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# **TB epidemic and progress towards the Millennium Development Goals**

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# Outline of presentation

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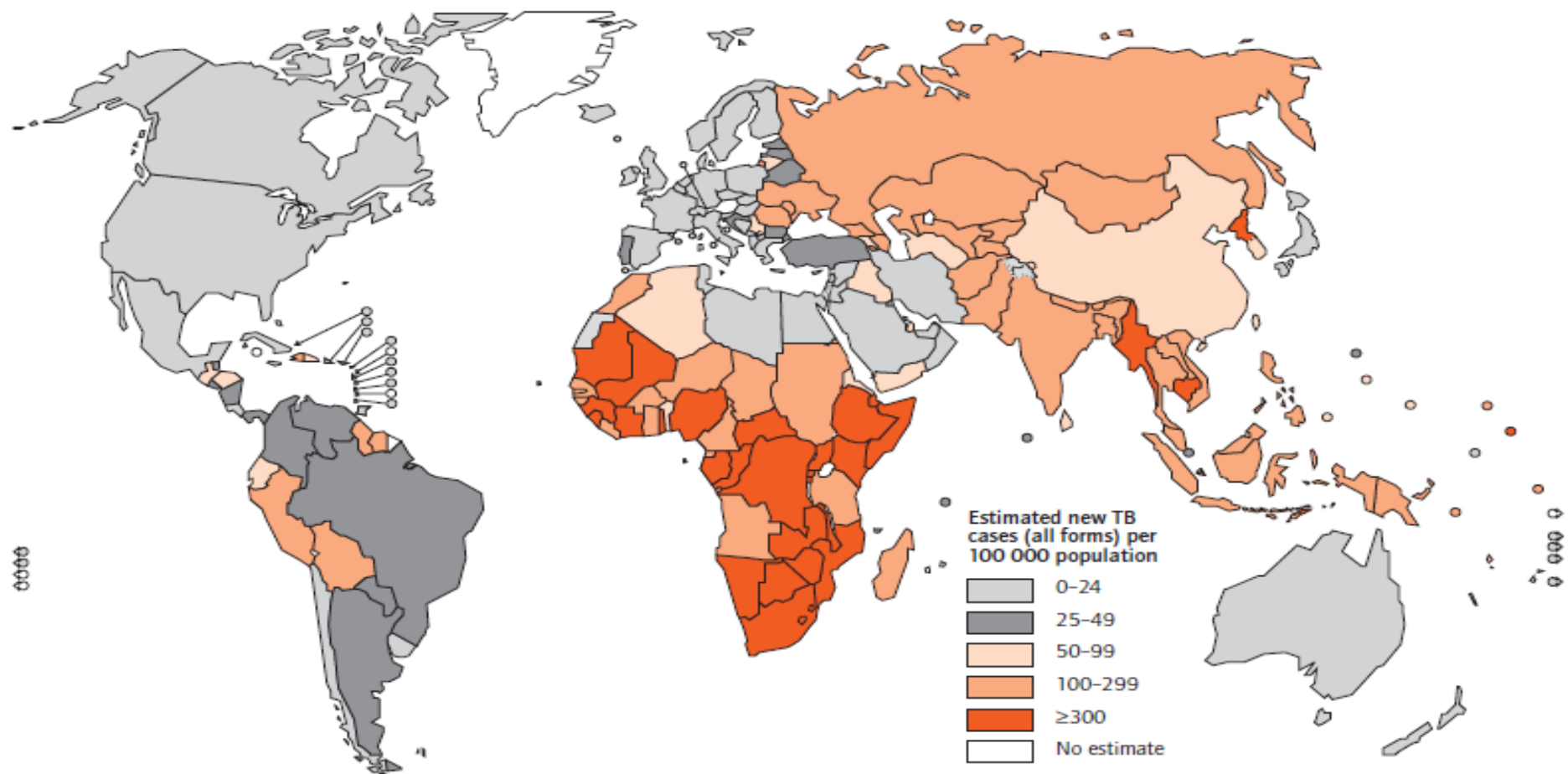
- Global TB epidemiology
- Global TB targets for 2015
- Progress towards global TB targets
- Moving beyond 2015
- Conclusion

# The global burden of TB in 2008

	Estimated number of cases	Estimated number of deaths
All forms of TB	<b>9.4 million</b> (range, 8.9–9.9 million)	<b>1.3 million*</b> (range, 1.1–1.7 million)
HIV-associated TB	<b>1.4 million (15%)</b> (range, 1.3–1.6 million)	<b>0.52 million</b> (range, 0.45–0.62 million)
Multidrug-resistant TB (MDR-TB)	<b>0.5 million</b>	<b>~ 0.15million</b>

