



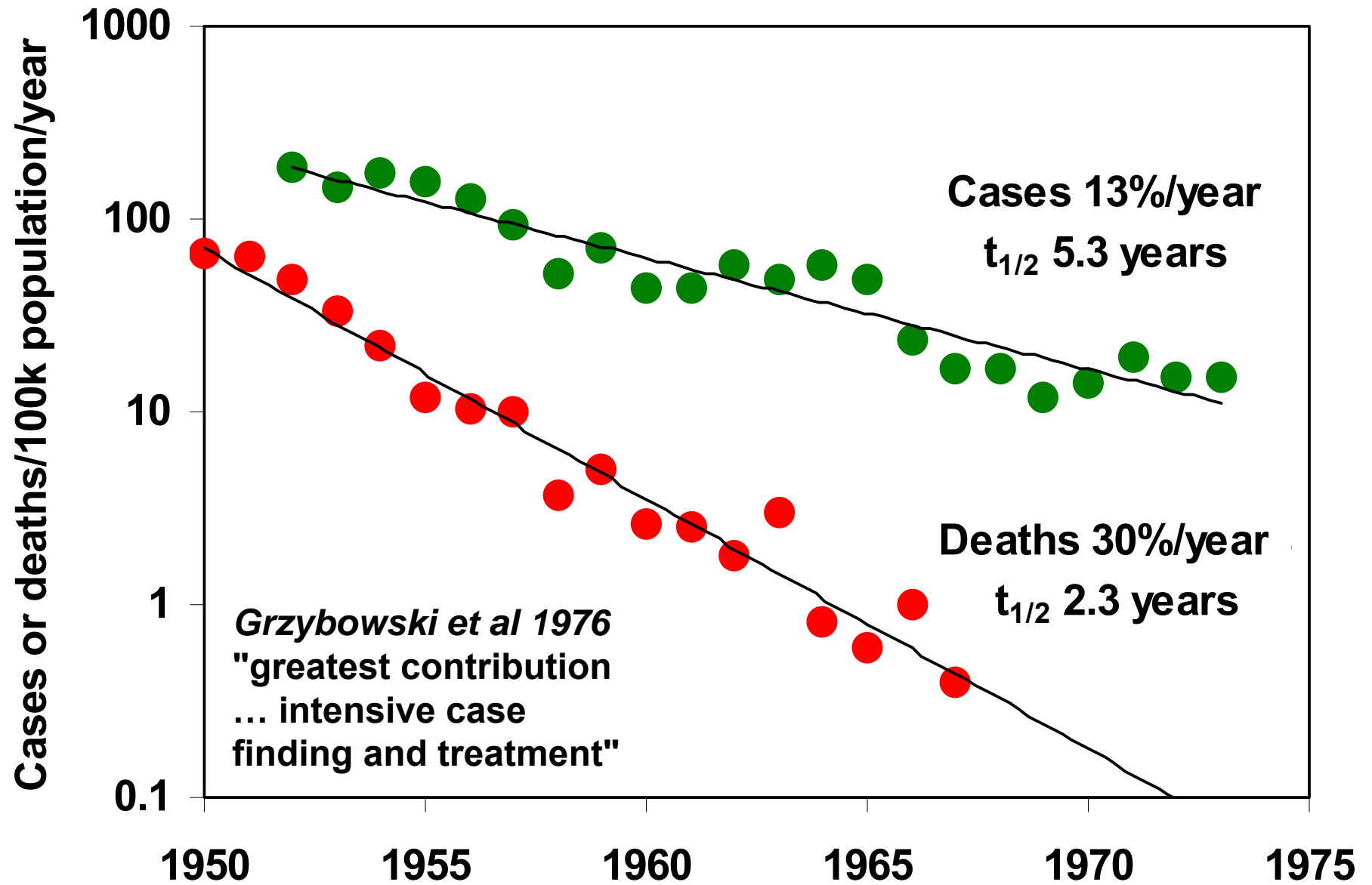
Current status of tuberculosis in the world

Christopher Dye



**World Health
Organization**

Tuberculosis in Alaskan Eskimos





World Health Assembly 1991

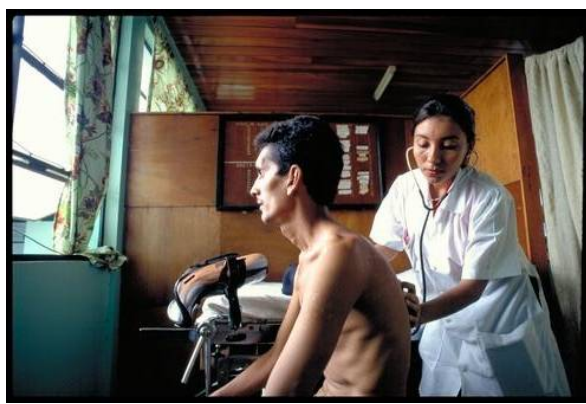
"...attain a global target of cure of 85% sputum-positive patients under treatment and detection of 70% of cases by the year 2000"

Millennium Development Goals Indicators

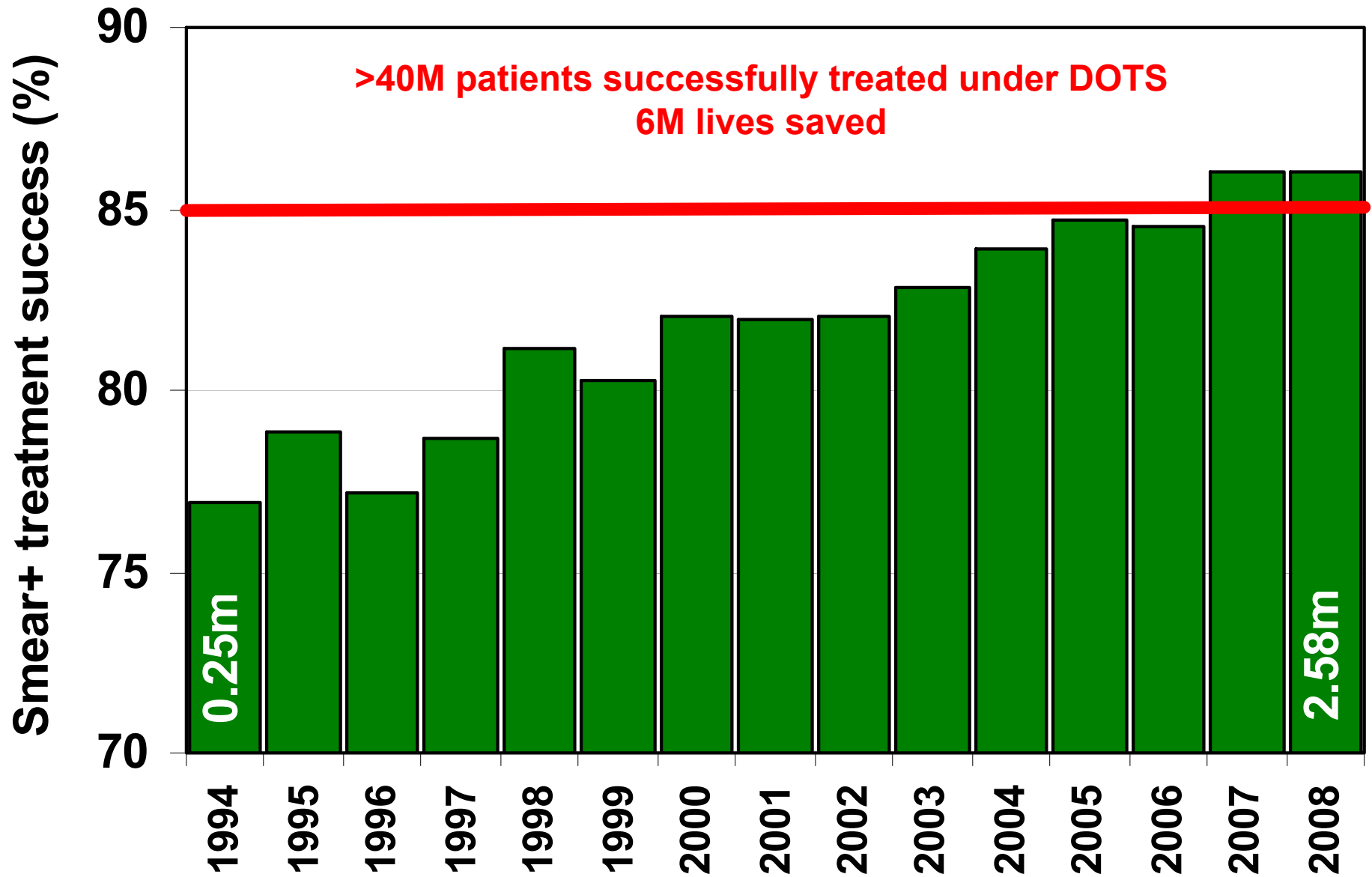
The official United Nations site for the MDG Indicators



