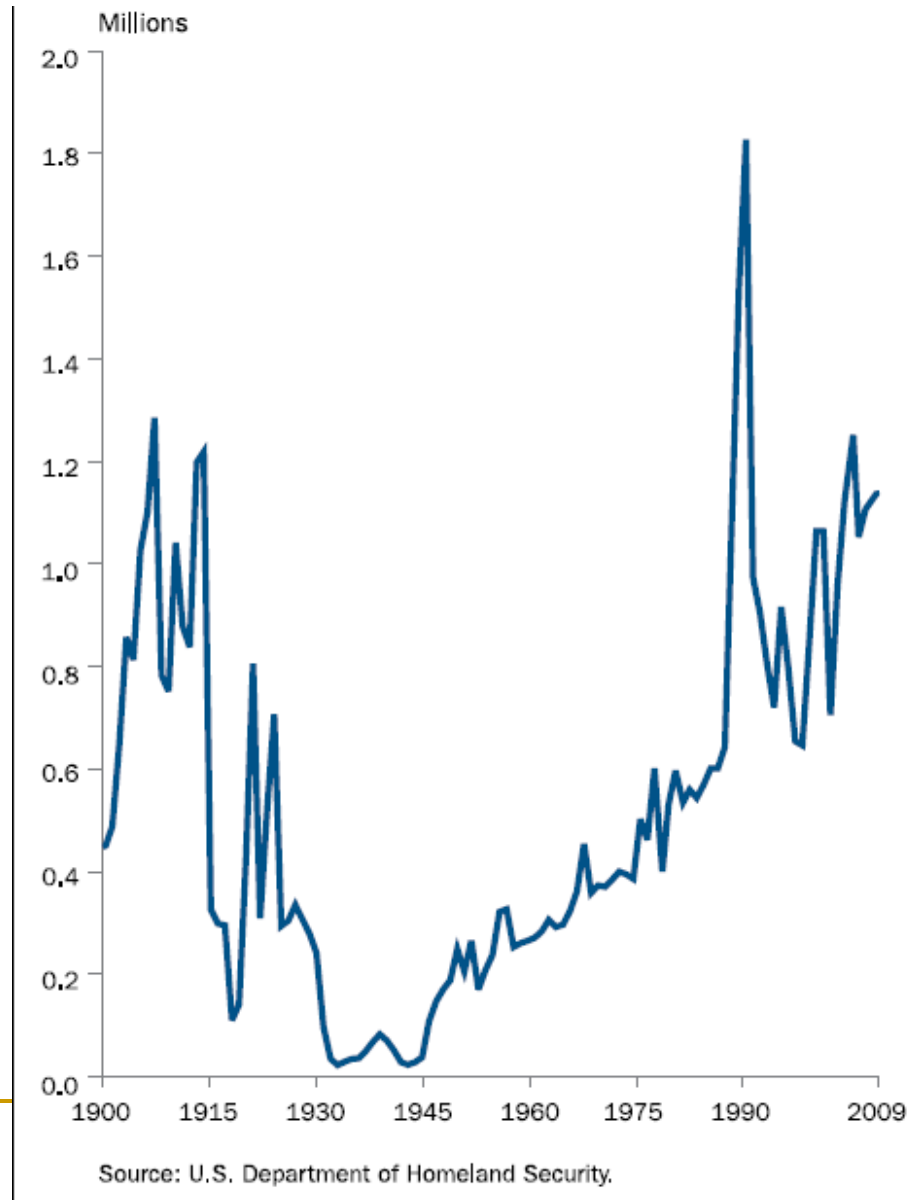
Civil Surgeons

American Residents, Country of Birth

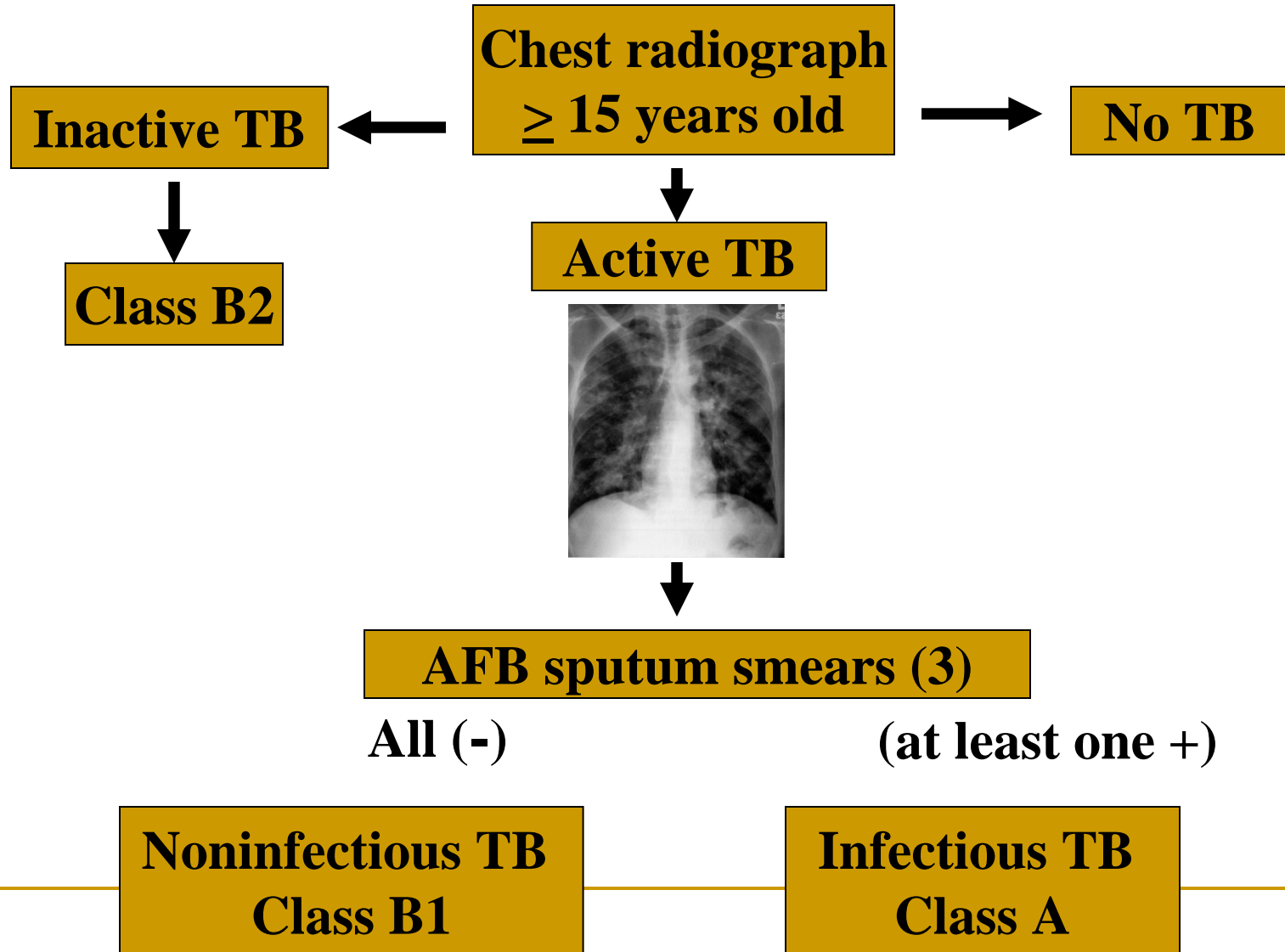


Kransky, Based on 2000 US Census

Legal Permanent Residents, 1900-2009



Prior Overseas TB Screening