*\*excluding deaths among HIV+ people*

# Highest incidence rates in Africa



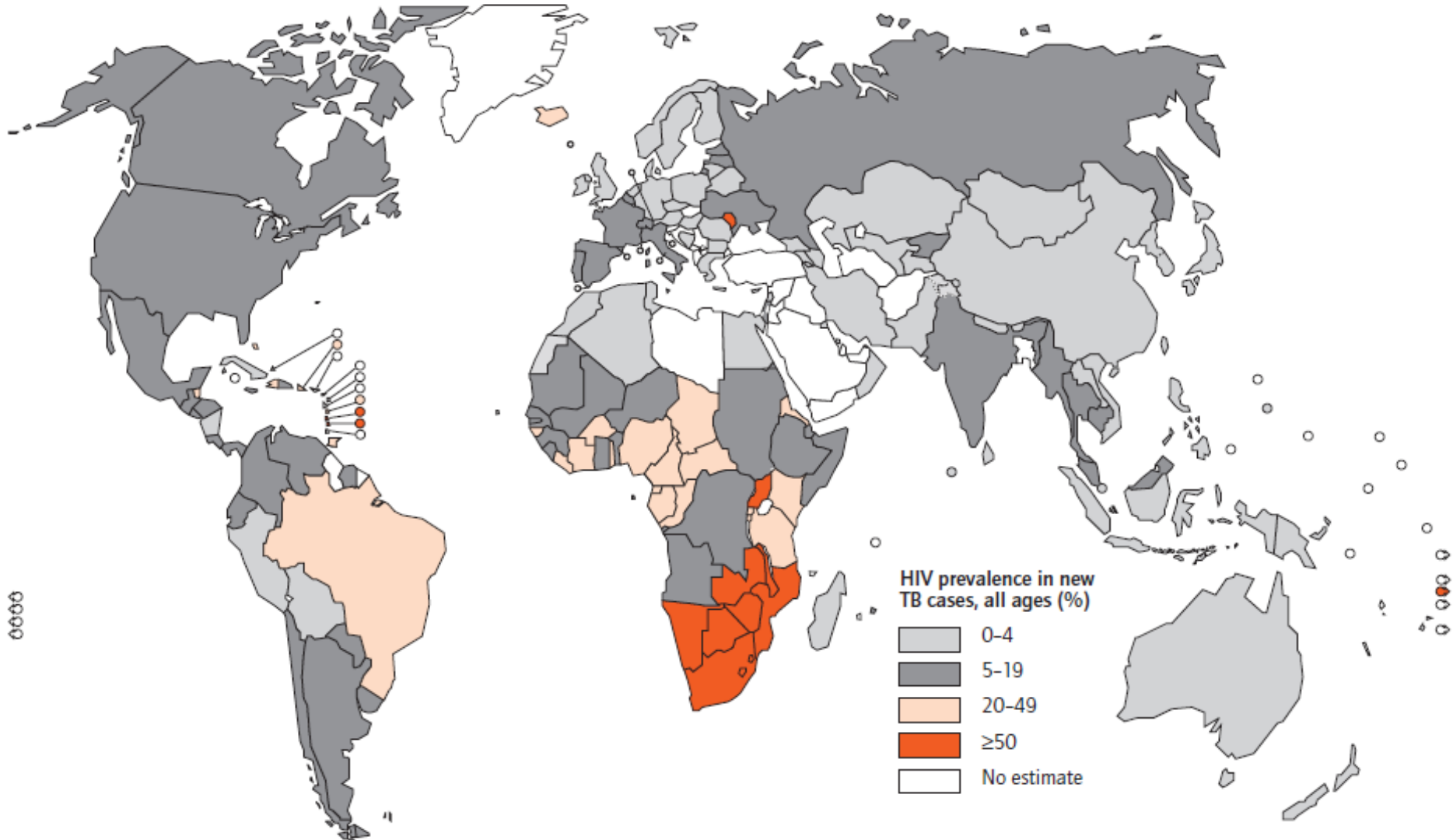
**Linked to high rates of HIV infection:  
78% of estimated HIV+ TB cases in Africa**



# Estimated HIV prevalence in new TB cases, 2008

**FIGURE 2**

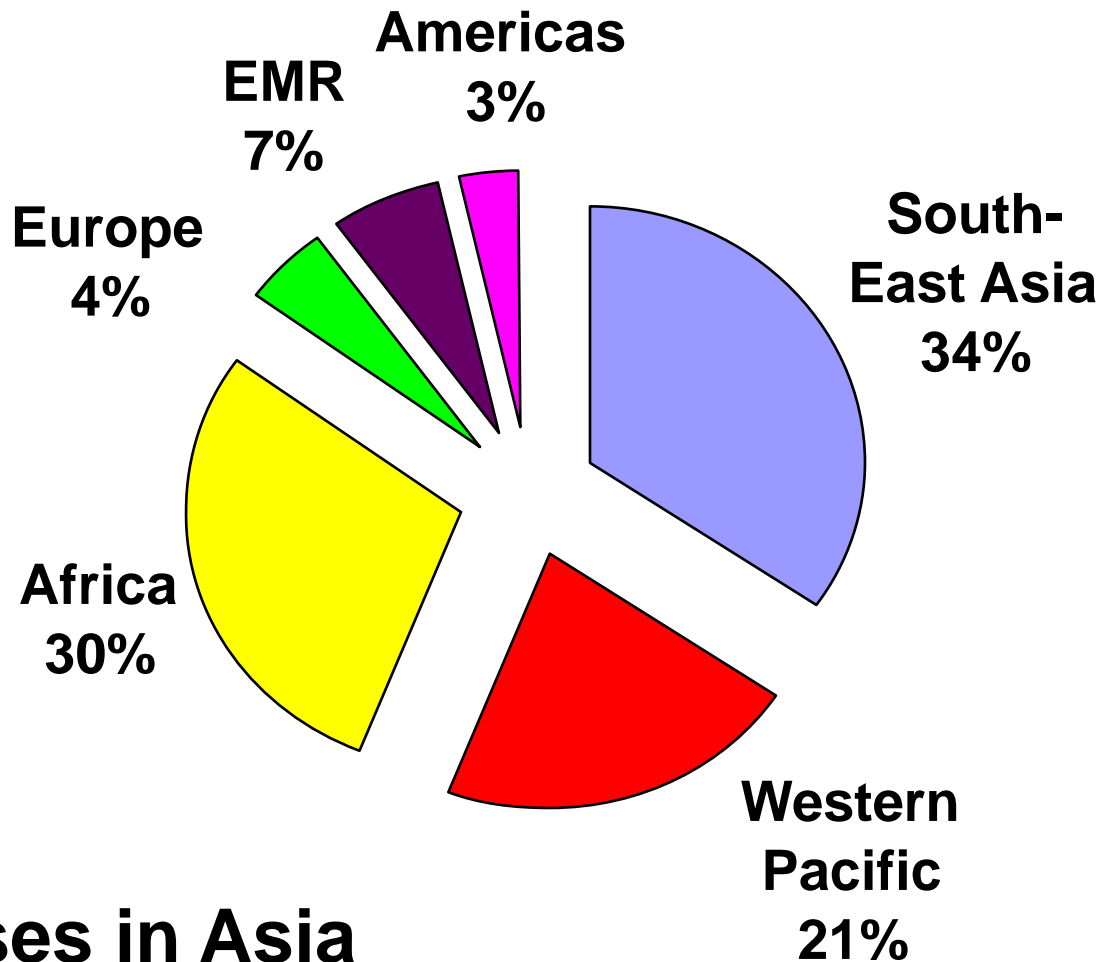
Estimated HIV prevalence in new TB cases, 2008



