TB Treatment as Prevention

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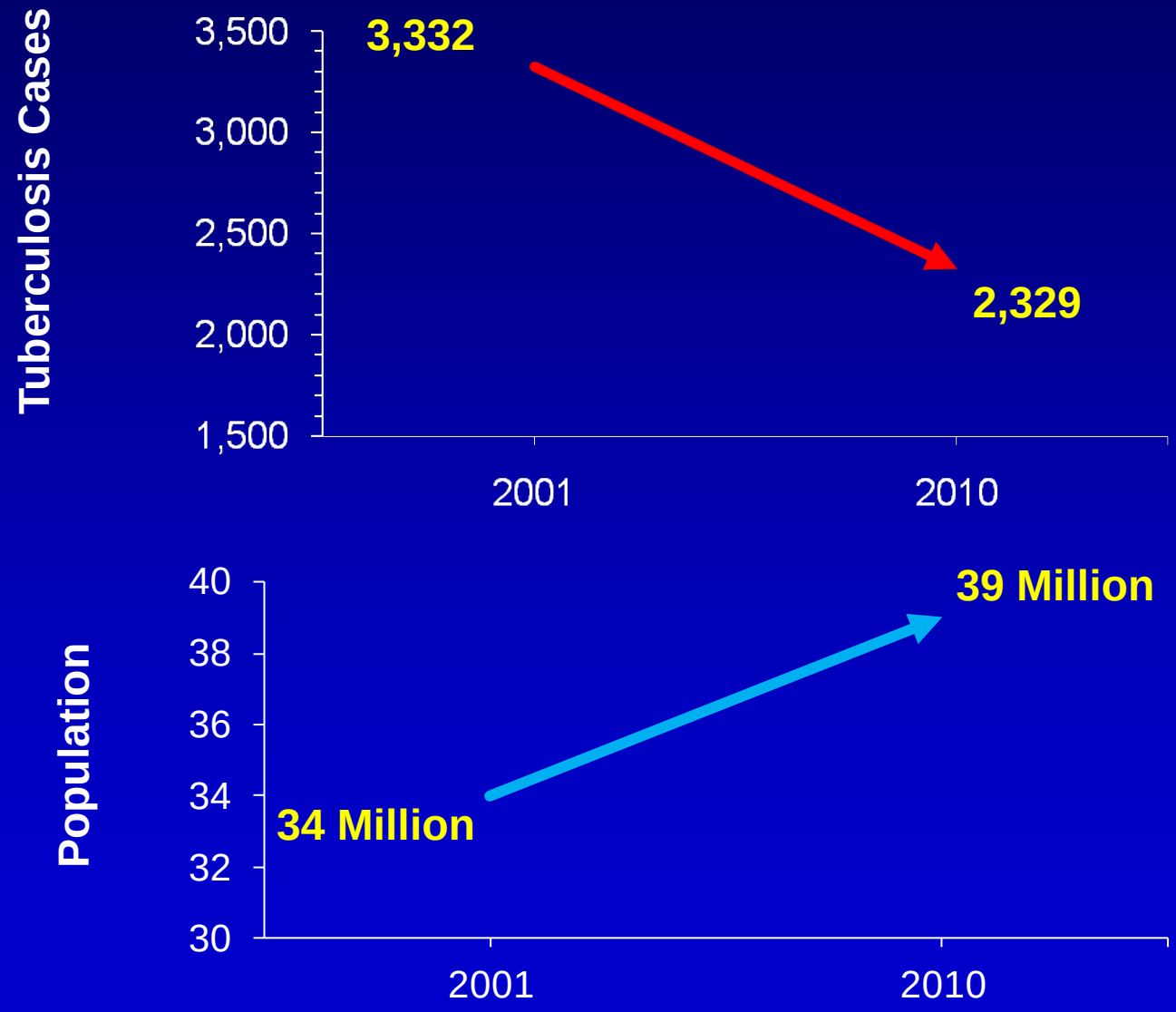
WHO Estimates

- Overall, one-third of the world's population (~2B) is currently infected with the TB bacillus.
- ~10% (~200M) of people who are infected with TB bacilli become sick or infectious at some time during their life.
- Left untreated, each person with active TB disease will infect on average between 10 and 15 people every year.