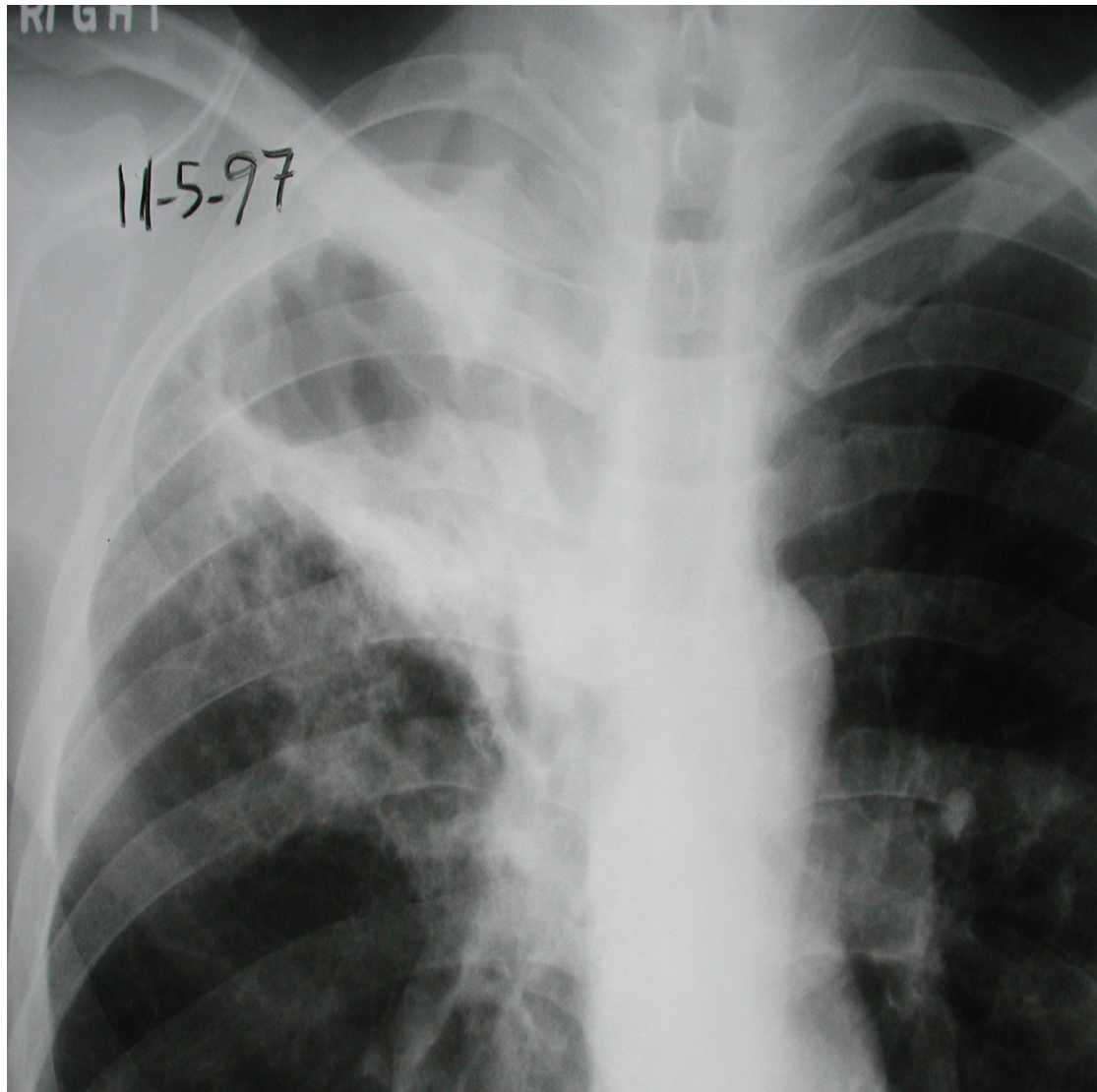


47 year-old Ukrainian immigrant (1)



- 10/96 visa applicant in Moscow
- RUL fibrosis on overseas CXR, Dx of inactive TB
- 9/97 immigrated to Denver

47-year old Ukrainian immigrant (2)



- 9/97, arrived in Colorado
- 11/97, family brings him to the TB Clinic
- 10 lb. weight loss, fatigue, cough
- AFB positive sputum smears

Performance of Overseas TB Screening Program (1)

Percentage of suspected TB immigrants confirmed to have active TB after arrival in the USA