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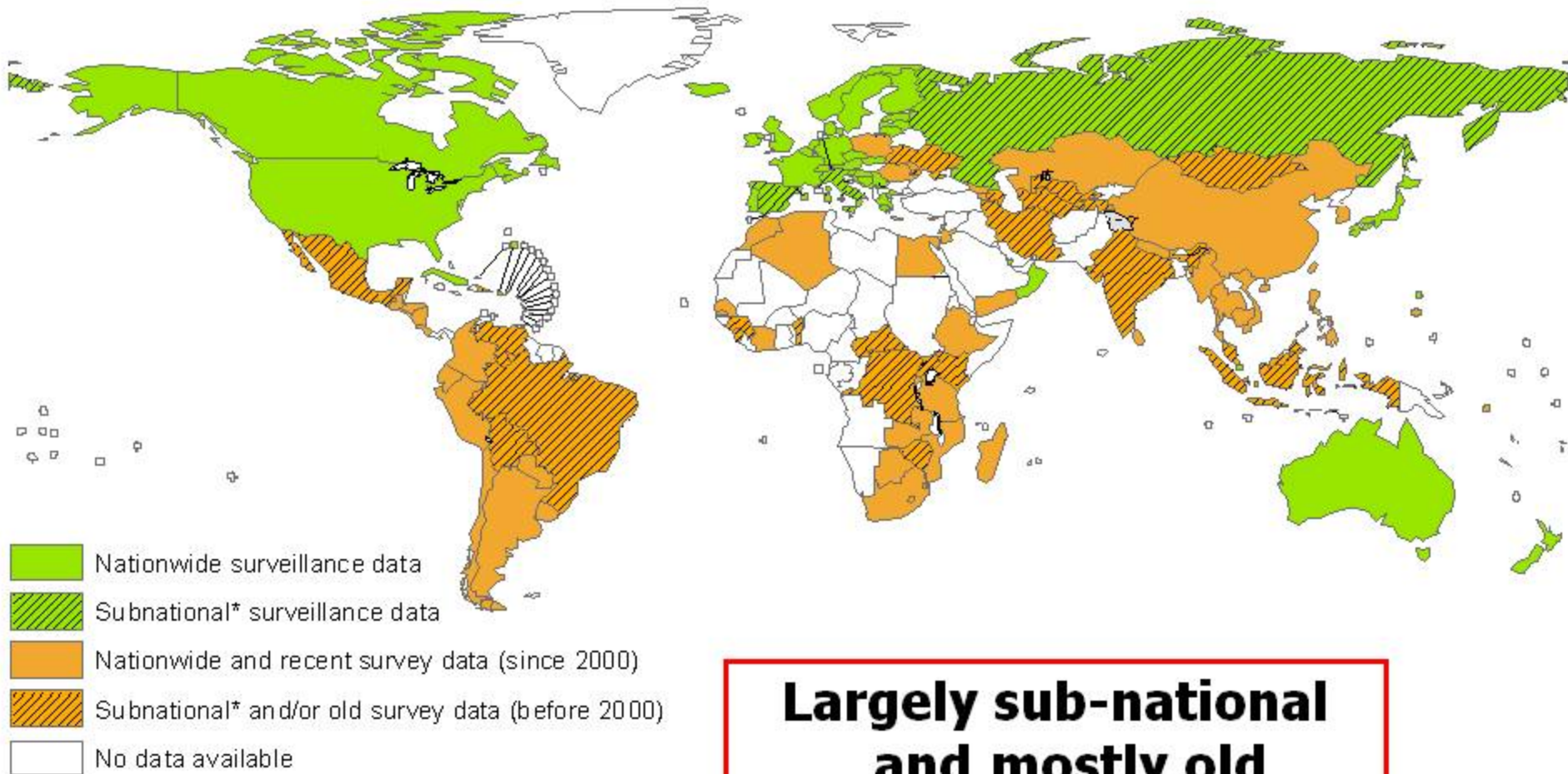
# Most TB cases are still in Asia

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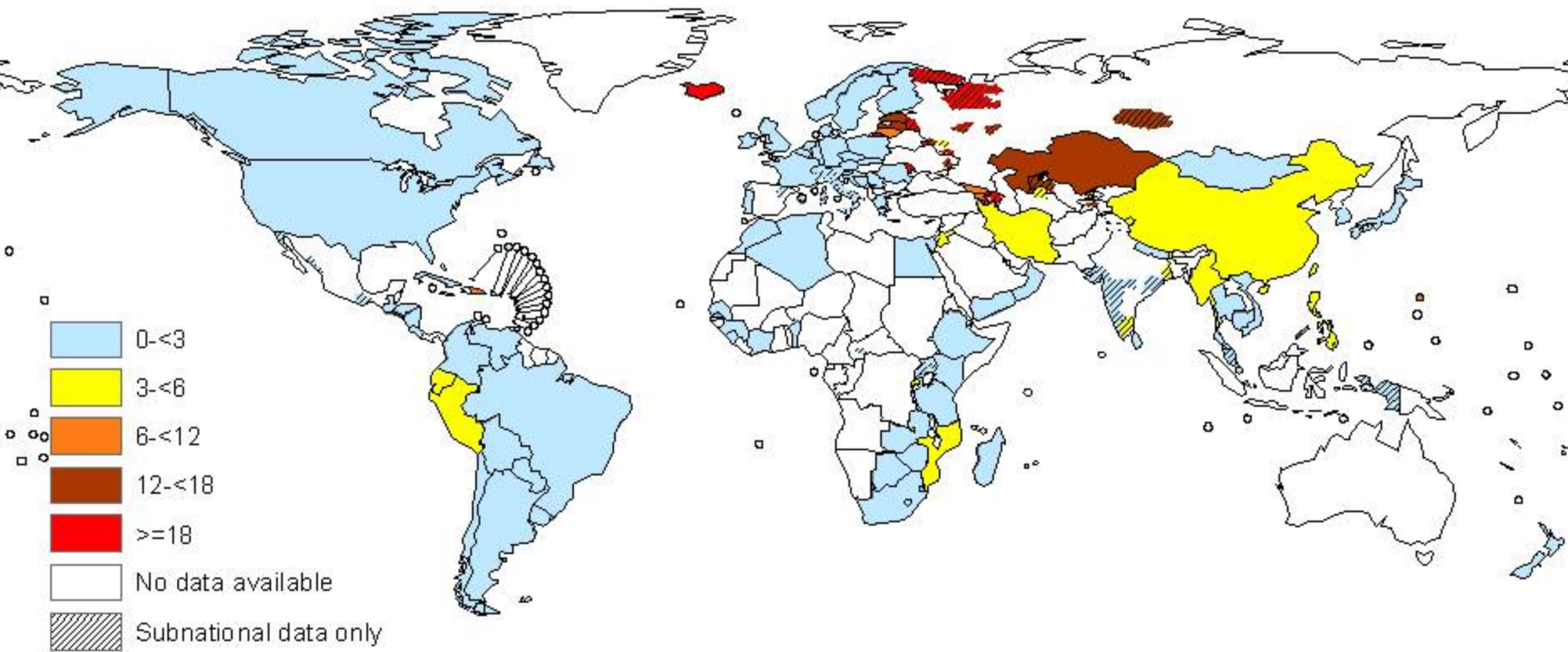
**55% cases in Asia**

