

Internationell tuberkulosepidemiologi

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Today's presentation

- Some facts on Global TB epidemiology
- The situation in Europe
- UN Millennium develop goals
- Epidemiology of drug resistant TB

Tuberculosis burden

- 1/3 of the world's population infected
- 9-10 million new cases, 1.7 million deaths/year
- Most cases in Asia and Sub Saharan Africa
- Increasing in parts of Europe
- TB/hiv dual infection and MDR/XDR-TB are increasing public health threats

FIGURE 1.2
Estimated TB incidence rates, by country, 2007

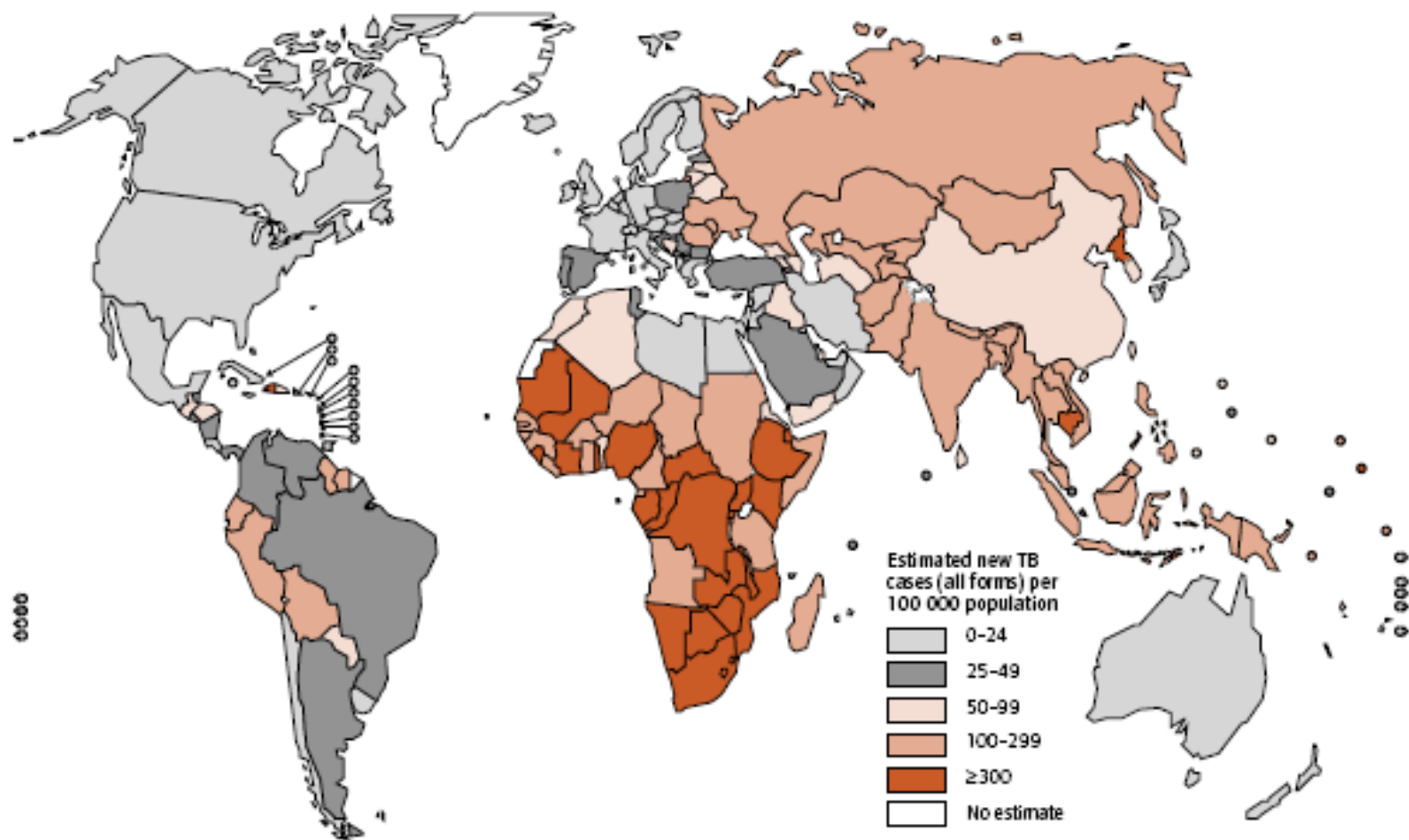
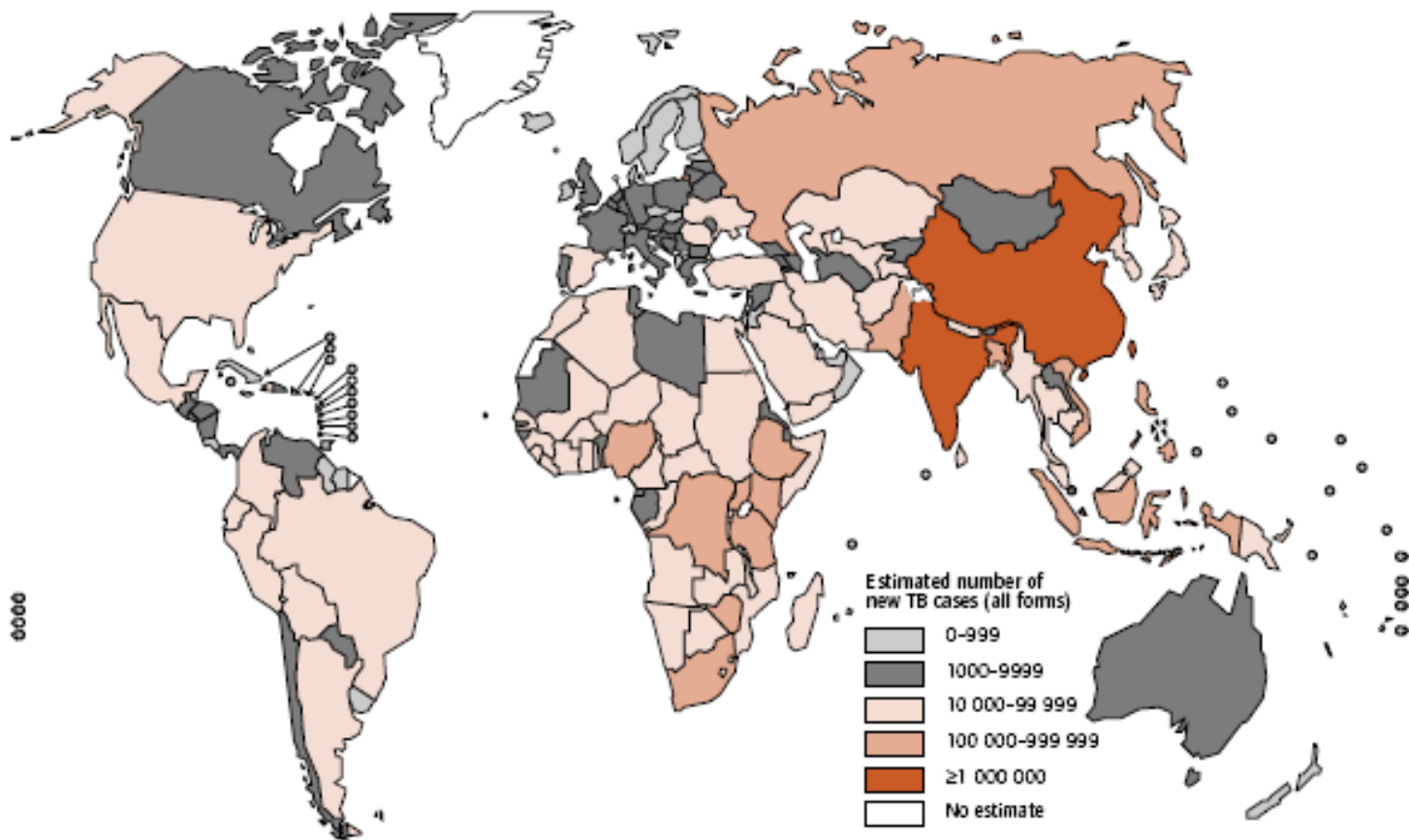
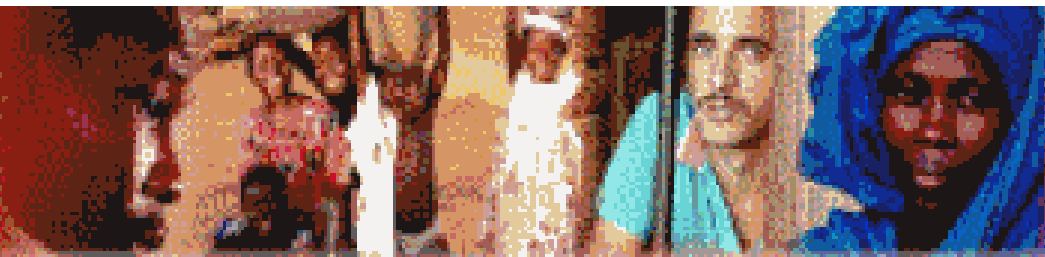