Goal 6
Combat
HIV/AIDS,
malaria &
other diseases

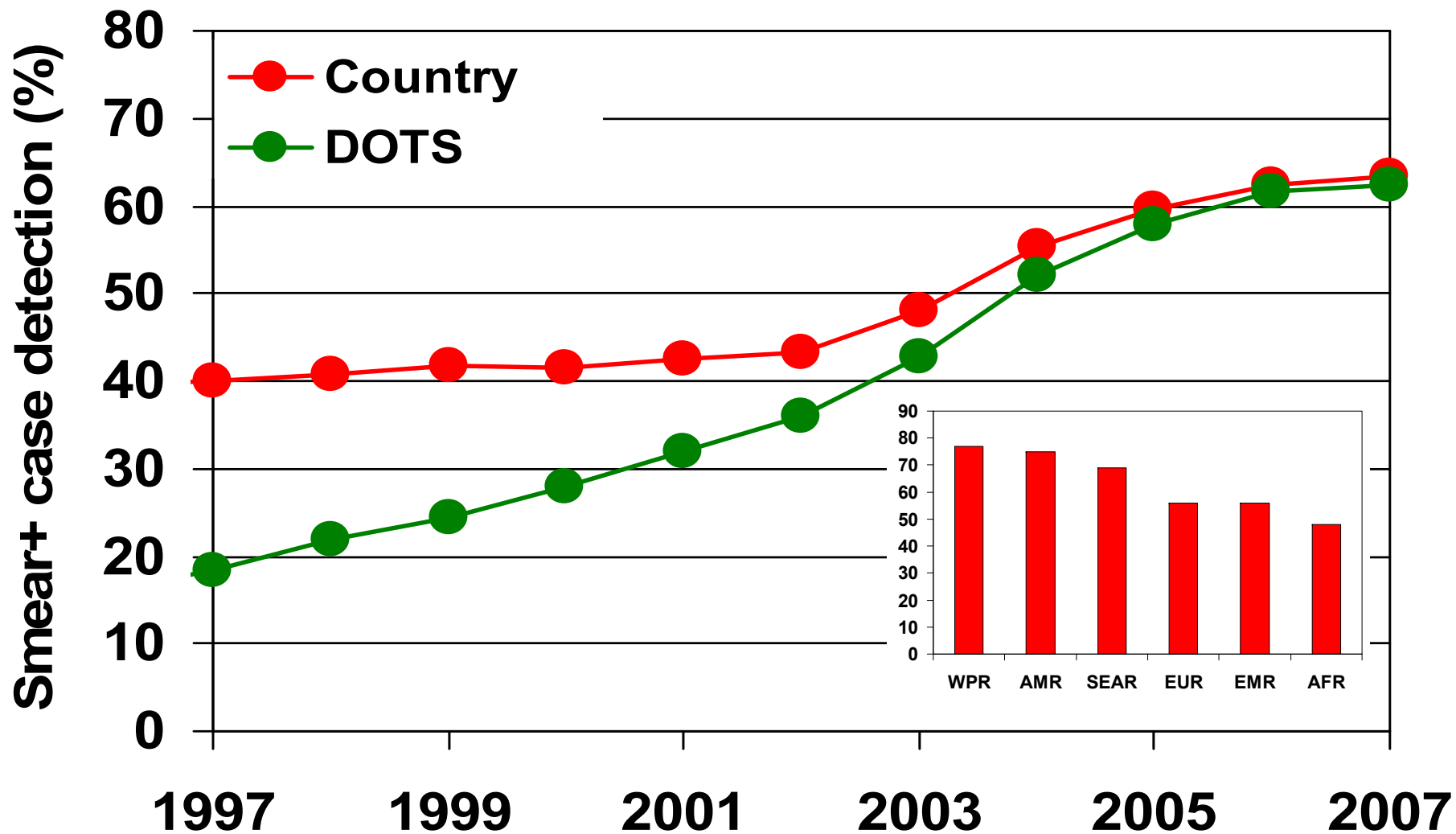


Treatment success reaches 85% target



Case detection worldwide

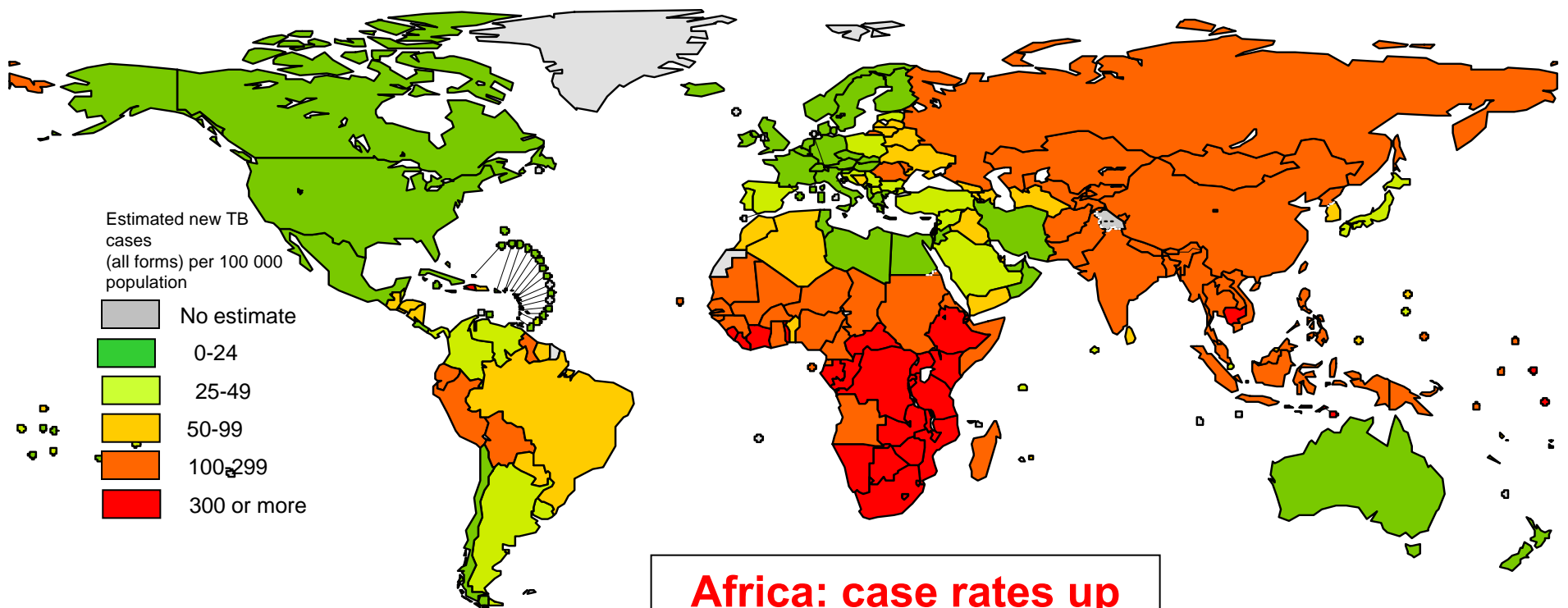
70% target met in Americas & W Pacific



9.4m cases and 1.7m deaths in 2009

World: case rates rising during 1990s, cases still slowly increasing

Europe: case rates up by 40% during 1990s, now stable or falling slowly