California

- Pop ~ 36M
- LTBI reservoir estimated ~10% (3.6M)
- ~10% activation LTBI to active TB
- ~10% Mortality for active TB in US
- 2,329 cases if not treated will infect 23,290-34,935 people year.
- Fortunately we are doing much better than this in CA.

California Population and Tuberculosis Cases, 2001-2010



Treatment as Prevention

- The case has not yet been made successfully for TB Treatment as Prevention
- Not included in the US Preventive Task Force Recommendations.
- Not included in the National Prevention Strategy under the ACA.

Prevention

- Primary: Treatment of TB/LTBI to prevent infection of contacts
- Secondary: Treatment of LTBI to prevent the development of disease
- Tertiary: Treatment of active TB in terms of the individual receiving treatment

HIV Treatment as Prevention

- HPTN Study 052
- Initiation of ART protects uninfected sexual partners from HIV infection
- “The HPTN 052 study provides compelling evidence for a new HIV prevention approach that links prevention and care efforts,” Quarraisha Abdool Karim Co-principle investigator

HIV Treatment as Prevention

National Prevention Strategy

"Linking people to treatment reduces transmission and improves health; for example, people living with HIV who receive antiretroviral therapy are 92 percent less likely to transmit HIV to others."

2010 TB Cases: Reason for Presentation

Passive case-finding

- TB symptoms 1455 (63%)
- Abnormal CXR* 396 (17%)
- Incidental lab* 211 (9%)

} 89%

Active case-finding

- Contact investigation 84 (3.6%)
- Immigration screening 78 (3.4%)
- Targeted Testing 44 (1.9%)
- Employee Screening 28 (1.2%)