FIGURE 1.1
Estimated number of new TB cases, by country, 2007



ABOUT TB



TB: Global Incidence

- **TB infects both rich and poor people.**
- **But 80% of the global TB burden is carried by just 22 countries, already severely impacted by malnutrition, poor sanitation and poverty.**

- **Africa**

- Nigeria
- Ethiopia
- South Africa
- DR Congo
- Kenya
- UR Tanzania
- Uganda
- Mozambique
- Zimbabwe

- **Asia**

- India
- China
- Indonesia
- Bangladesh
- Philippines
- Pakistan
- Viet Nam
- Thailand
- Myanmar
- Afghanistan
- Cambodia

- **Europe / Americas**

- Russian Federation
- Brazil

Source: WHO



DOTS CURED ME. IT WILL CURE YOU TOO!

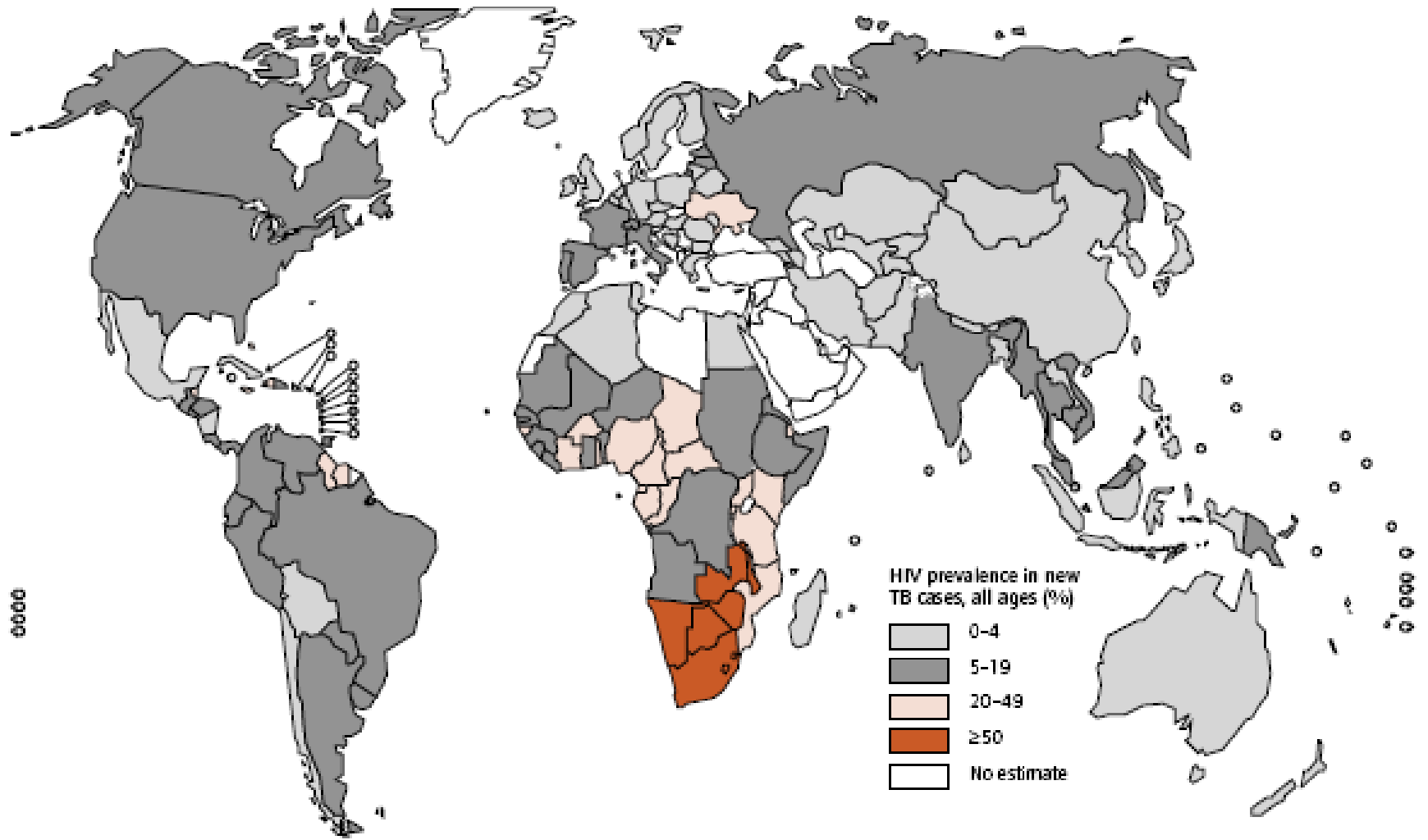
WORKING TOGETHER



AGAINST US

FIGURE 1.3

Estimated HIV prevalence in new TB cases, 2007



UN Millennium Development goals

TB targets 2015:

1. To have halted and begun to reverse incidence
 - current assessment: on target - except Europe
2. halving prevalence and deaths by 2015 in comparison to 1990
 - current assessment: not on target – Africa and Europe far behind

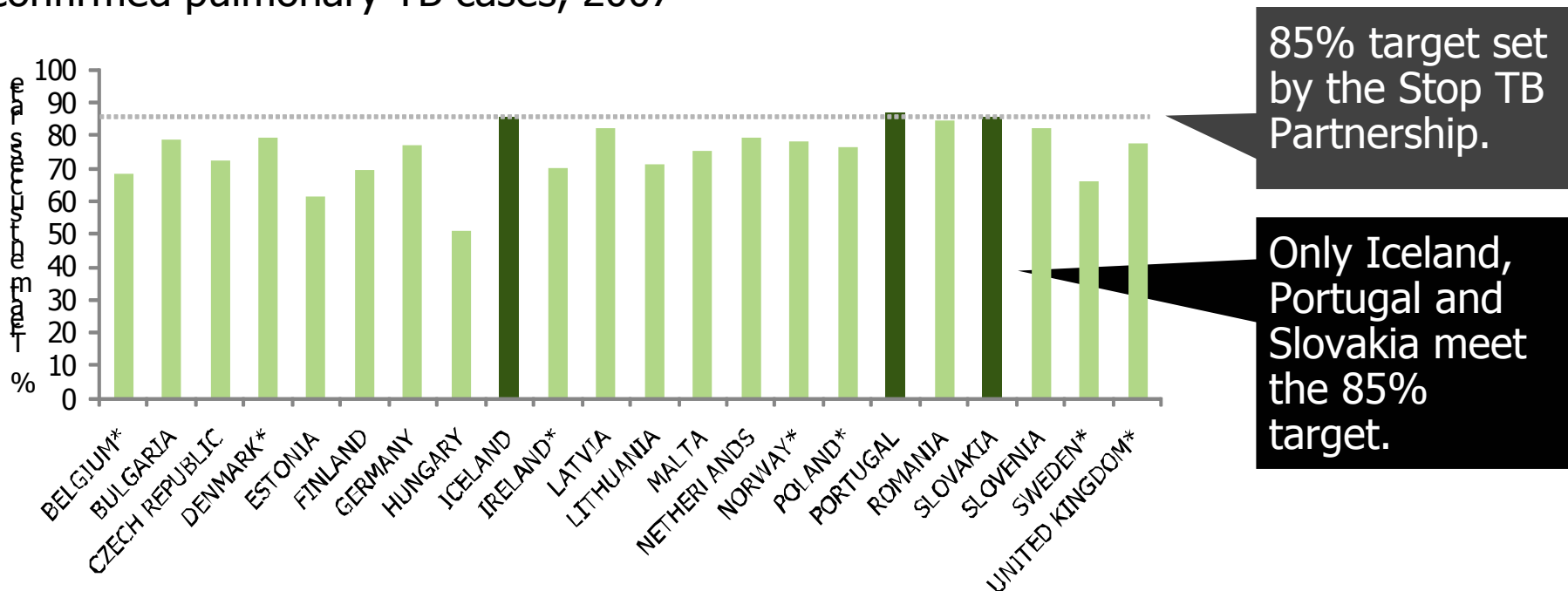
Europeisk tuberkulosepidemiologi

- Data från ECED inför Internationella TB-dagen 24 Mars.

The treatment success rate in the EU/EEA is too low to meet global targets

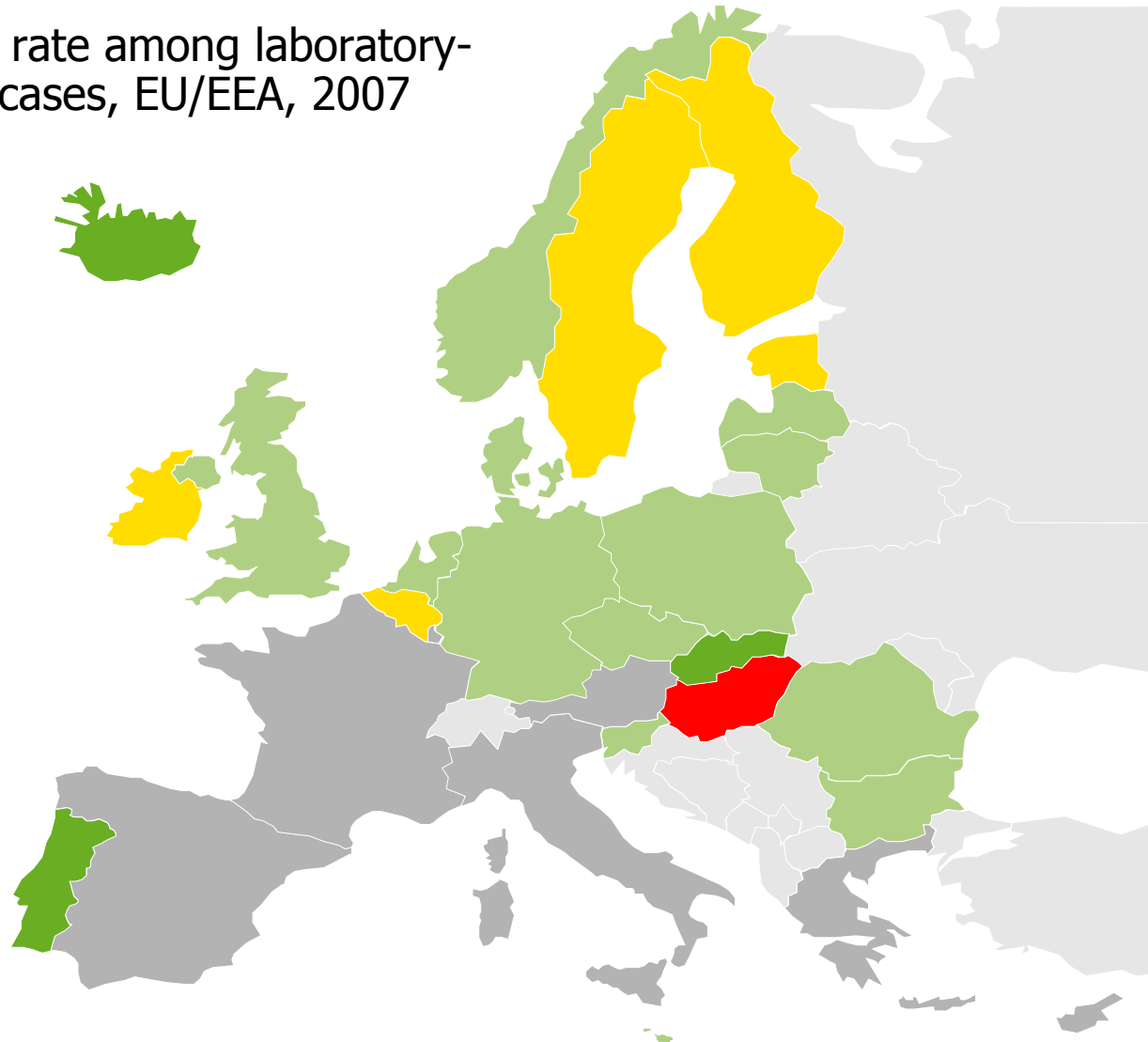
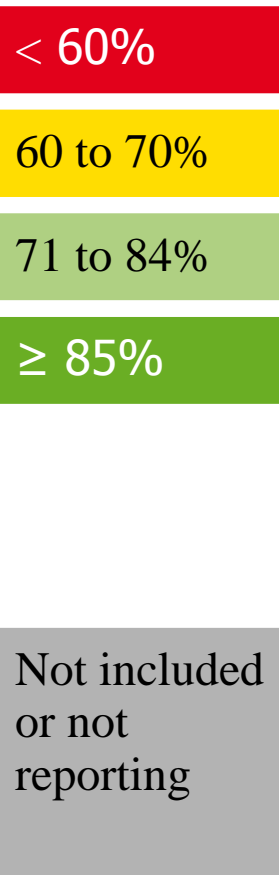
- Reported treatment success rates in the EU/EEA are far below the 85% target set by the WHO World Health Assembly. Only three EU/EEA countries recorded a treatment success rate over 85% or more for new laboratory-confirmed pulmonary TB cases.