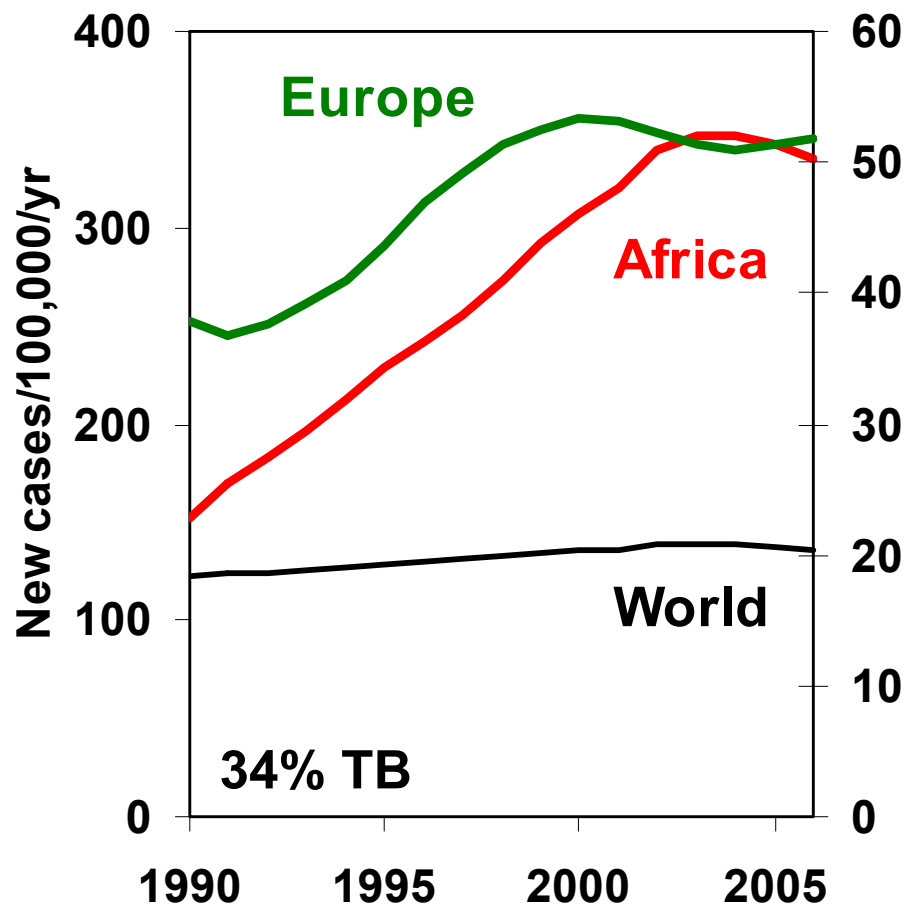


Africa: case rates up by 200+% during 1990s, now falling

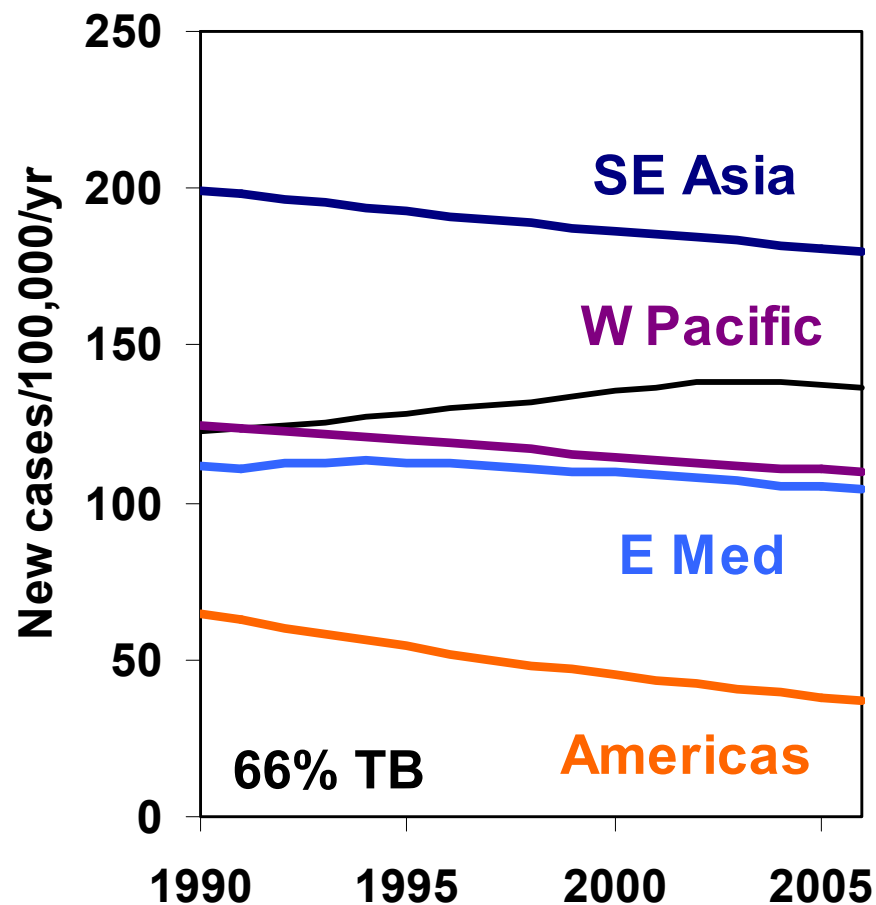


TB case rate stable or falling after epidemics peak in **Africa** and **Europe**

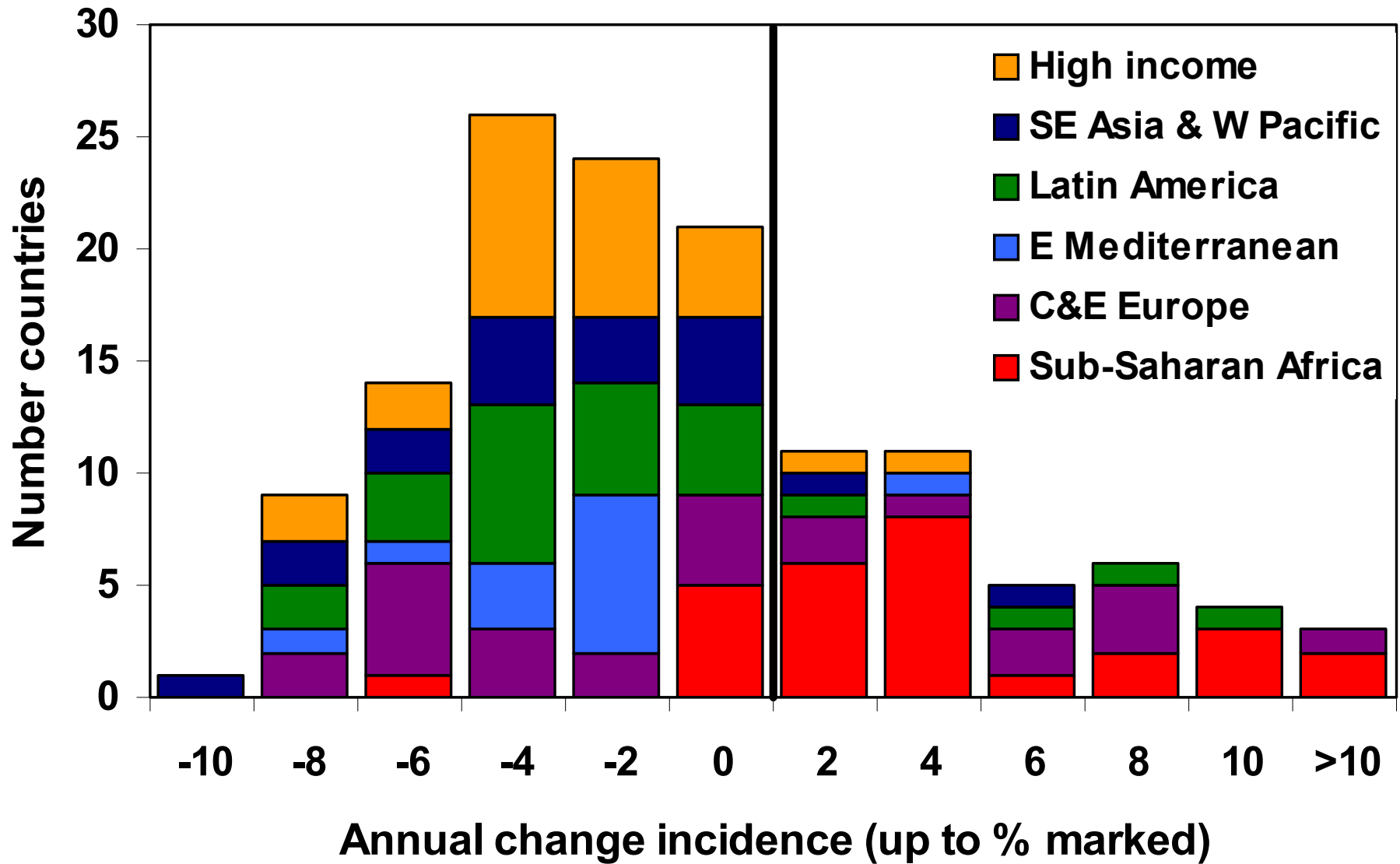
Going up



Going down



TB incidence is falling slowly in 95 of 135 countries, 1996-2005