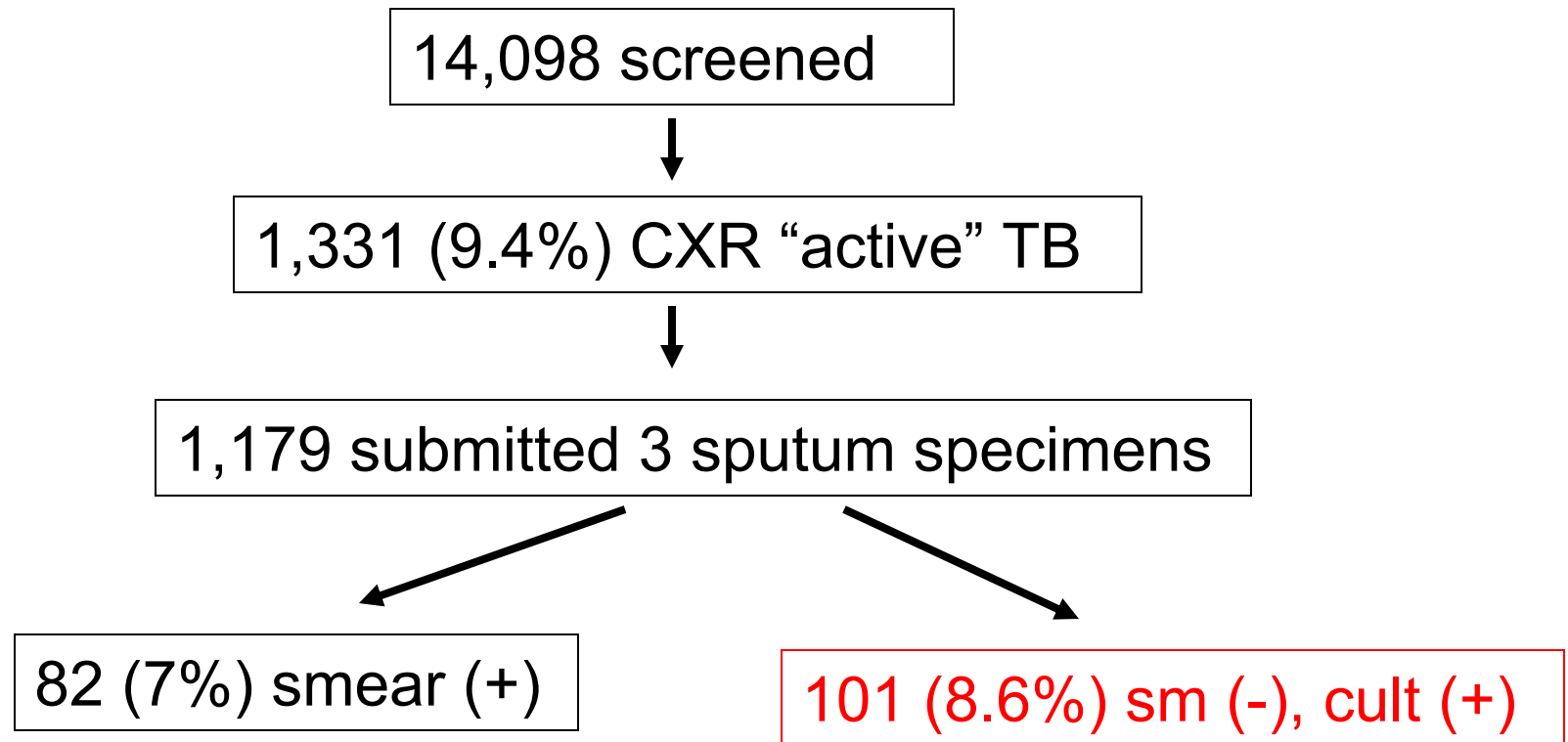
Class B1 (suspect active) 3.3% to 14%

Class B2 (suspect inactive) 0.4% to 3.8%

Binkin - report to the IOM - 2000

Performance of Overseas TB Screening

- Visa applicants in Vietnam; 10/98-10/99



1.3% prevalence!