Figure 1a: Treatment success rate among new laboratory-confirmed pulmonary TB cases, 2007



The treatment success rate in the EU/EEA is too low to meet global targets

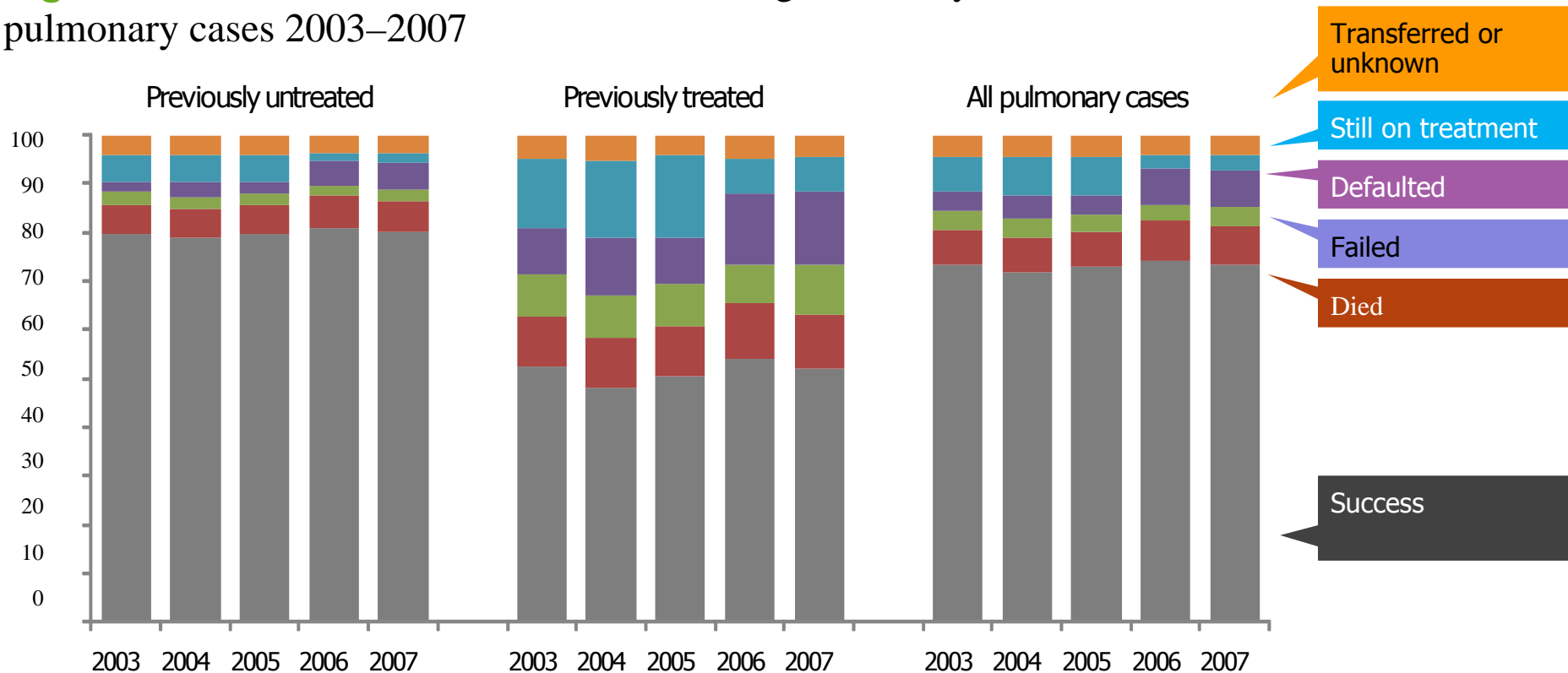
Figure 1b: Percentage success rate among laboratory-confirmed new pulmonary TB cases, EU/EEA, 2007