Transmission

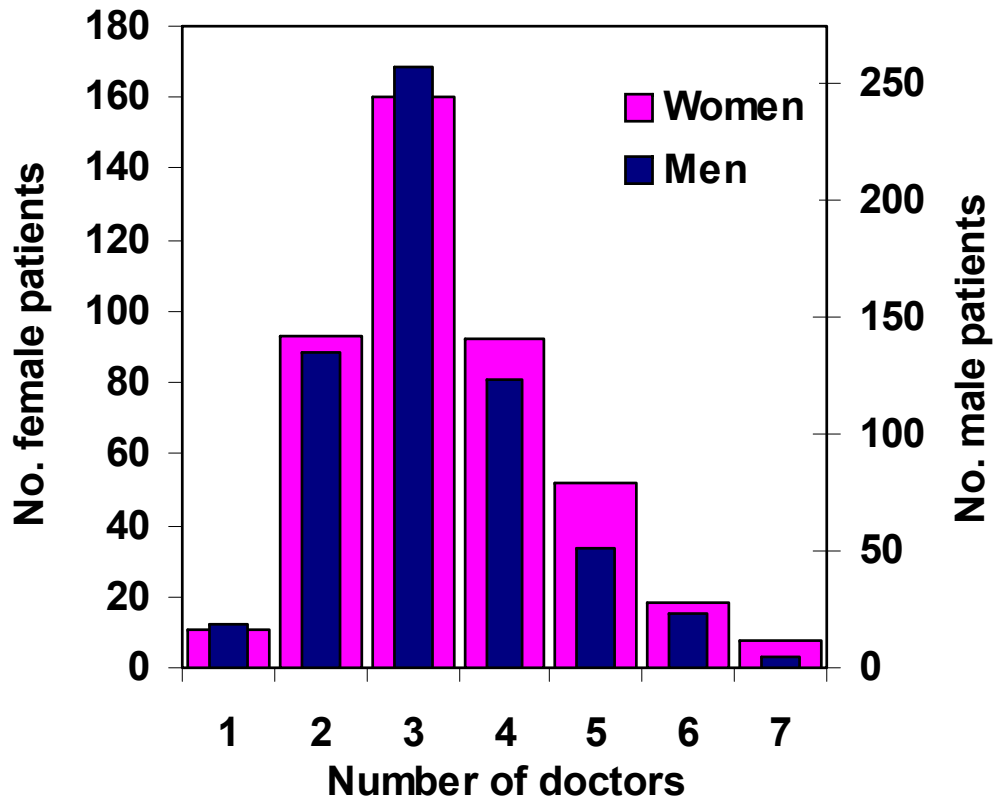
disease → infection



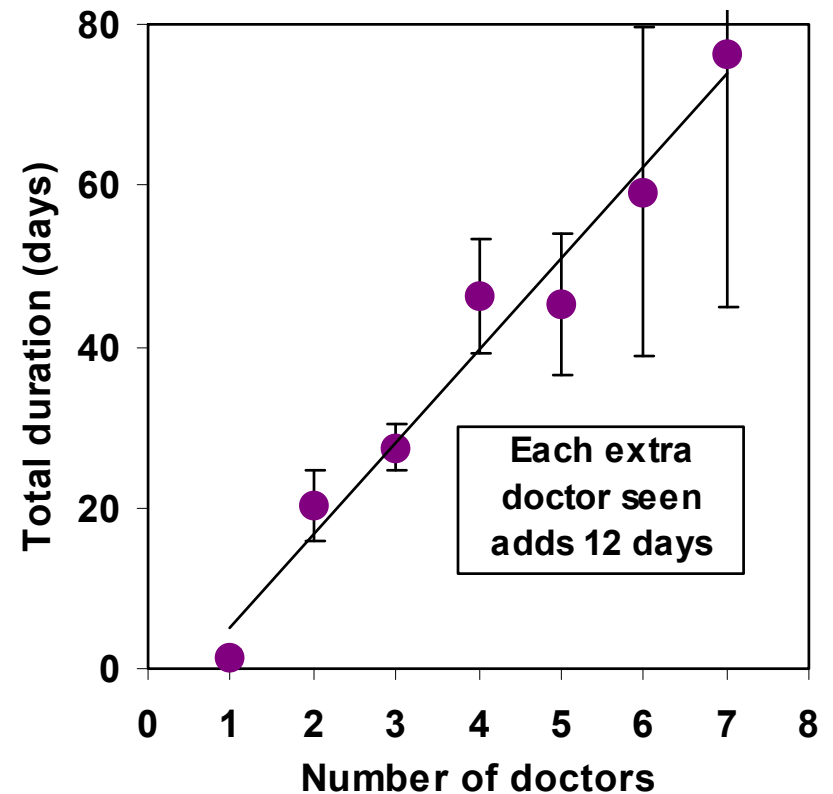
Doctors and delays, Bangalore



No. doctors seen by TB patients



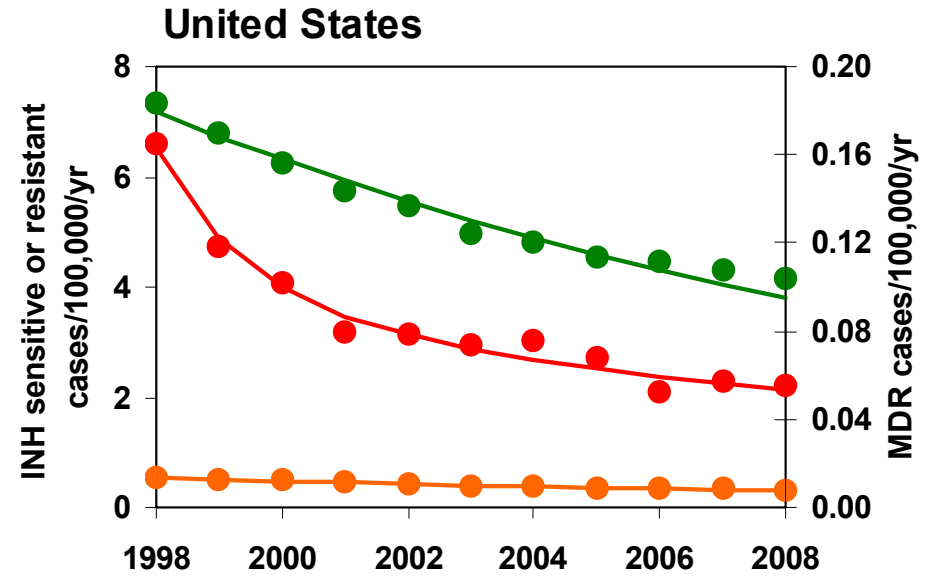
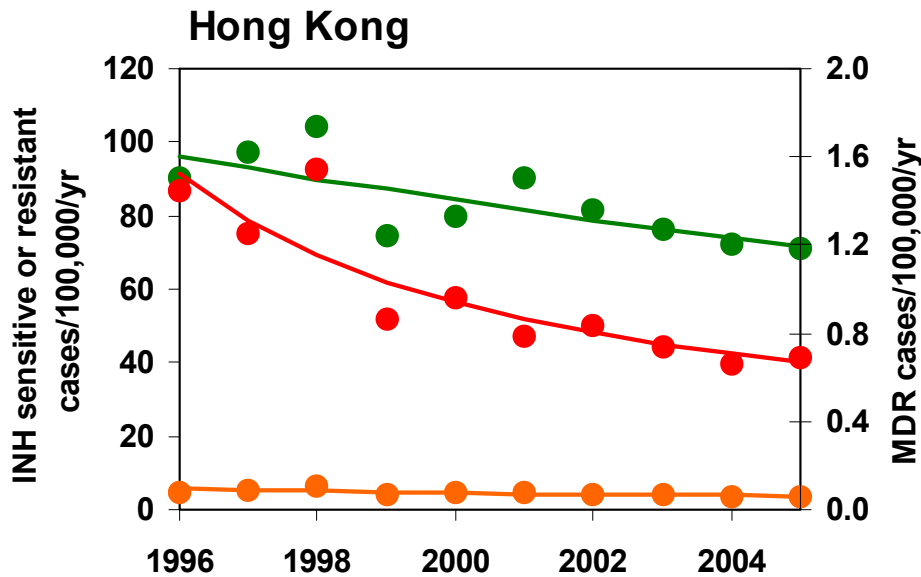
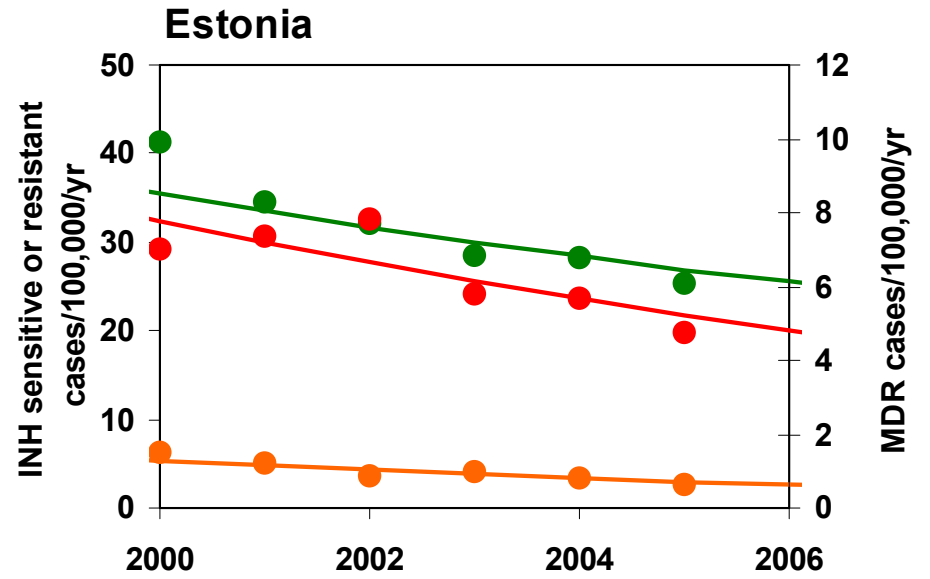
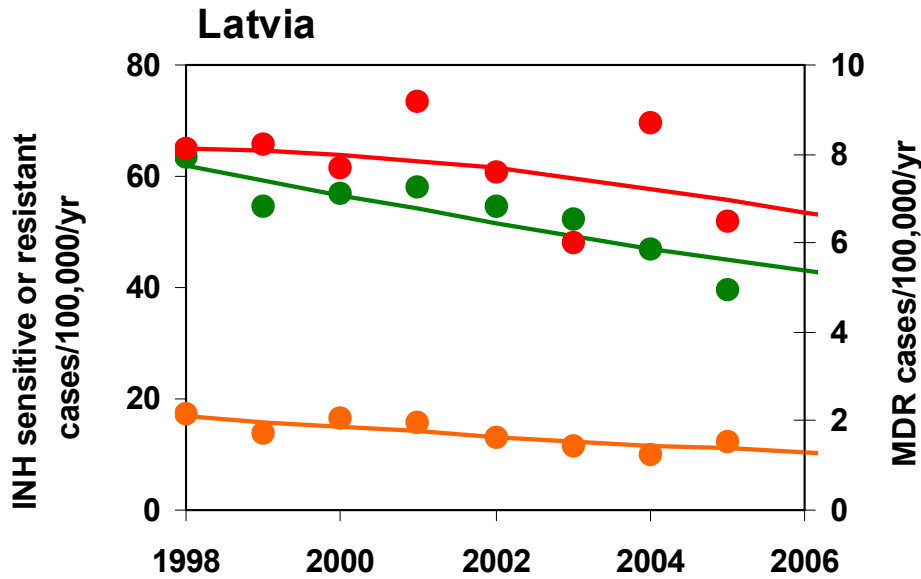
More doctors, longer treatment