# Data on drug resistance TB is poor



**Largely sub-national  
and mostly old**

# Percentage of MDR among new TB cases, 1994-2009

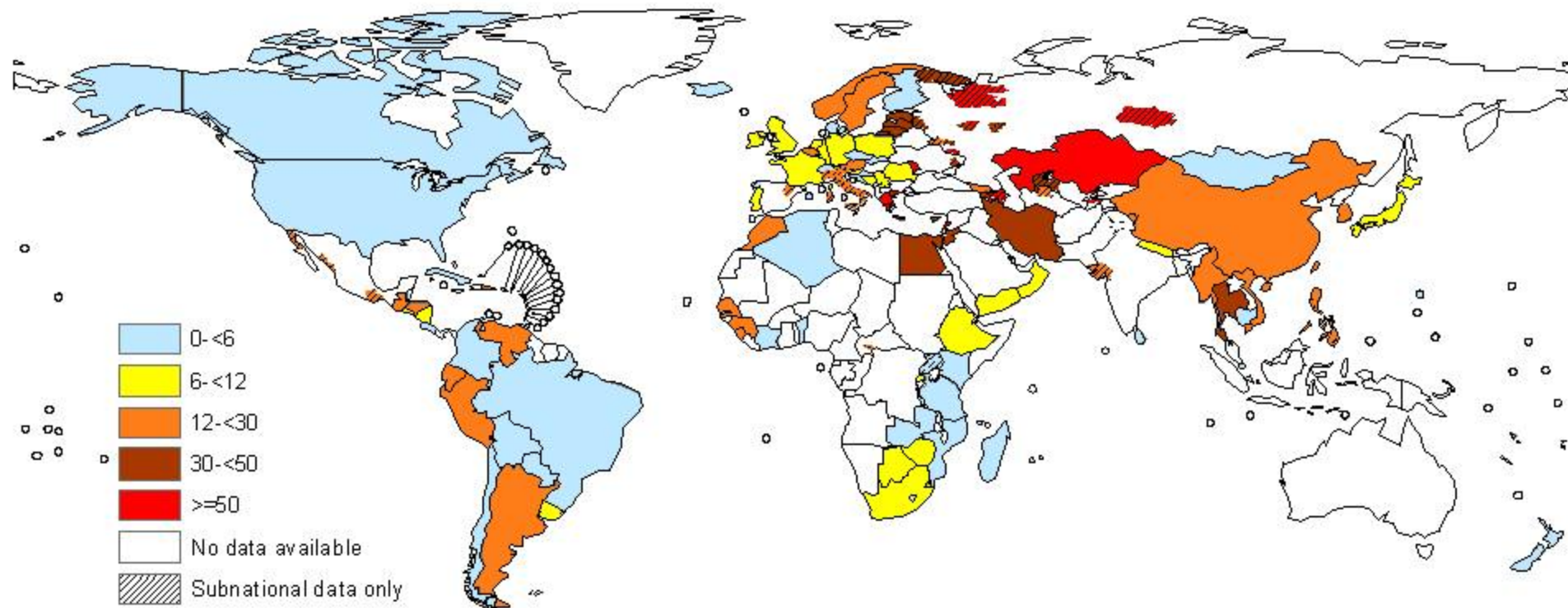


Australia, Democratic Republic of the Congo, Fiji, Guam, New Caledonia, Solomon Islands and Qatar reported data on combined new and previously treated cases.

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.  
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# Percentage of MDR among previously treated TB cases, 1994-2009



Australia, Democratic Republic of the Congo, Fiji, Guam, New Caledonia, Solomon Islands and Qatar reported data on combined new and previously treated cases.

# Global TB targets set for 2015

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## 1. Millennium Development Goals

- Halt and reverse incidence of TB (MDG 6, Target 6.c)

## 2. Stop TB Partnership targets

- Halve 1990 prevalence and mortality rates (per 100 000 population)

**Prevalence target: <148/100,000 (164 in 2008)**

**Mortality target: <14/100,000 (20 in 2008)**

# Additional targets in the Global Plan

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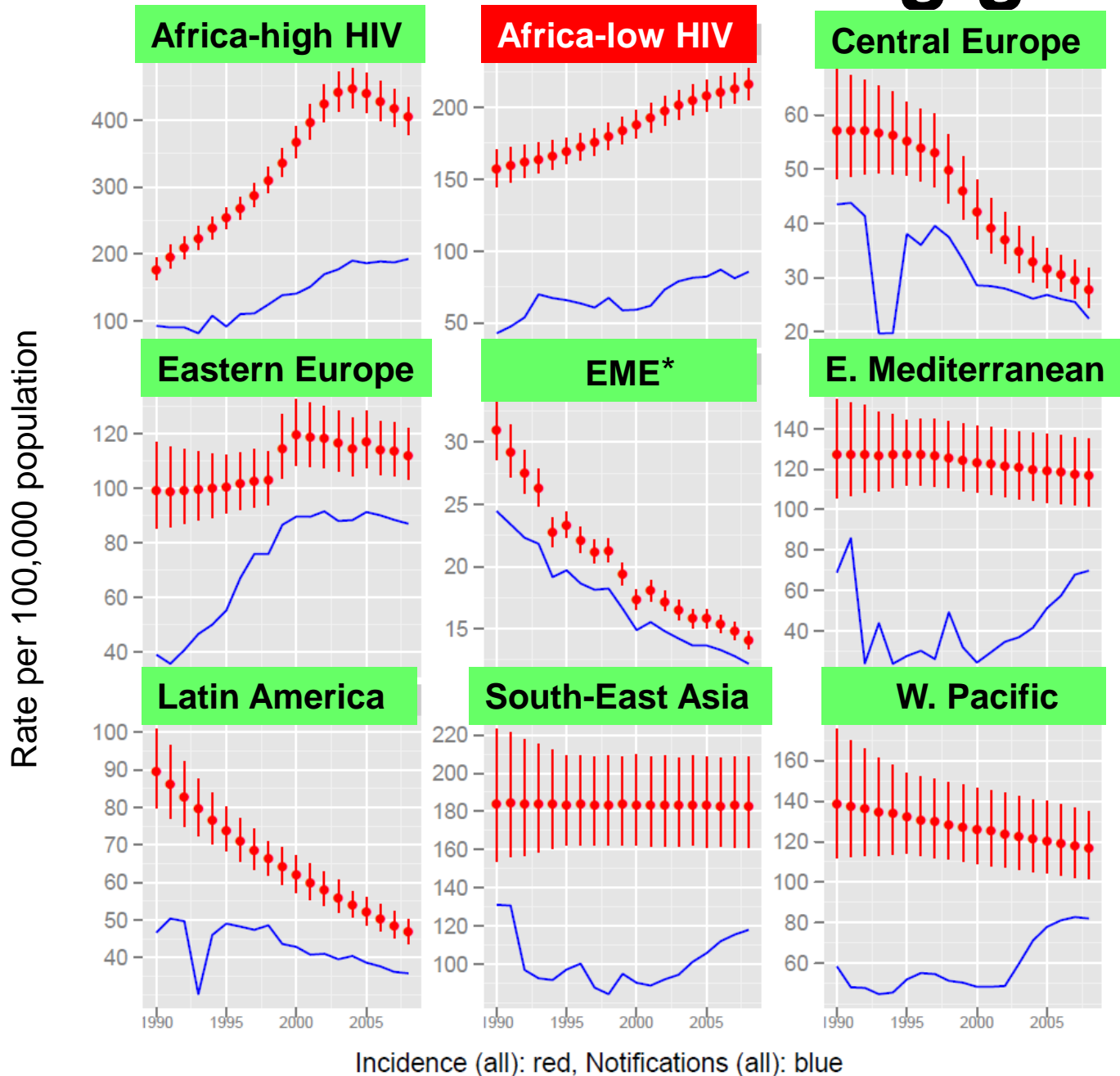
- 1. Detect 84% of smear-positive cases, and successfully treat 87% of them, by 2015**
- 2. TB/HIV (2010)**
  - 85% TB patients tested for HIV by 2010
  - 320,000 HIV+ TB patients received ART by 2010
- 3. X/MDR-TB (2015)**
  - 80% (~400,000) cases diagnosed and treated
- 4. Financing**
  - US\$5–9 billion per year for TB control, 2010–2015