The treatment success rate in the EU/EEA is too low to meet global targets

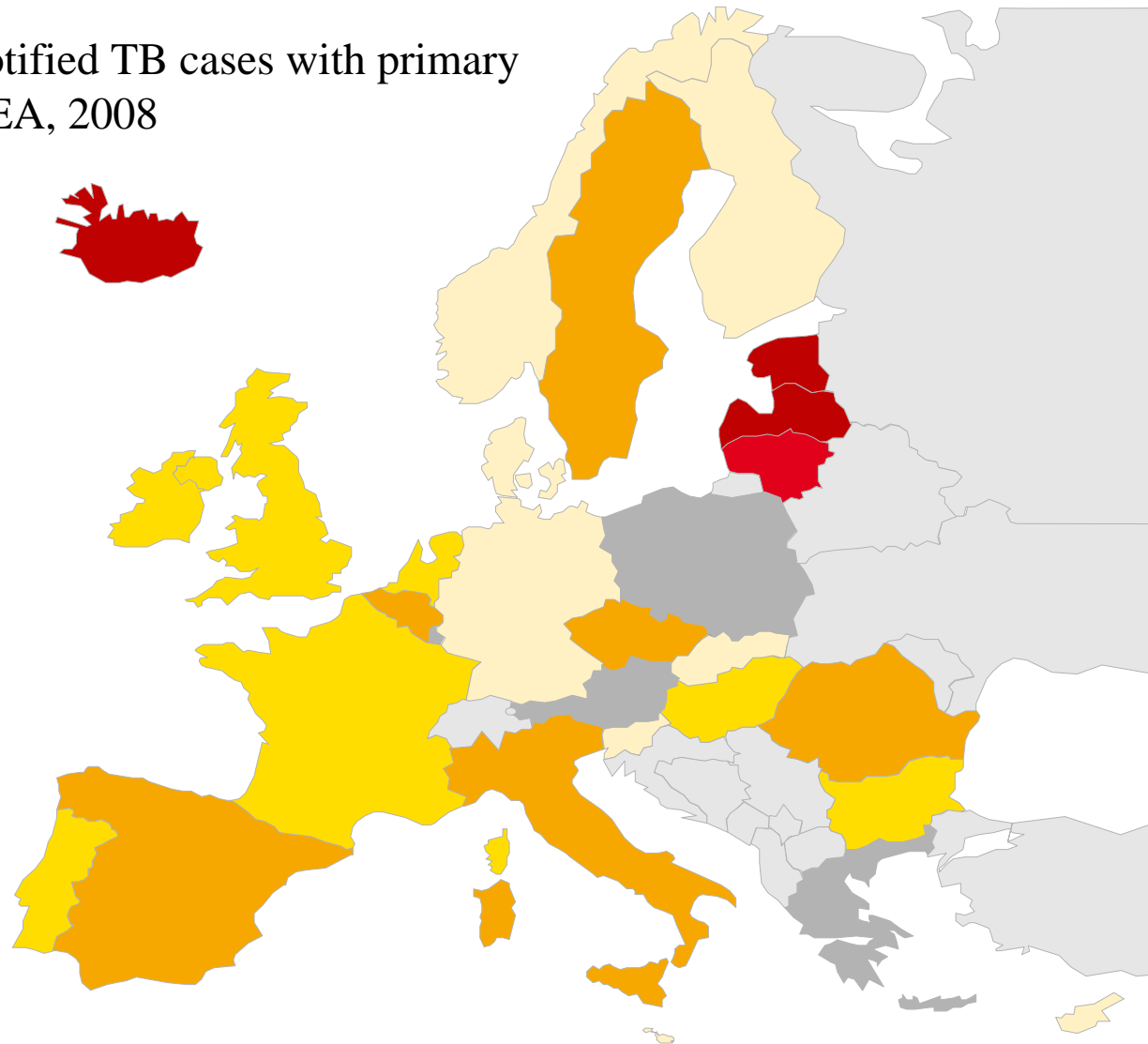
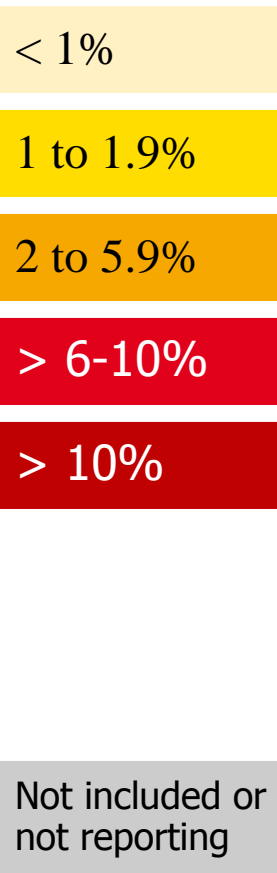
- Treatment success among previously untreated laboratory-confirmed pulmonary TB remains low in the EU/EEA and is below the 85% target. No changes in the trend were seen in the last five years.

Figure 1c: EU/EEA treatment outcome among laboratory-confirmed pulmonary cases 2003–2007



MDR-TB remains a problem in the EU/EEA

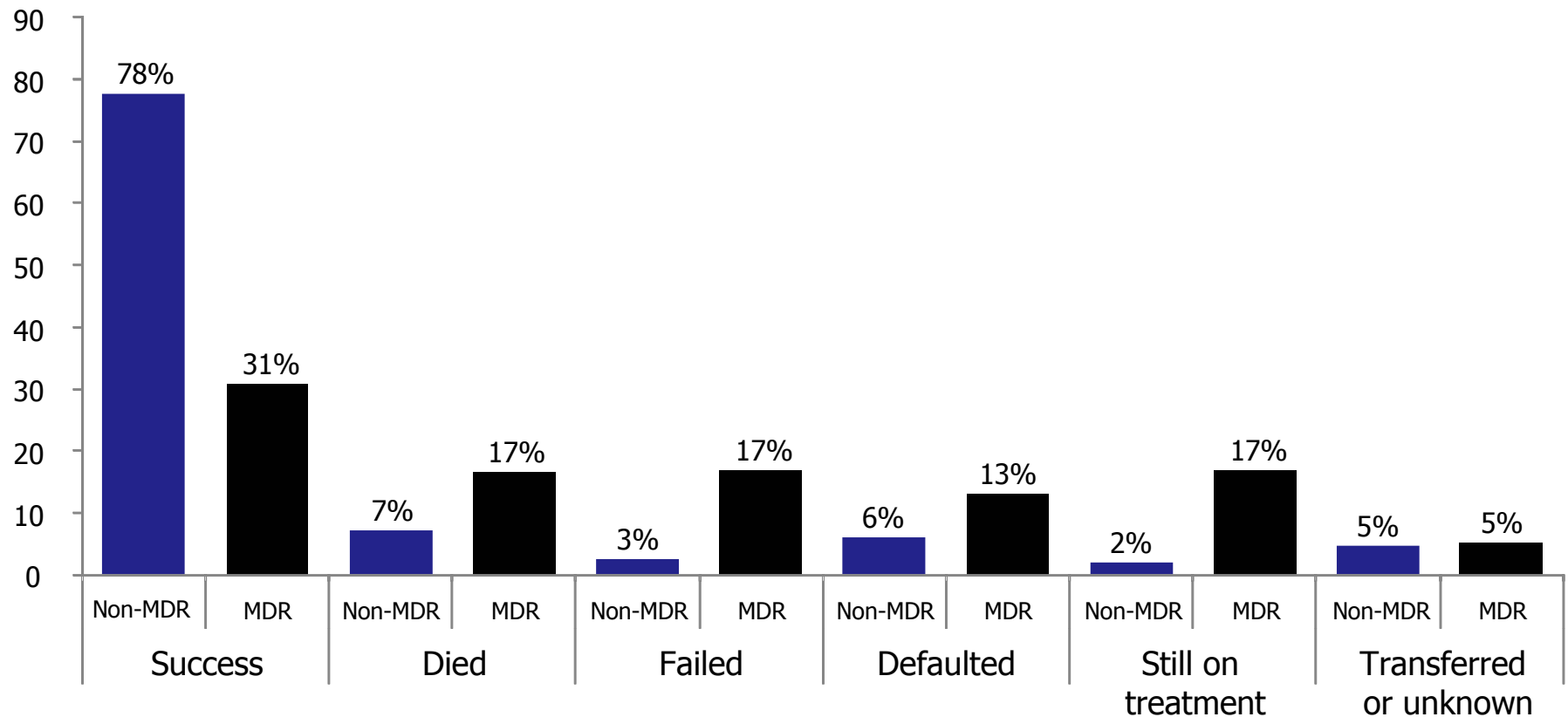
- **Figure 2a:** Proportion of notified TB cases with primary multidrug resistance, EU/EEA, 2008



MDR-TB remains a problem in the EU/EEA

Treatment success rate among MDR-TB cases is extremely low (31%).