TB cases in high-burden countries still infect many other people

Country	Risk of infection (%/yr)	Infections per case	Infections per sm+ case
India	1.5	8.9	20.1
Philippines	2.3	7.9	17.6
China	0.7	7.1	15.9
Indonesia	1.0	4.4	9.8
Cambodia	2.1	4.2	9.4
UR Tanzania	0.7	2.3	5.7

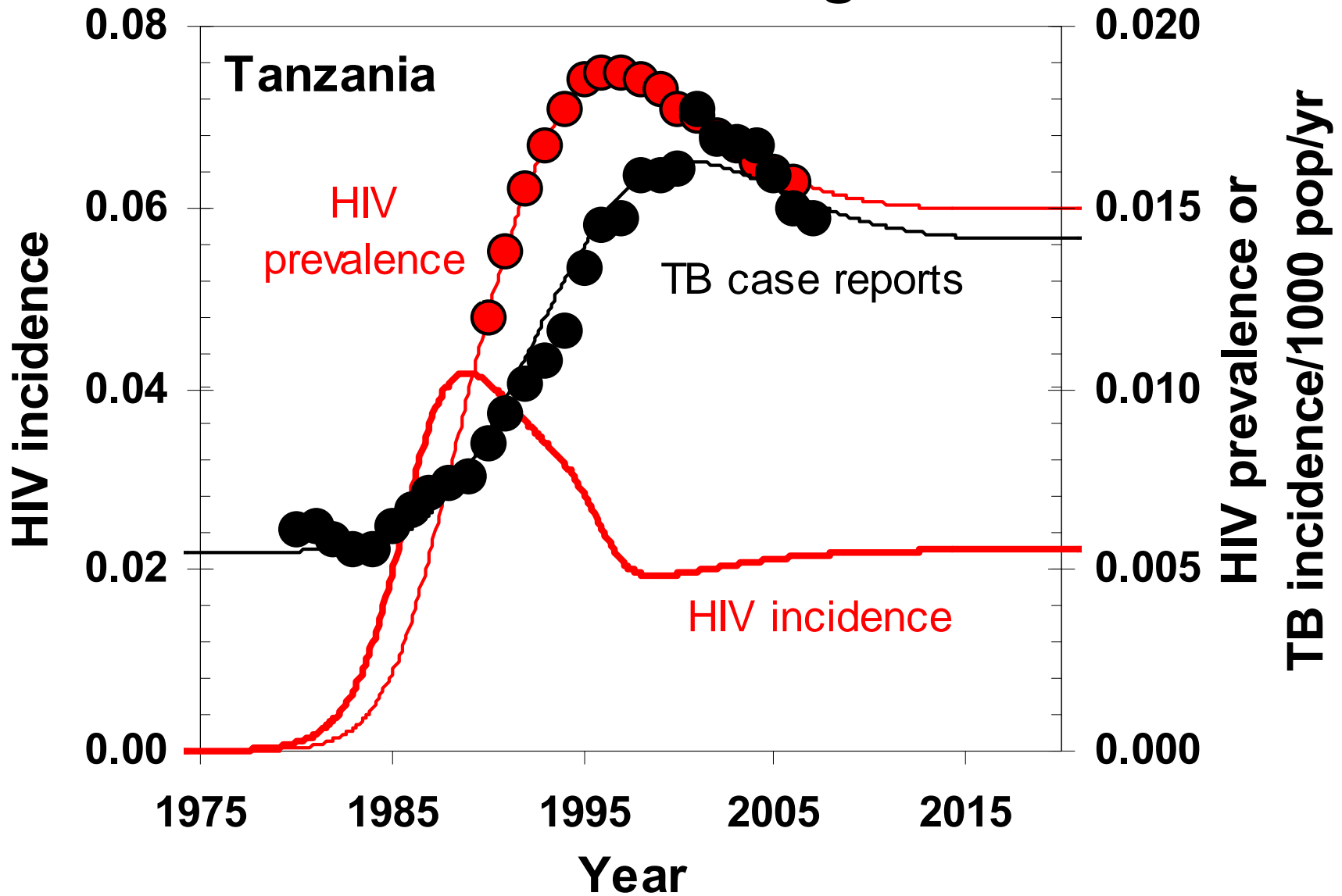
Persistent transmission of MDR-TB



Progression

infection → disease

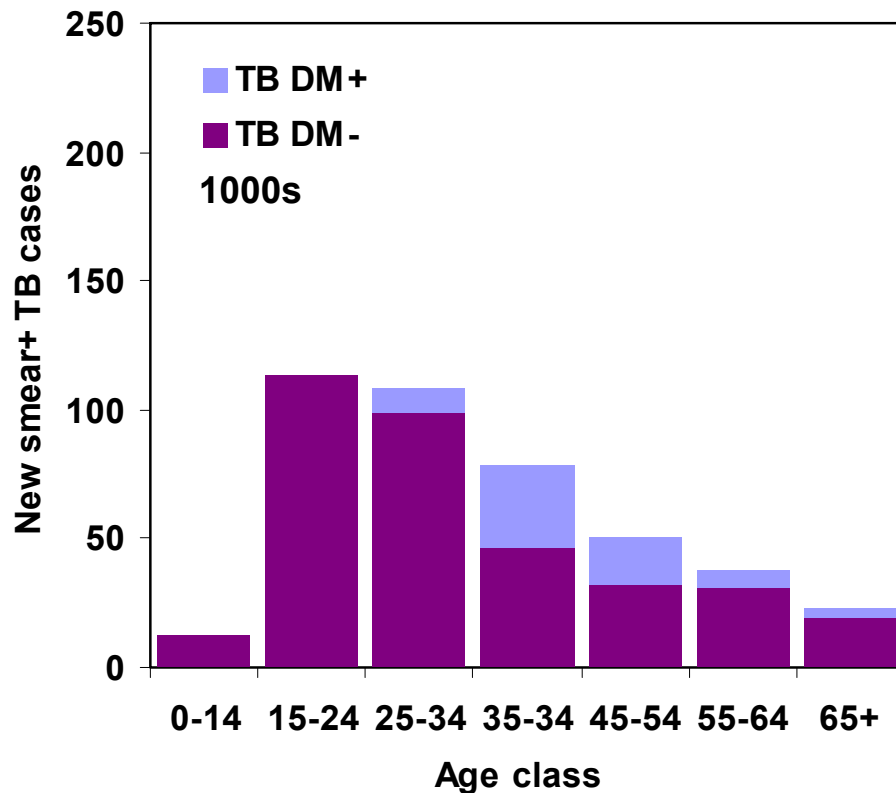
HIV epidemics have peaked, so TB-HIV is falling too