# Progress towards global TB targets

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- ◆ Nine TB epidemiological regions
  - ◆ Africa (High HIV and Low HIV)
  - ◆ Europe (Central and Eastern)
  - ◆ Established market economies (the rich countries)
  - ◆ Eastern Mediterranean
  - ◆ South East Asia
  - ◆ Western Pacific
- ◆ Incidence, prevalence and mortality targets
- ◆ Traffic light analogy (red, yellow and green)

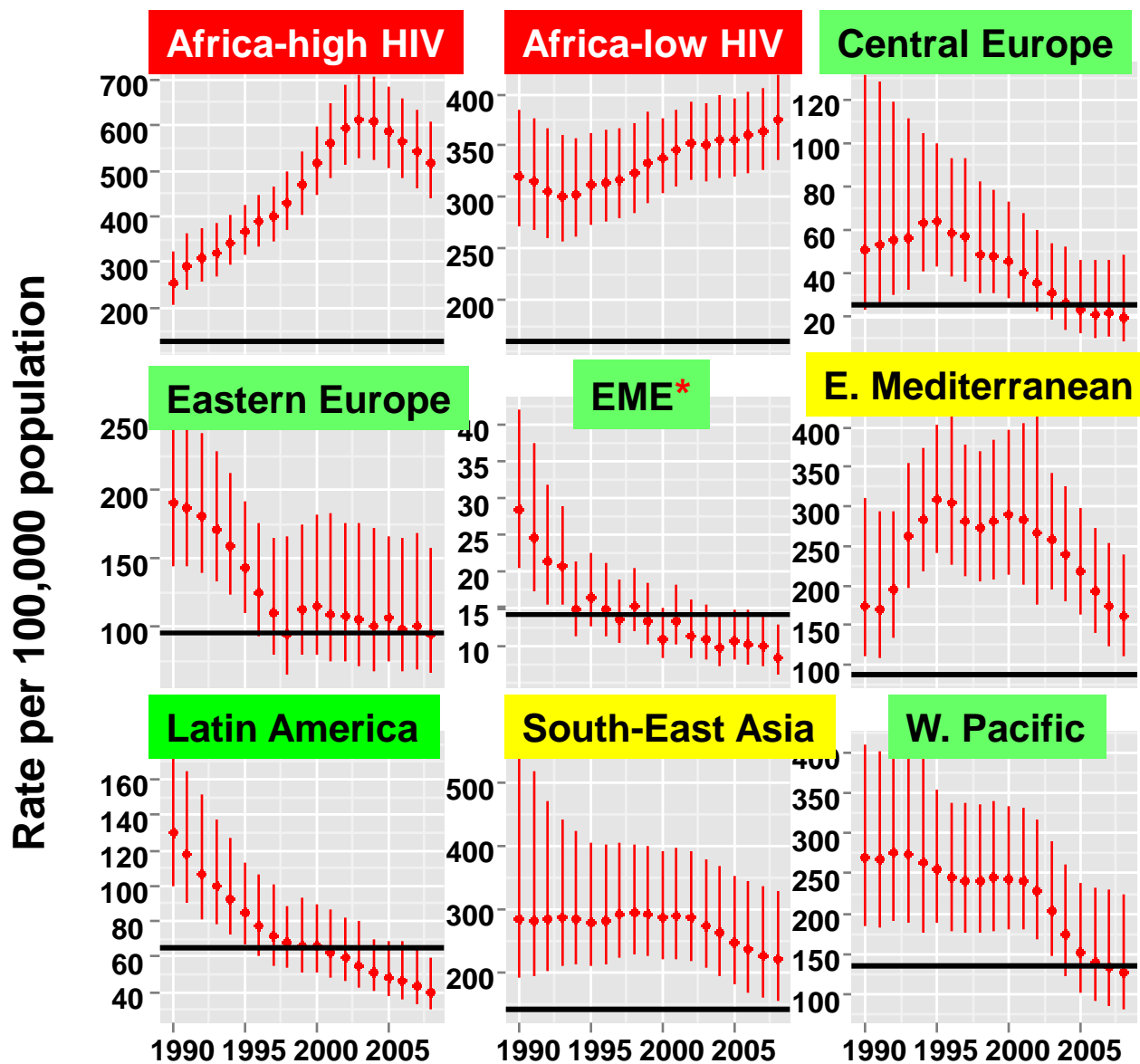
# Incidence rates falling globally



Incidence falling in all sub-regions except African countries with low HIV prevalence