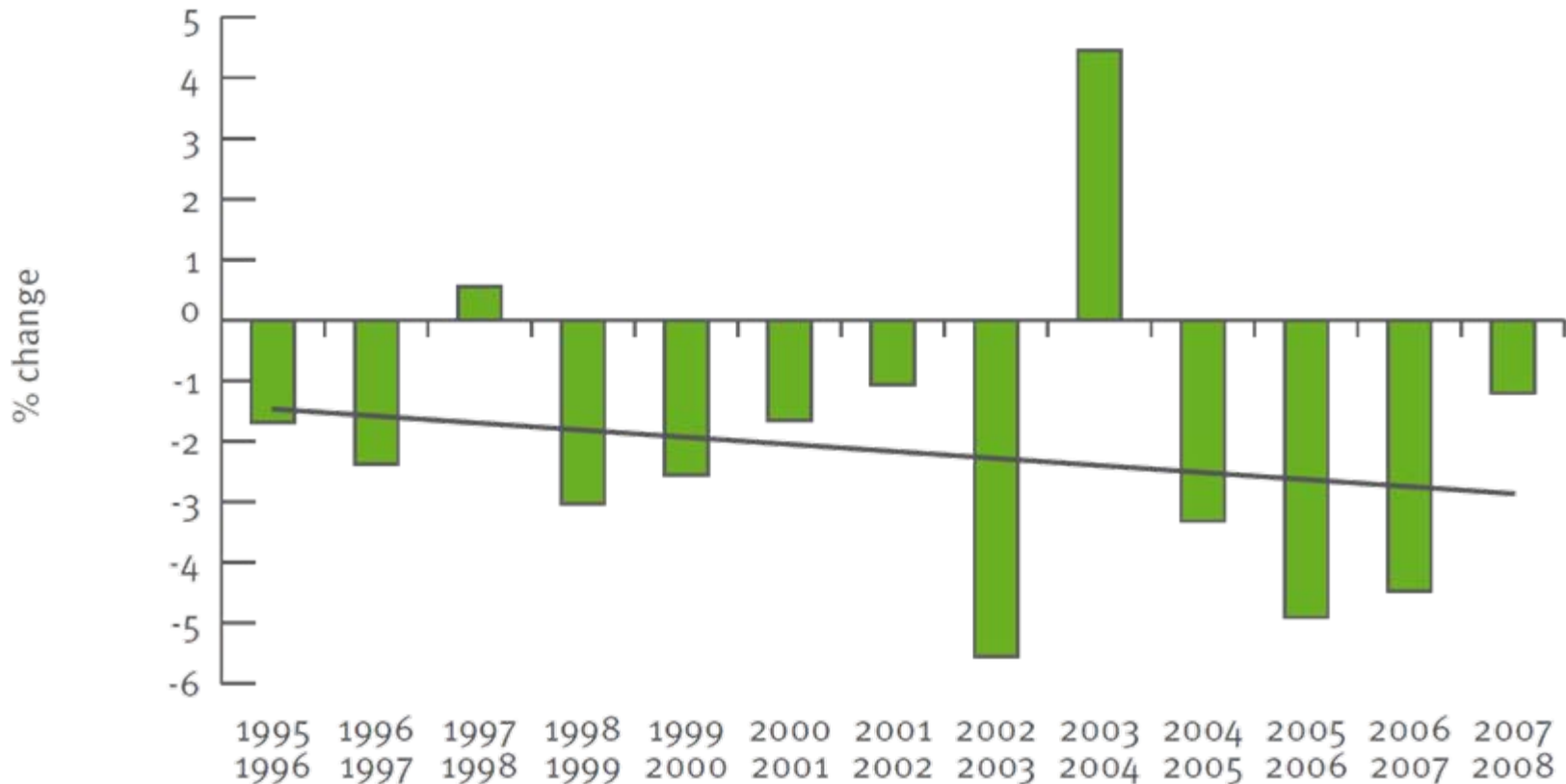
Figure 2b: Treatment outcome of all* MDR-TB cases, compared to all non-MDR cases, EU/EEA, 2006**



The decline in tuberculosis has levelled off in the EU/EEA

- Between 2007 and 2008, the TB notification rate decreased by only 1.2%, the lowest in four years.