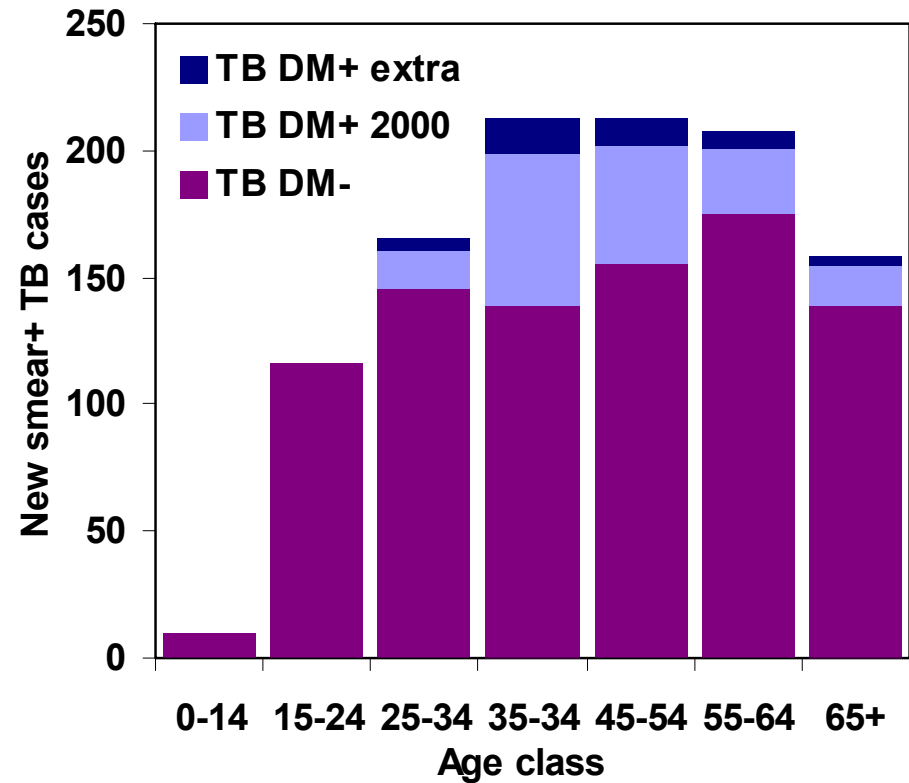
TB and diabetes: a demographic problem



TB and diabetes 2000

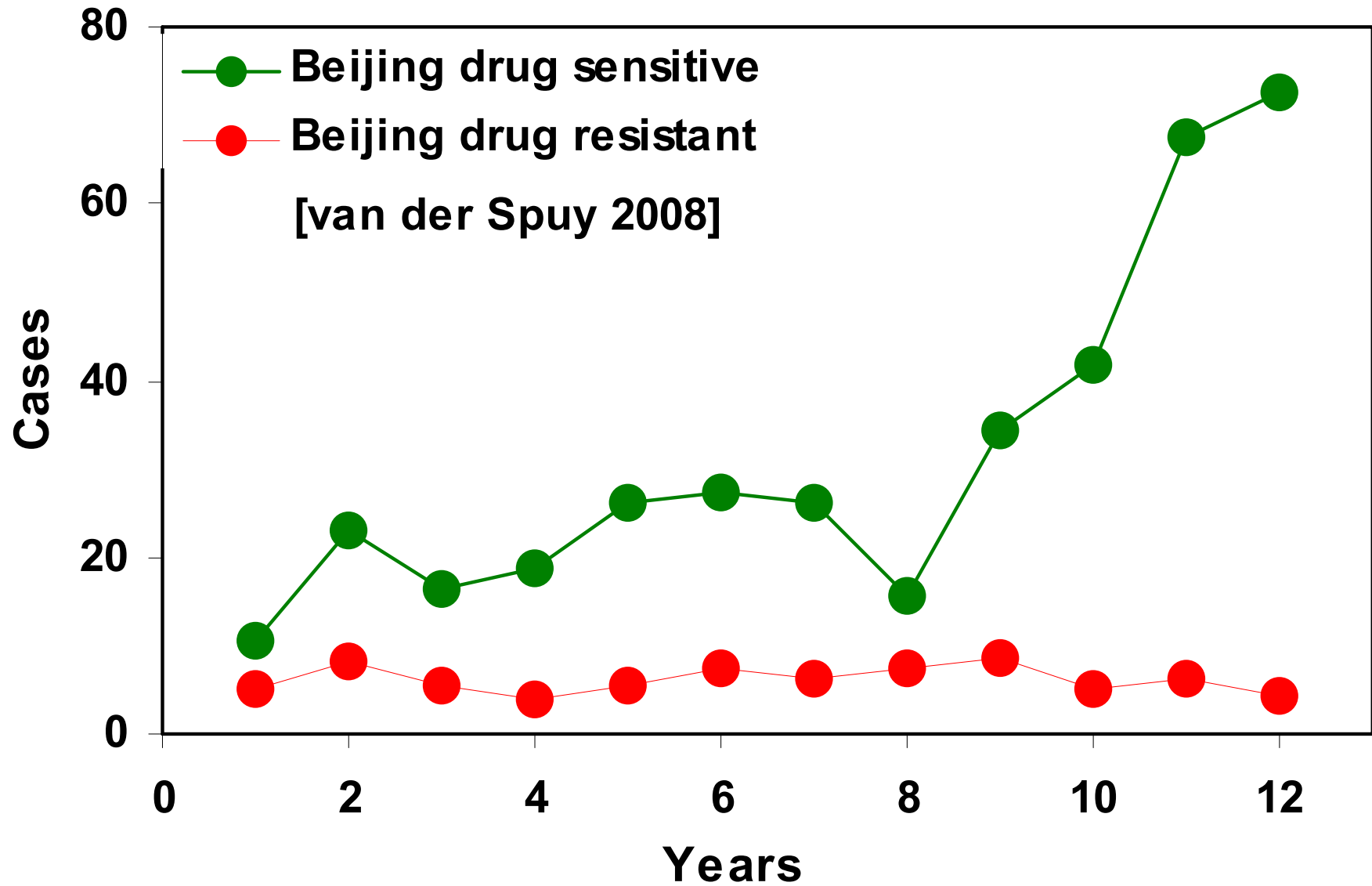


TB and diabetes 2050

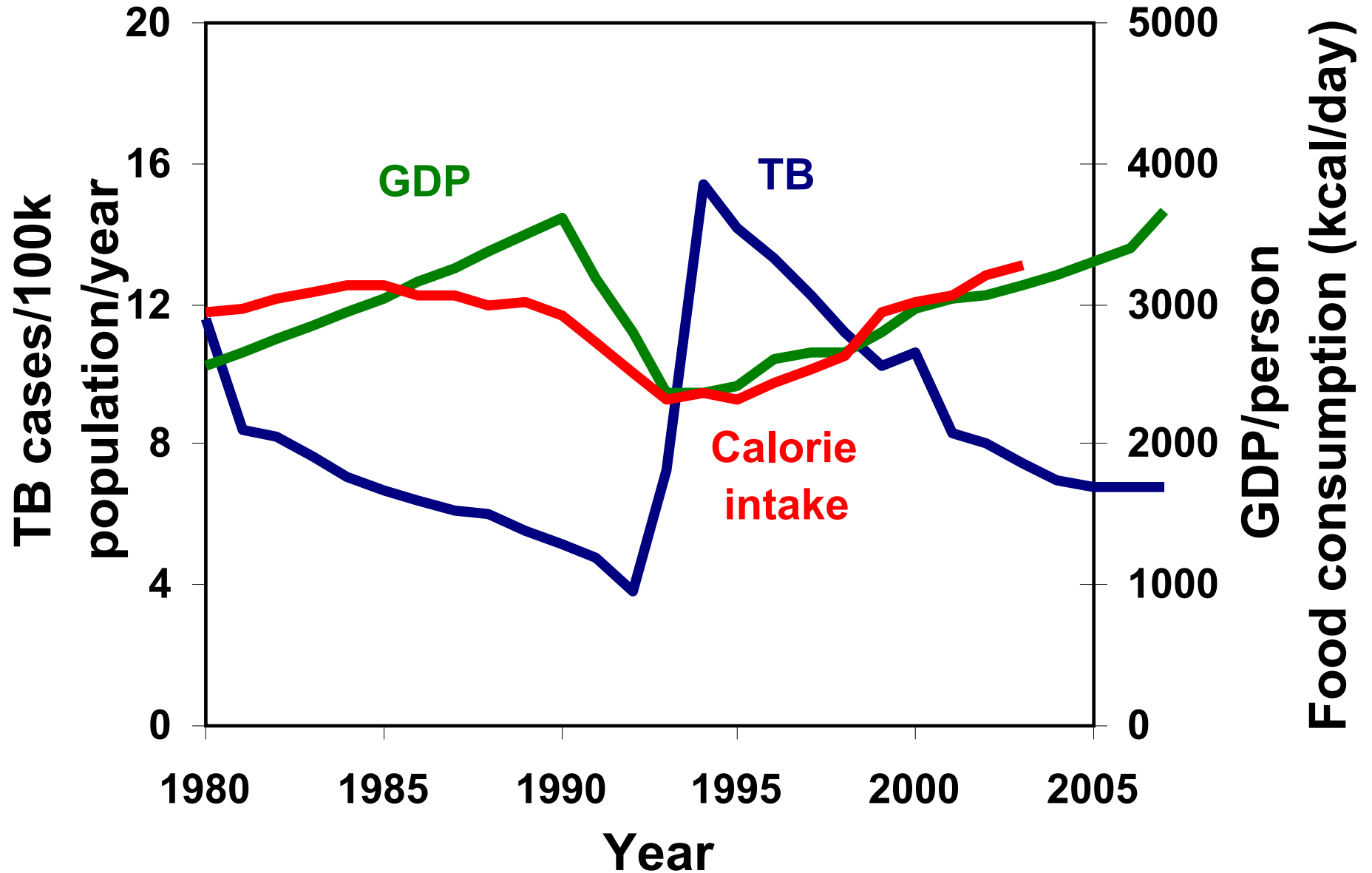


**Transmission
or
Progression?**

TB strains with different dynamics in Cape Town