*purpose of CXR or lab was for something other than TB

2010 Foreign-born TB Cases: Immigration status

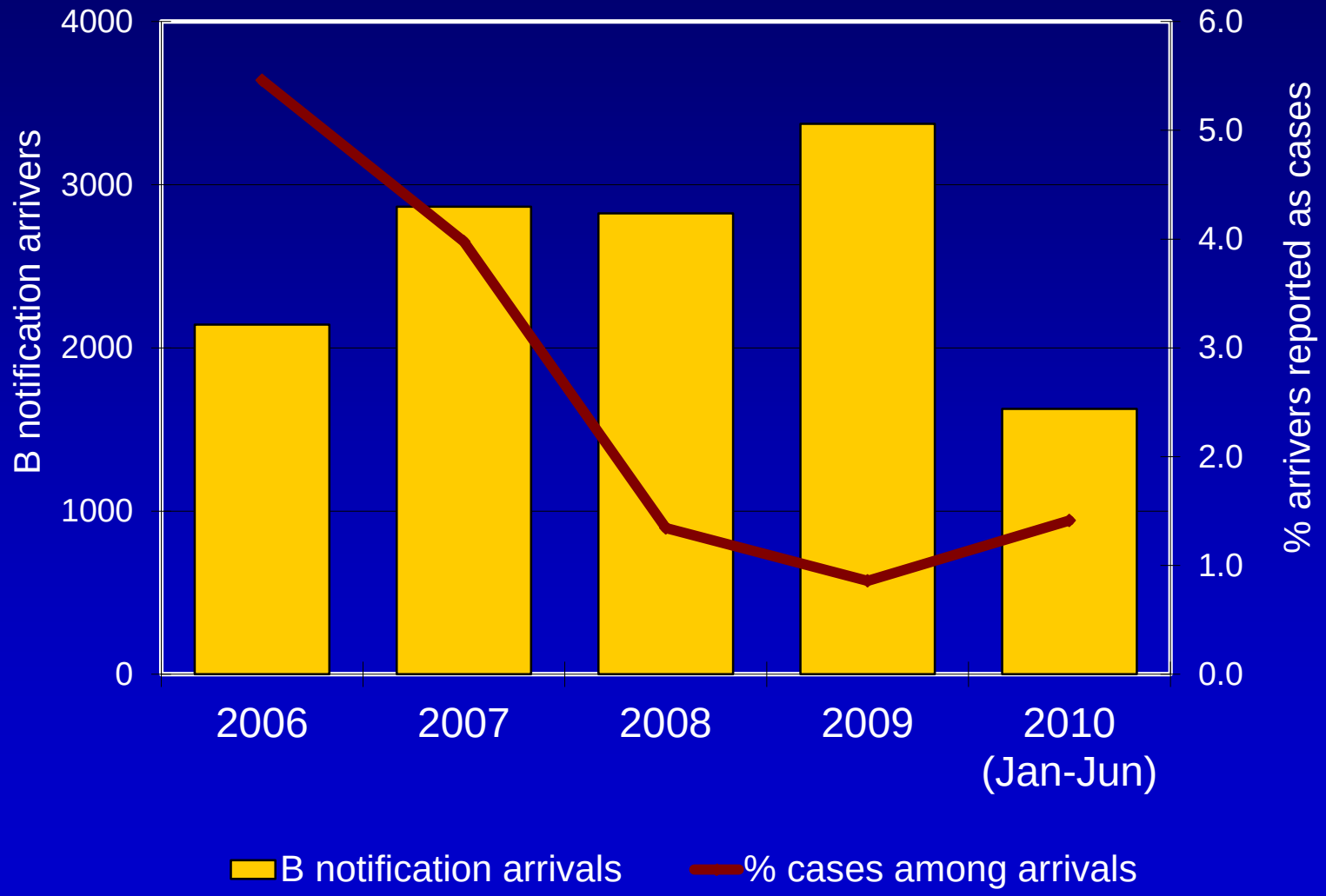
- Immigrant 40%
- Refugee/asylee 5%

45%

- Tourist 2%
- Student 2%
- Worker 2%
- Other* 16%
- Unknown** 31%

- * without above visa but not unknown
- ** patient does not know status on entry, refused response, or local policy restricts response