Figure 3a: Percentage annual change in TB notification rates, EU/EEA, 1996–2008

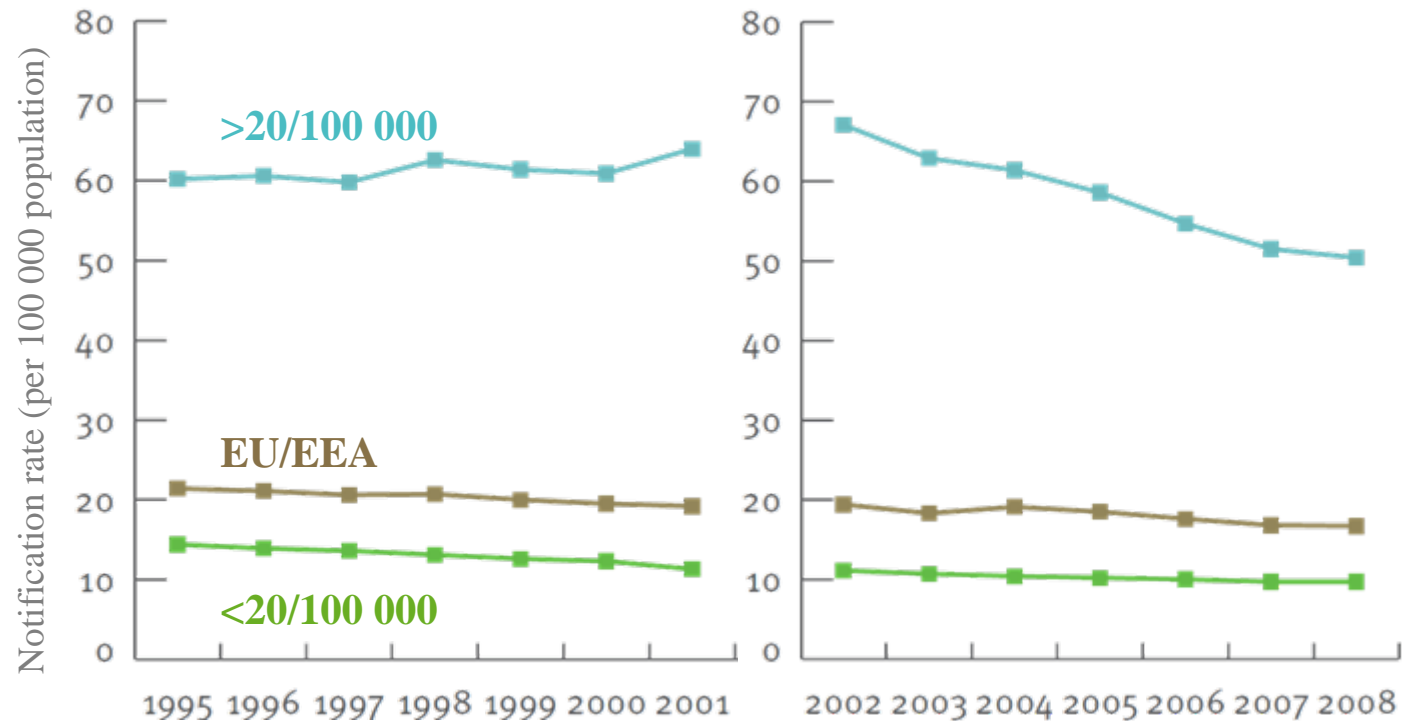


The decline in tuberculosis has levelled off in the EU/EEA

The decrease in TB notification rates has stagnated in the EU/EEA.

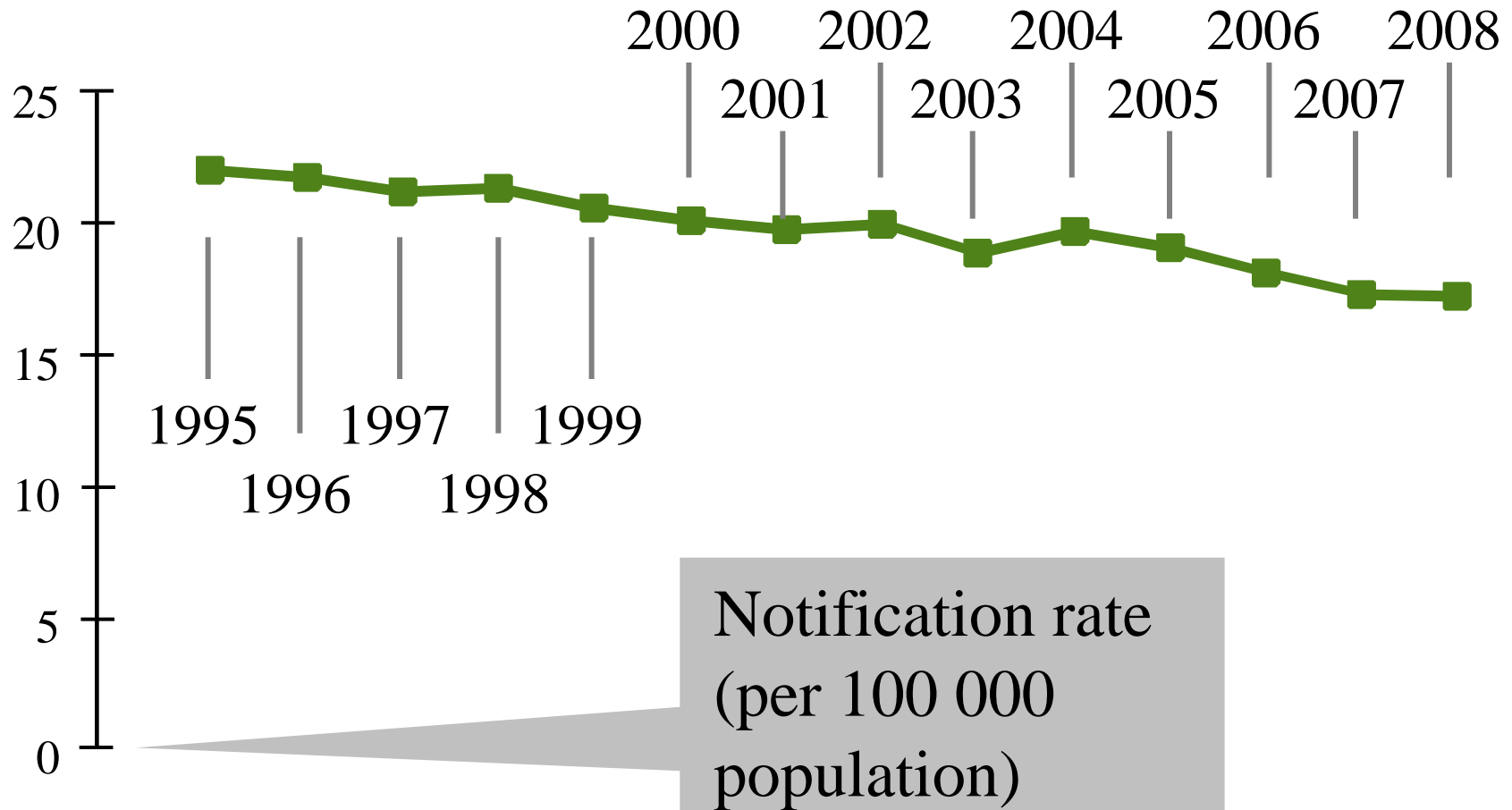
The decline seen in countries with high and intermediate incidence rates contributes substantially to the average EU/EEA decline.