\* EME = Established Market Economies

# Progress to the prevalence target



Five regions reached target already

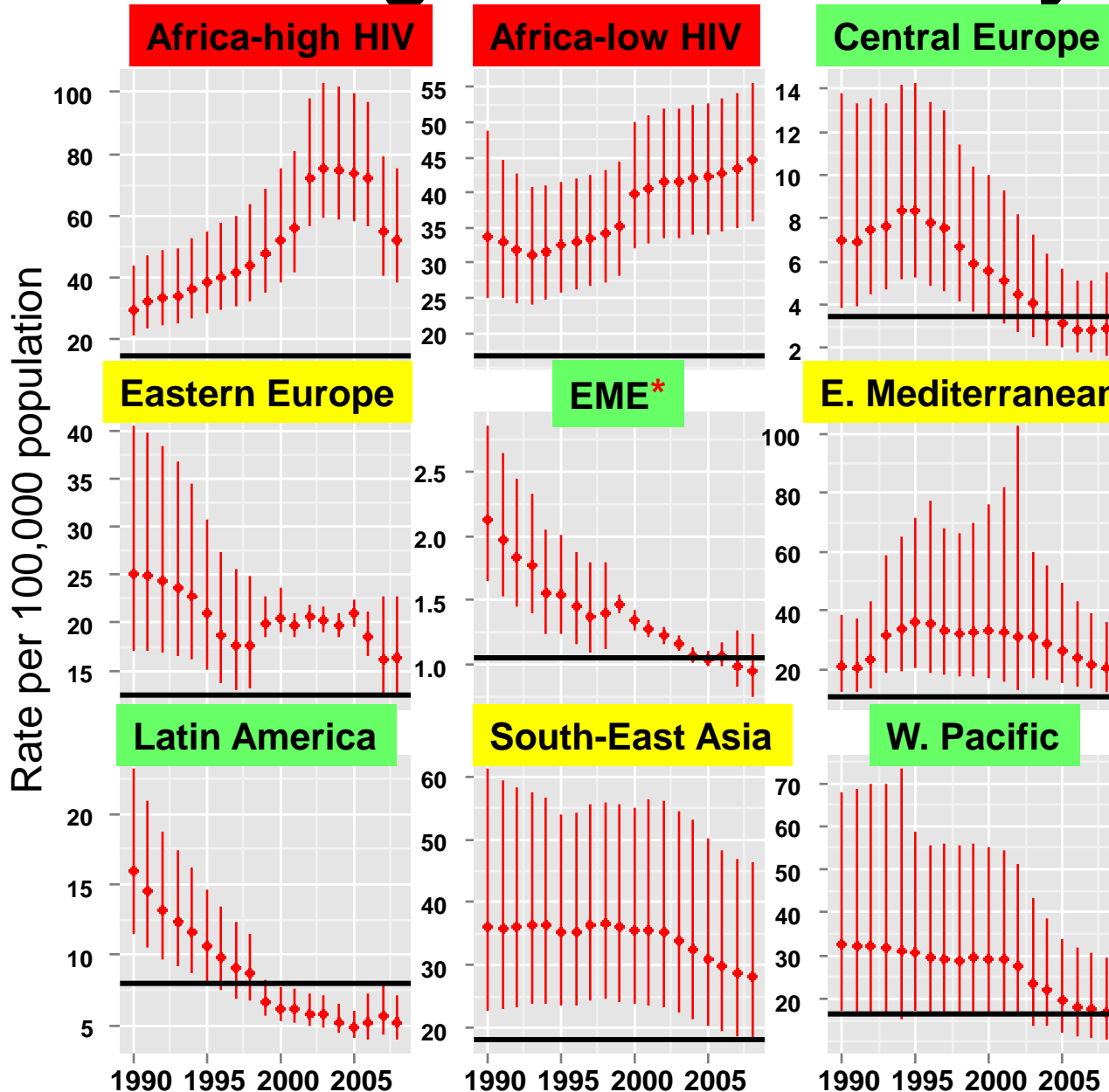
SE Asia and E. Mediterranean may be able to achieve target

African countries far from target, such that target unlikely to be reached globally

**Black line** marks target level at 50% of 1990 prevalence rate

\* EME = Established Market Economies

# Progress to mortality target



Four regions appear to have reached target of halving 1990 mortality rate already (green)

SE Asia, E. Mediterranean and E. Europe may be able to achieve target

African countries far from target, such that target unlikely to be reached globally

**Black line marks target level at 50% of 1990 mortality rate**

\*EME = Established Market Economies

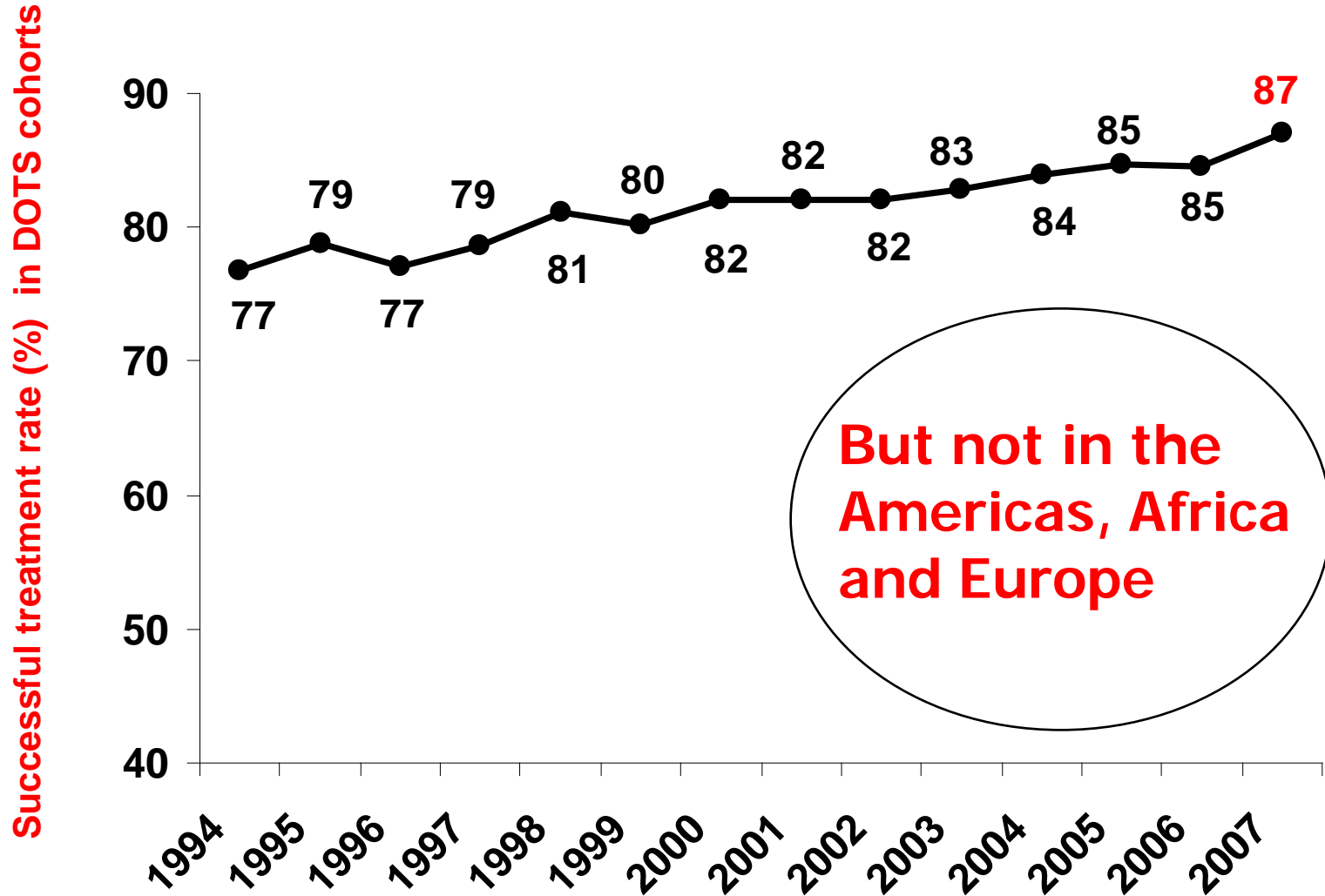
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# What about other targets?