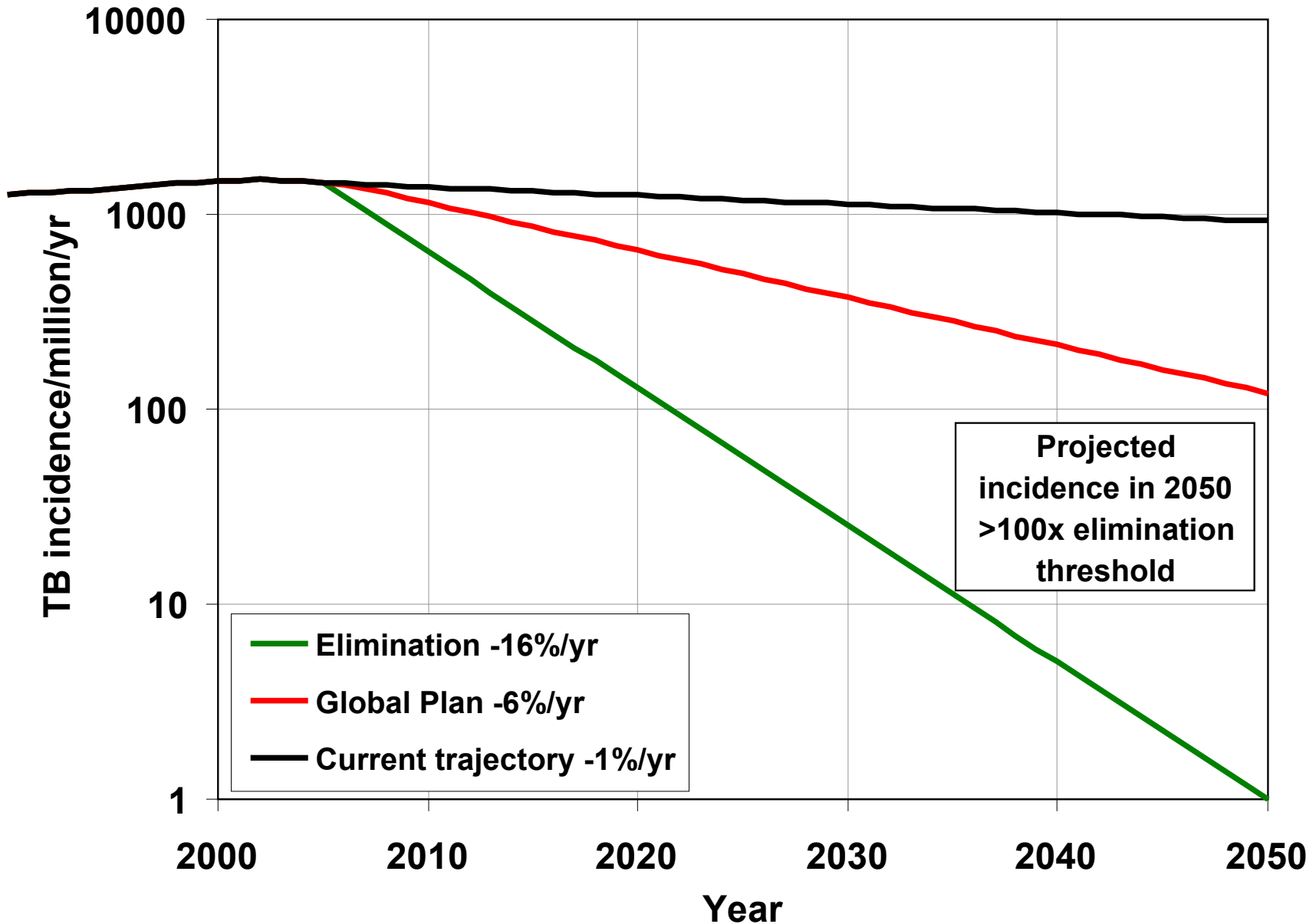


Economic shock and TB in Cuba

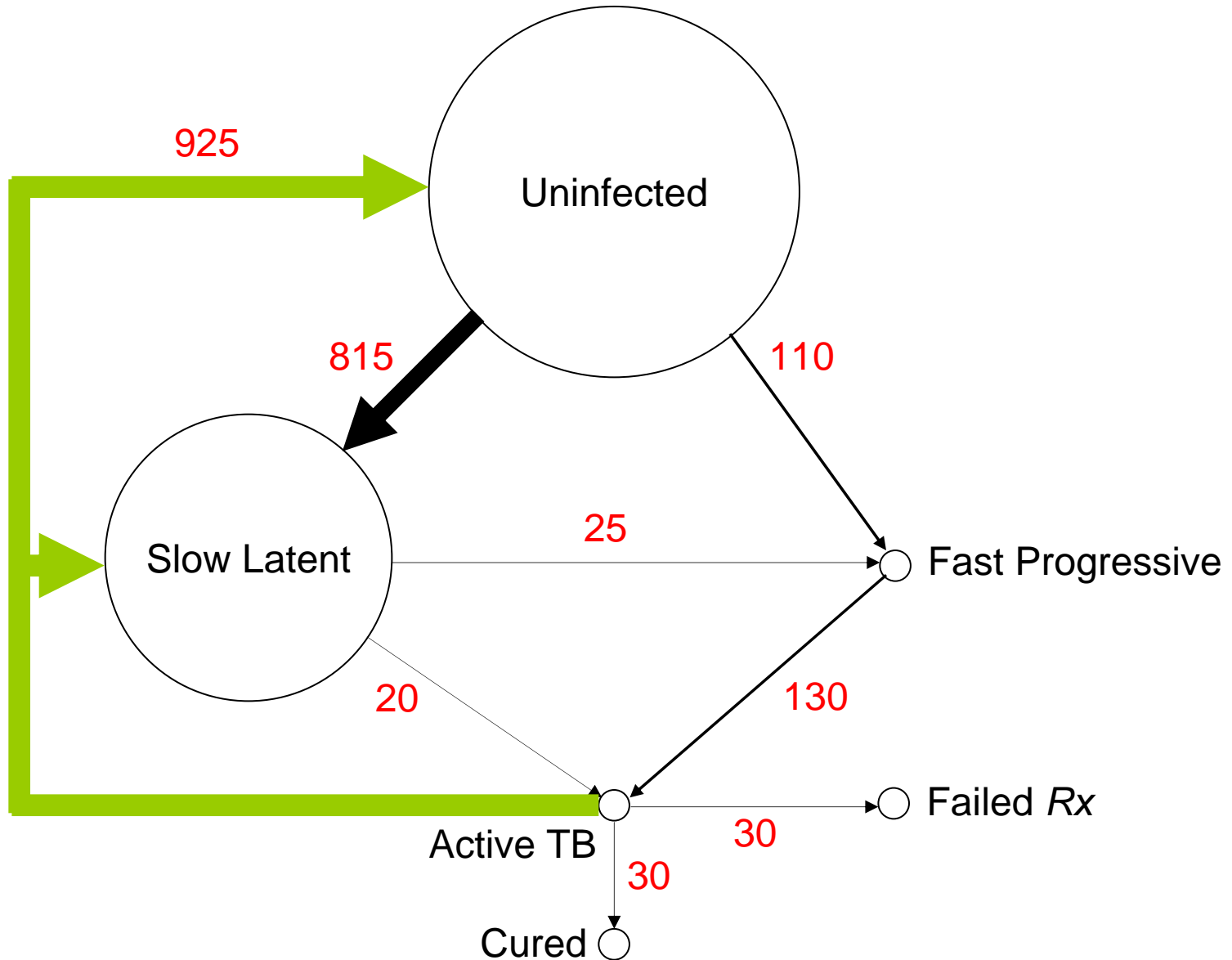


Prospects for Control

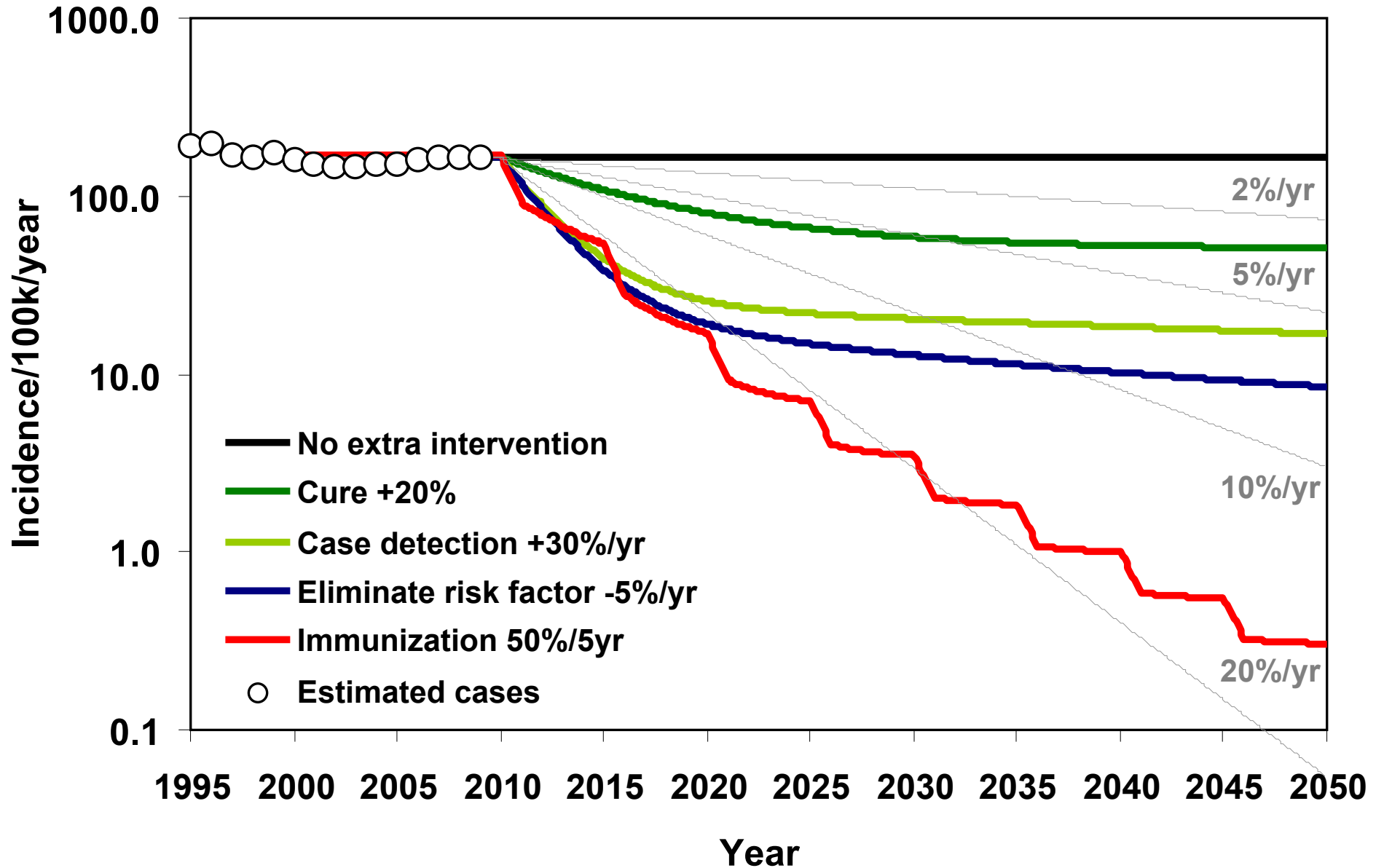
Global Plan will not eliminate TB by 2050



TB: infection stock and flow

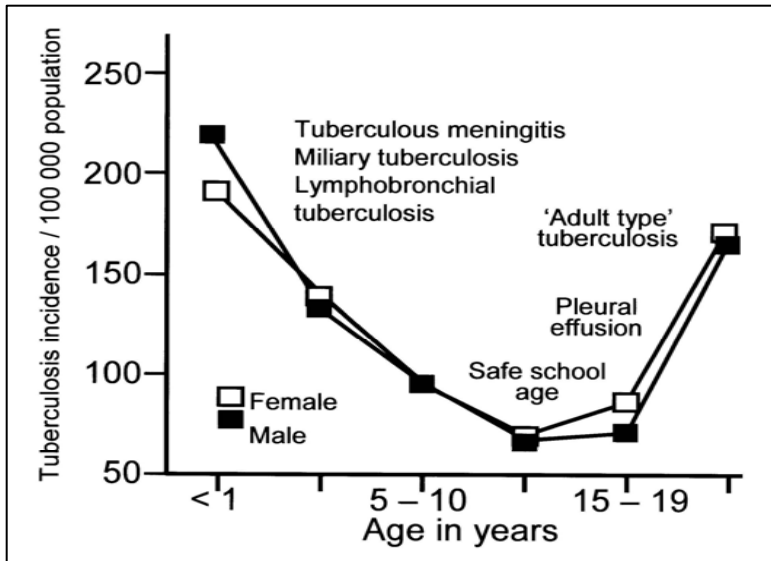