Maloney, et al. Arch Intern Med 2006

Overseas TB Screening: Changes

<u>Category</u>	<u>1991</u>	<u>2007</u>
Valid (nl)	12 months	6 months
Valid (B1)	6 months	3 months
TST	Not used	Ages 2-14*
Sputums	Smears (B1)	Sm/Cx/DST
Monitoring [†]	None	Monthly Cx
Contacts	None	TST (B3)

* In countries with incidence > 20/100,000

— † During treatment for active tuberculosis

TB Screening of Migrants “Entering” U.S.

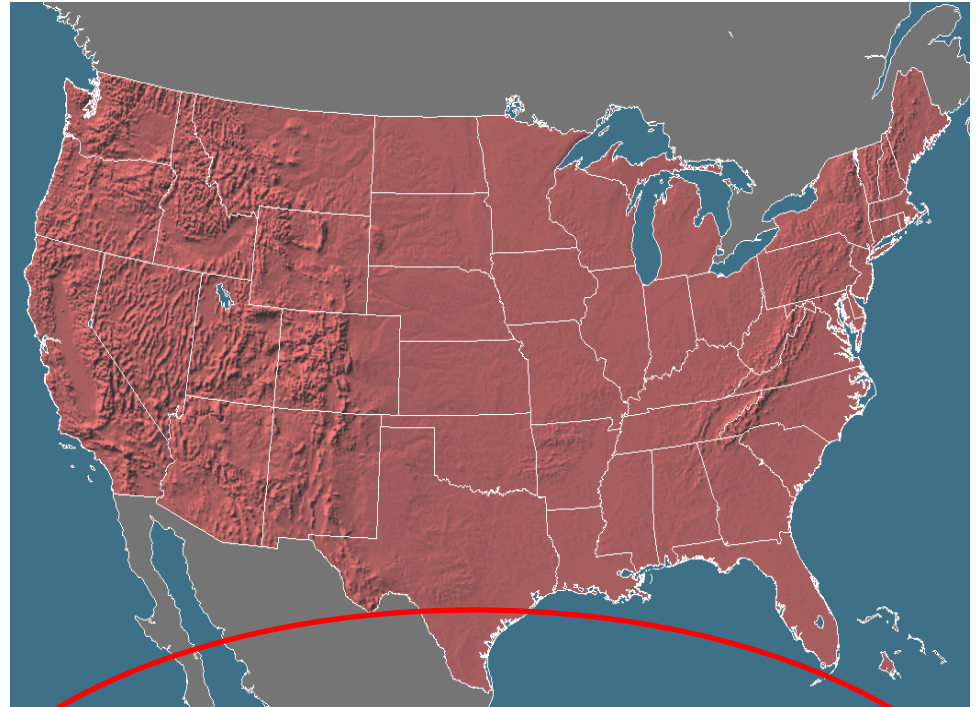
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Civil Surgeons

Civil Surgeon Evaluation for Status Adjusters (1)

Purpose:

- Identify applicants with communicable diseases
 - Document vaccination against vaccine-preventable diseases
 - Identify applicants with mental disorders associated with harmful behavior and/or drug abuse
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Civil Surgeon Evaluation for Status Adjusters (2)

- Conduct medical examination
 - Class A diseases
 - Class B diseases
 - Ensure immunizations up-to-date
 - Obtain consultation as necessary
 - Complete I-693
-

Communicable Diseases of Public Health Significance

- Tuberculosis
 - Leprosy (Hansen's Disease)
 - Sexually Transmitted Infections:
 - Syphilis
 - Chancroid
 - Granuloma Inguinale
 - Lymphogranuloma venereum
 - HIV testing is no longer required
-

Role of the Civil Surgeon

- Establish a working relationship with the TB control program
 - Verify the applicants identity
 - Perform the initial exam
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Role of the Health Department

- Provide training on performing TST
 - Recommend a radiologist if needed
 - Evaluate applicants with abnl CXR
 - Perform mycobacterial lab evaluation
 - Provide medical management and contact investigation
 - Provide or facilitate the treatment of latent TB
-

Questions?