- ◆ Treatment success rate
- ◆ TB/HIV and MDR targets
- ◆ Funding targets



# Treatment success target reached globally



# Global plan TB/HIV and MDR targets: 2008

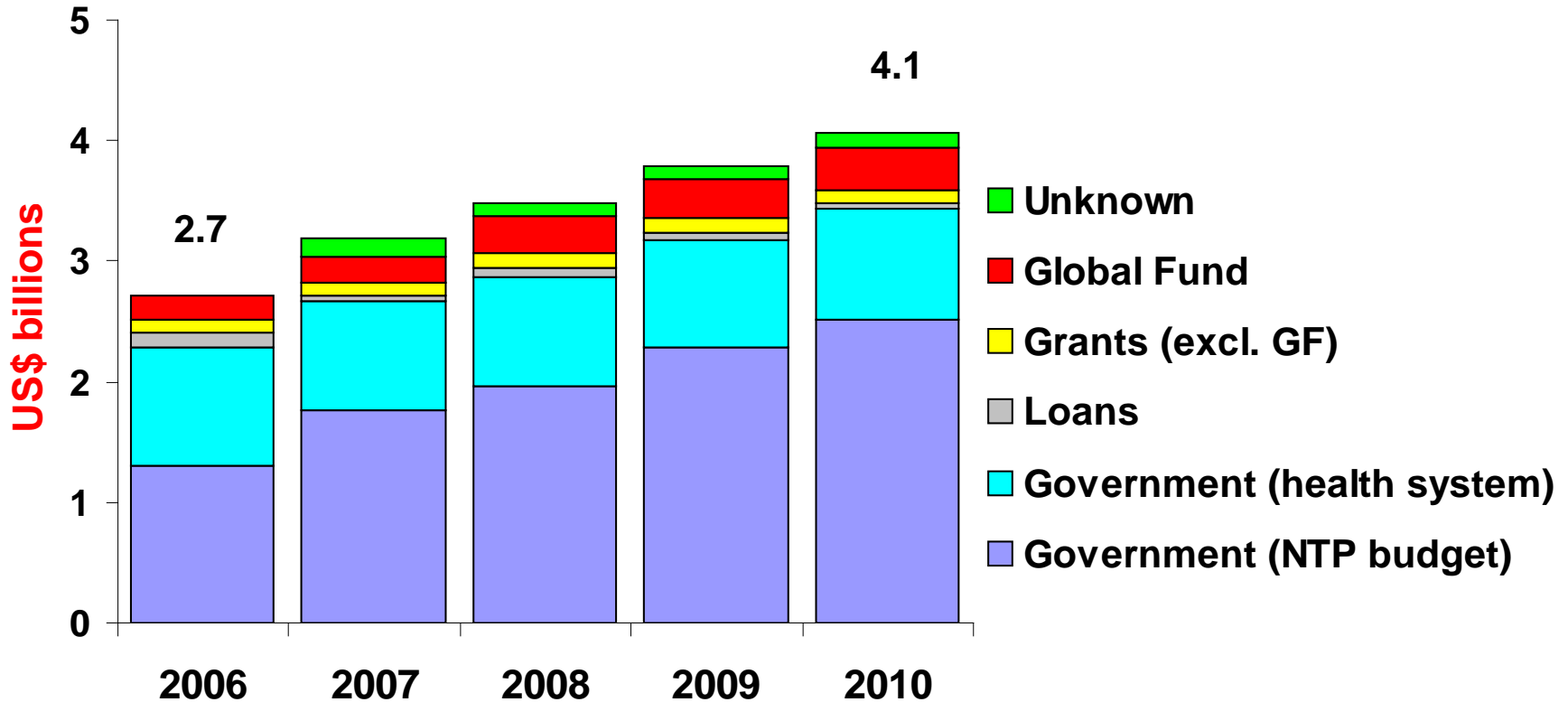
## Global plan target

- 2.3 million TB patients tested for HIV
- 300,000 started on ART
- 16 million PLHIV screened for TB
- 110,000 X/MDR cases treated

## Actual coverage

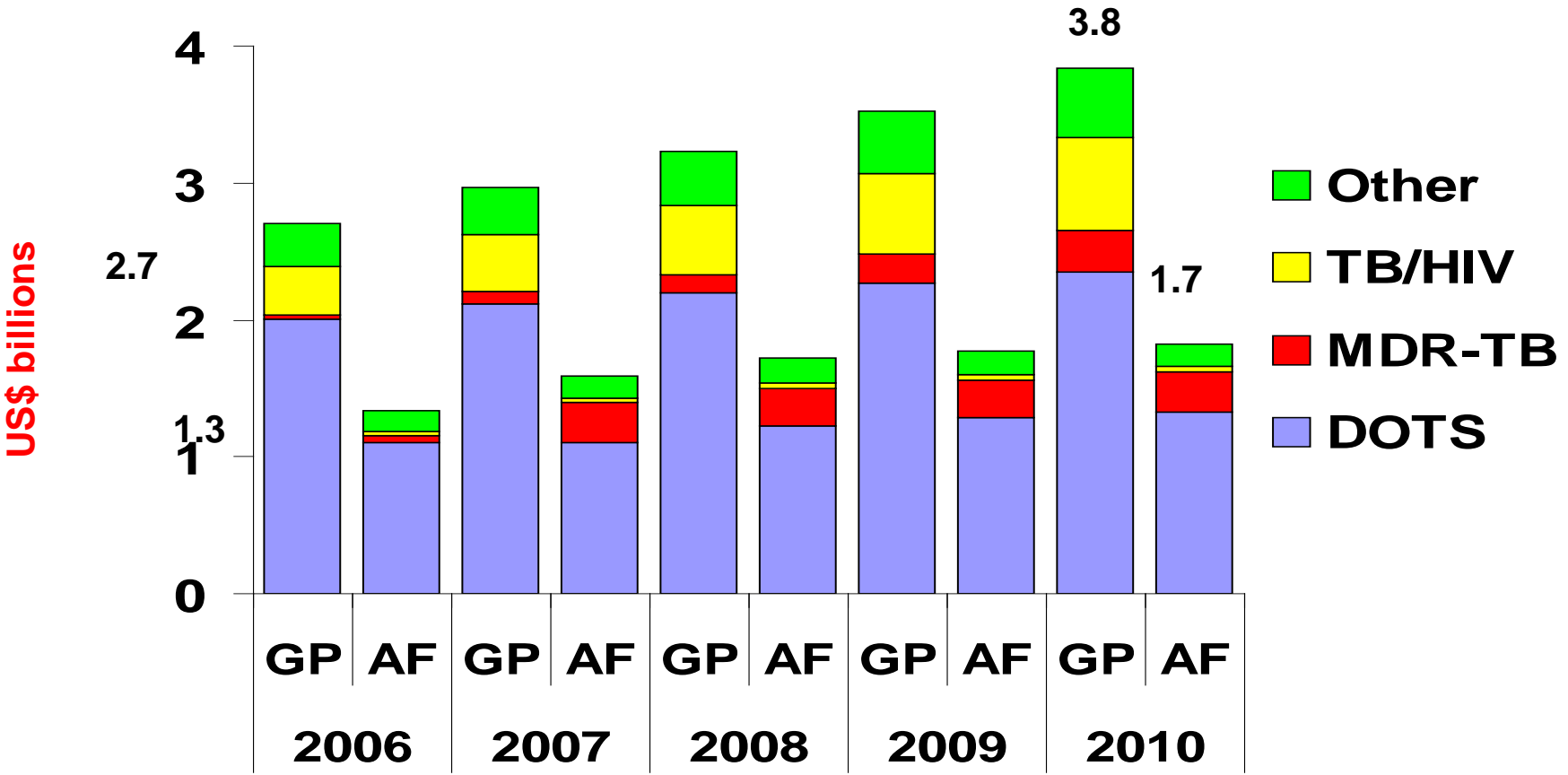
- 1,374,000 HIV tested  
(60% of the planned)
- 109,000 on ART  
(36% of the planned)
- 1,385,000 screened  
(8.7% of the planned)
- 30,000 cases notified  
(27% of the planned)