Potential impact of TB control in India

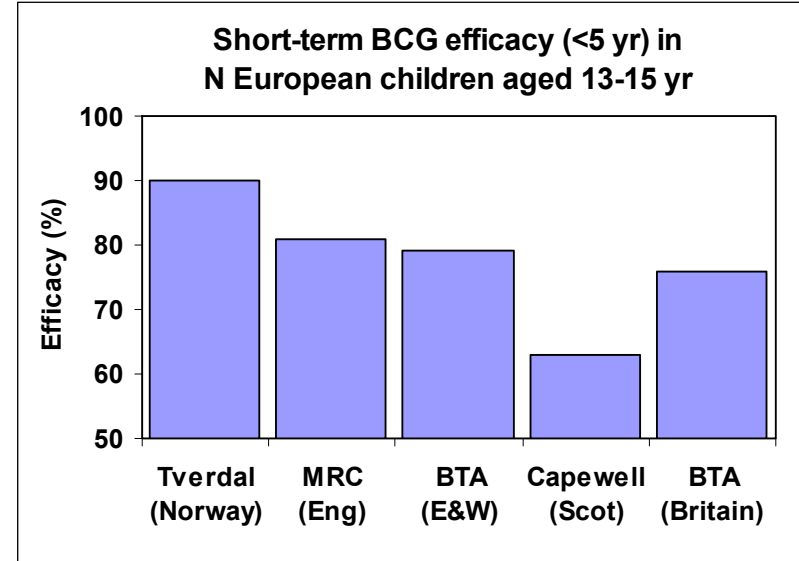


Vaccination: reasons to be hopeful

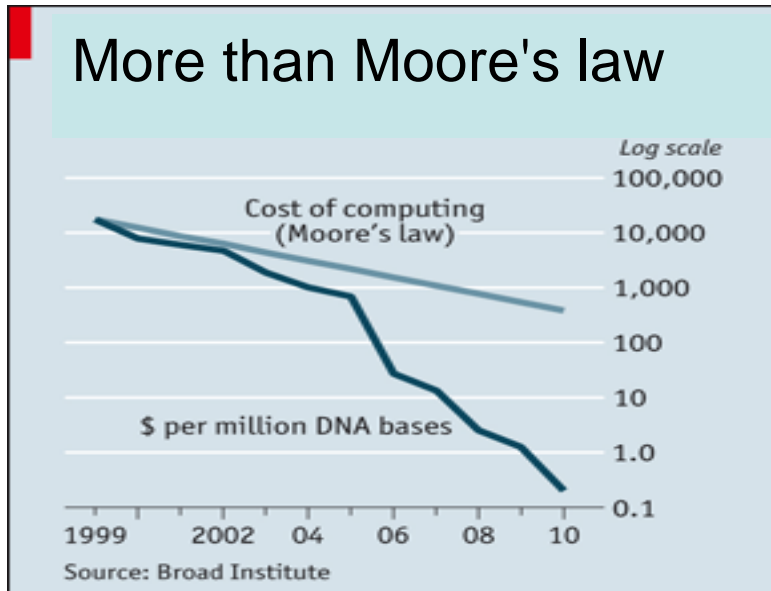
Strong protective factors



BCG works in selected populations



Faster cheaper technology



Vaccines are deliverable