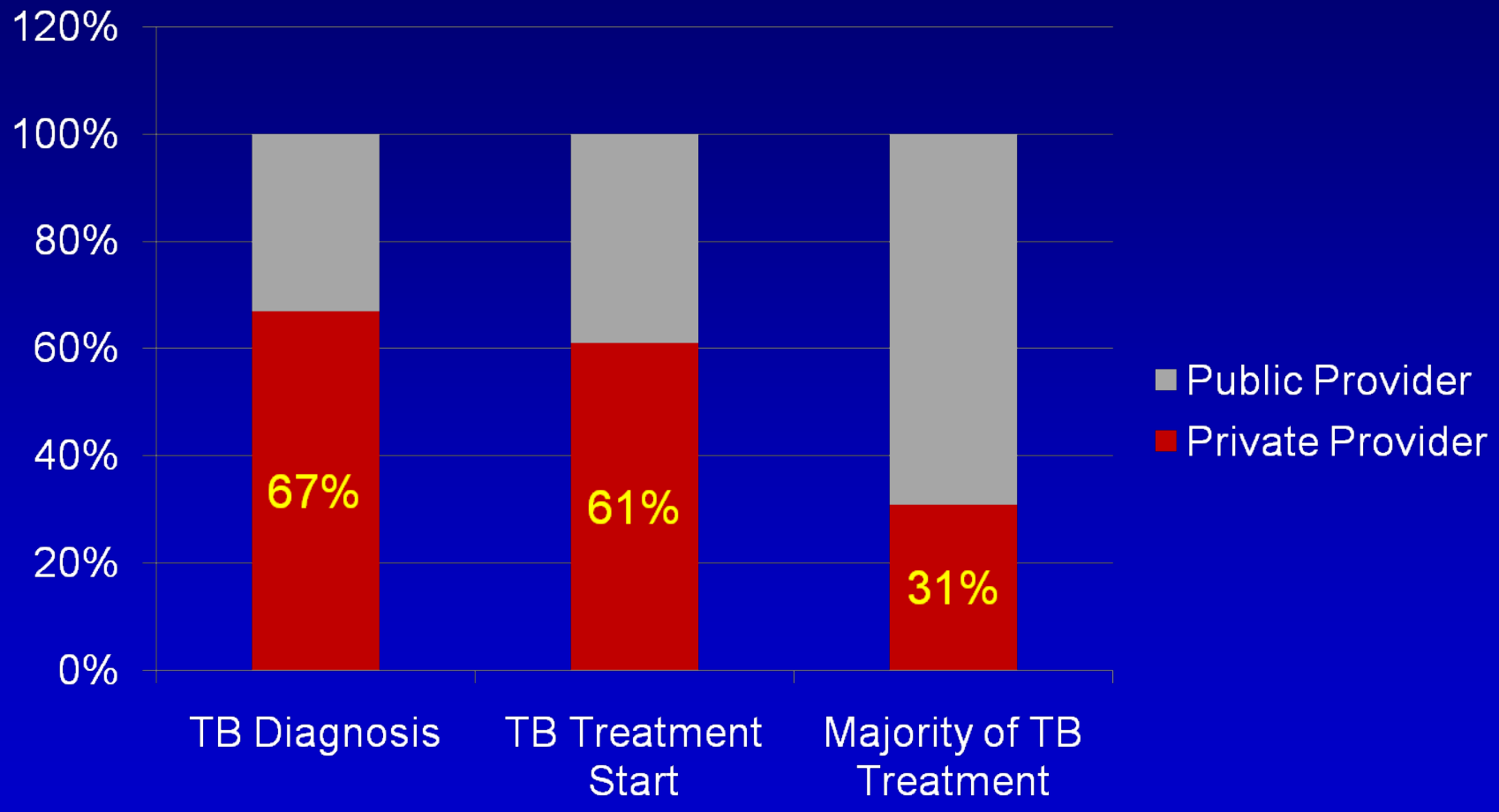
TB cases among B notification arrivers with abnormal chest radiograph on pre-immigration exam from Mexico, the Philippines, or Vietnam, reported <6 months after U.S. arrival



Who is diagnosing and treating TB in California?

- Private providers are most likely to diagnose TB and start TB treatment
- TB diagnosis often occurs in a hospital or emergency room
- Public providers provide the majority of care during treatment

Provider: TB diagnosis and treatment, TB cases, California, 2008*



*Randomly selected TB patients; N=280.
Source: TBCB 2008 HIV status field study

TB Costs to LHD

- Contact Investigations
- Case Management
- DOT
  - covered for privately insured
- Medications
  - sometimes paying for the insured who cannot afford co-pays

WHO Stop TB Strategy

"Anti-TB drugs should be available free of charge to all TB patients, both because many patients are poor and may find them difficult to afford, and because treatment has benefits that extend to society as a whole (cure prevents transmission to others)"

Treating TB is an excellent investment of public health dollars

- Every $614 invested in treating TB cases and contacts saves a year of life
- Far more cost-effective than other well-accepted public health interventions*
  - Cervical or colorectal cancer screening cost $12,000 per year of life saved
  - Cholesterol costs $19,000 per year of life saved

*Recommended by the U.S. Preventive Services Task Force

Draft NACCHO Statement

"*…treatment* plays an indispensible role in the prevention of many communicable diseases. Treatment of active tuberculosis (TB), a disease for which there is no effective vaccine, is essential to prevent transmission to the exposed, and treatment of non-contagious TB infection (latent TB) is essential to prevent progression to contagious, active airborne disease."