# Funding has increased



Data based on ~ 100 countries each year with ~ 94% estimated global cases  
*technical assistance and R & D not included*

# But falls short of Global Plan targets, except in E. Europe



Data based on ~ 100 countries each year with ~ 94% estimated global cases

In E Europe available funds (AF) exceeds Global plan (GP) targets

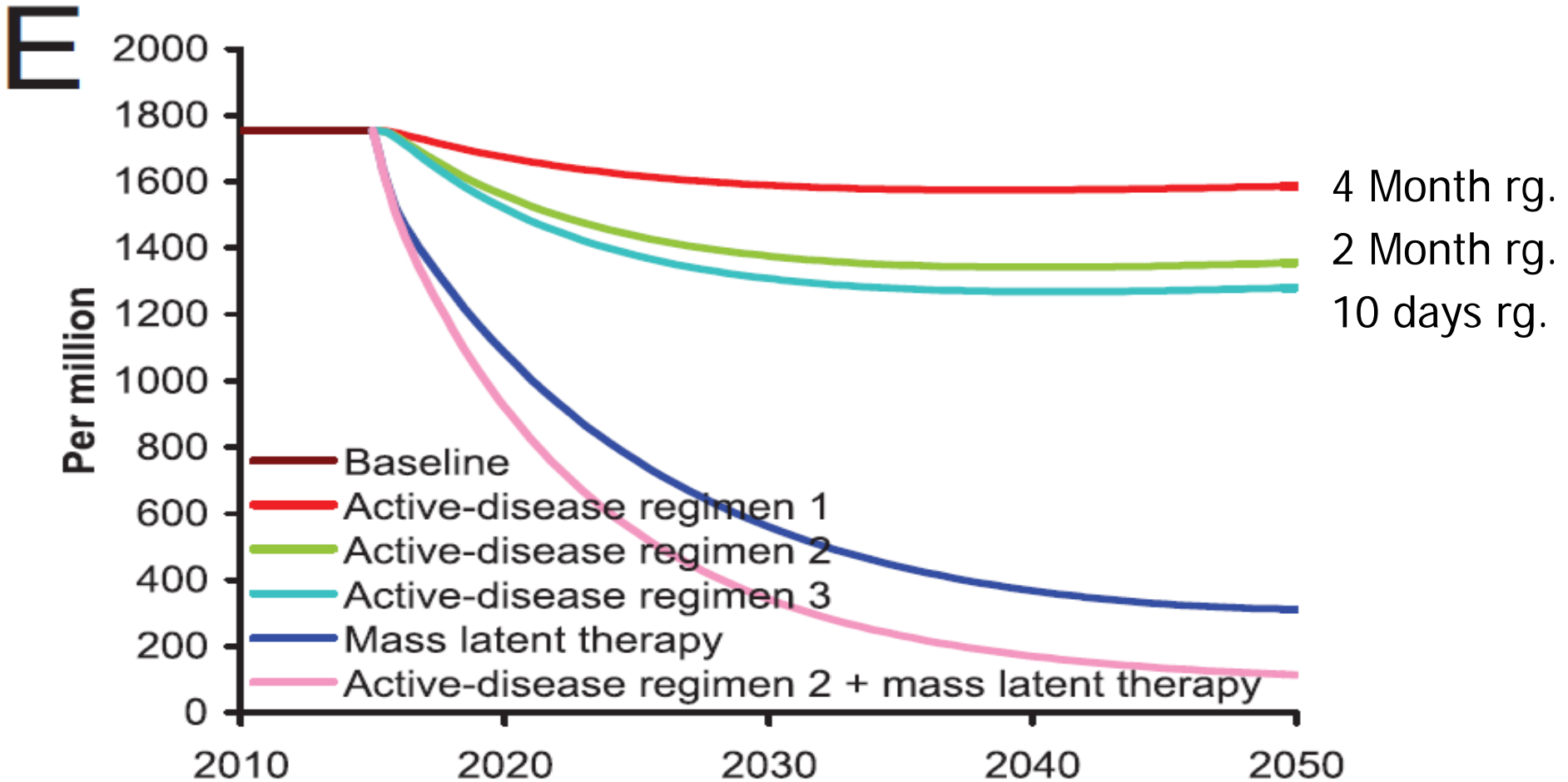
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Beyond the global TB targets OF 2015

TB elimination by 2050

(Incidence of active TB < 1 per million)

# Treating latent TB is crucial



(Incidence per million)

Proc Natl Acad Sci U S A. 2009 Aug 18;106(33):13980-5.

# Conclusion

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- Targets are in general on track in several regions but unlikely achievable globally.
- Incidence target has been achieved globally except in Africa with low HIV
- Mortality and prevalence targets are unlikely to be achieved in Africa
- Latent TB treatment with robust and new drug could be crucial for TB elimination