Figure 3b: TB notification rates by incidence grouping, 1995–2008 and 2002–2008



The decline in tuberculosis has leveled off in the EU/EEA

Figure 3c: TB notification rates, 1995–2008 and 2002–2008, EU/EEA



Map 2: Total TB notification rates, Europe, 2007^a

TB cases per 100000 population

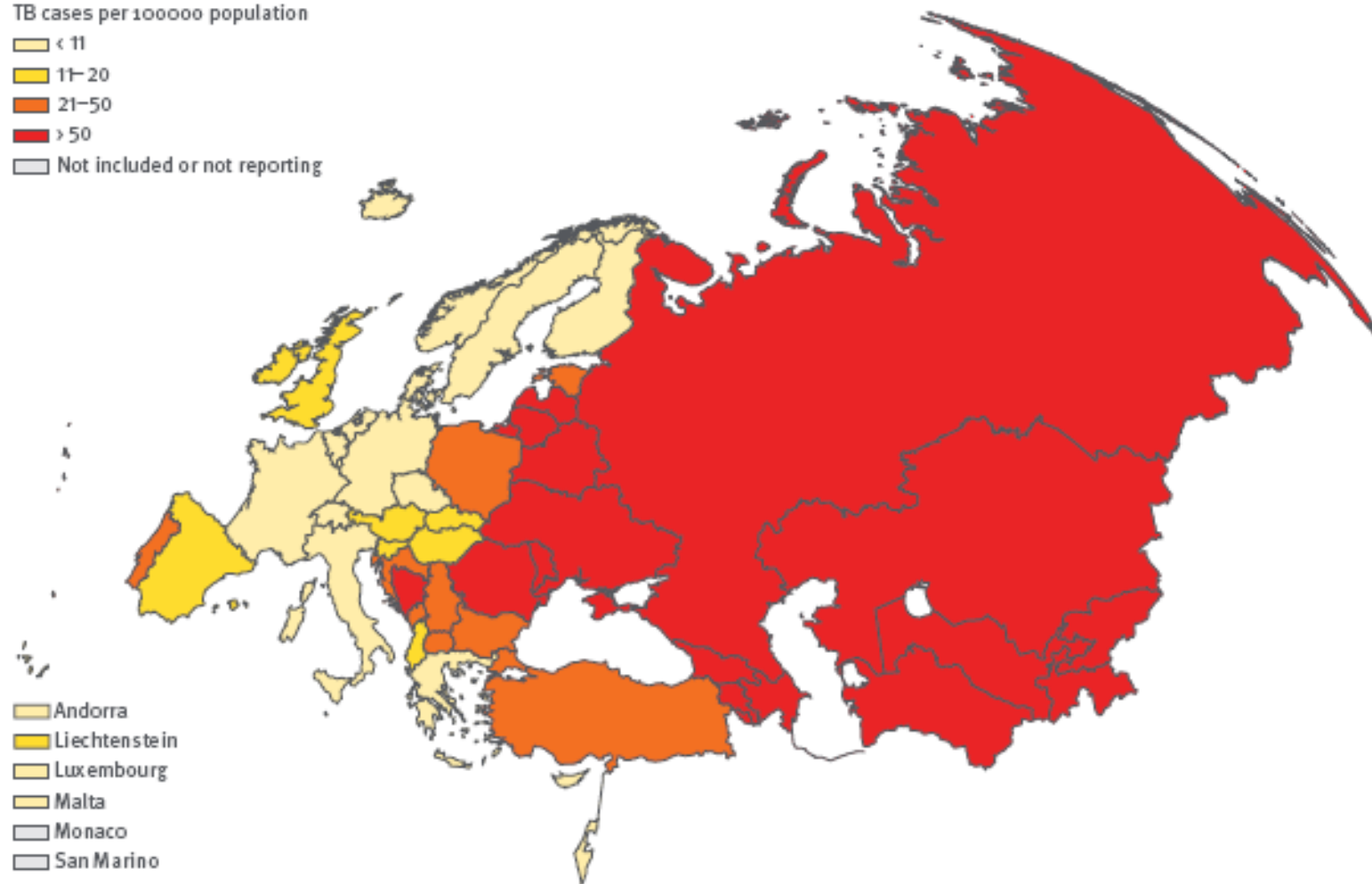
< 11

11–20

21–50

> 50

Not included or not reporting



^a Data from the UN Administered Province of Kosovo is not included in the figures reported for Serbia

TB surveillance in Europe 2007, ECDC, EURO-WHO

Map 3: TB mortality rates, Europe, 2001–2006^{a,b}

TB deaths per 100000 population

< 1.1

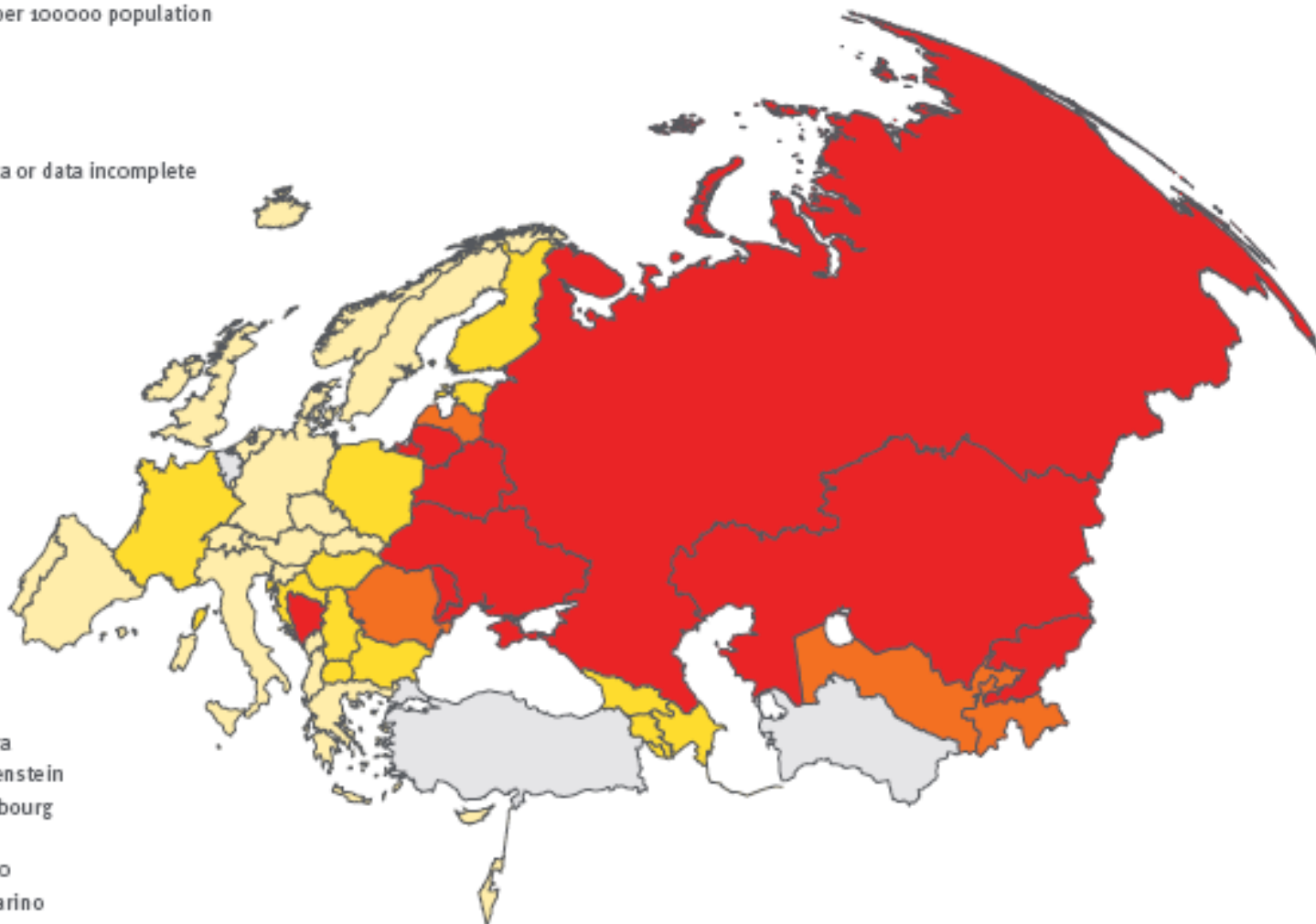
1.1–5

5.1–10

> 10

No data or data incomplete

Andorra
Liechtenstein
Luxembourg
Malta
Monaco
San Marino

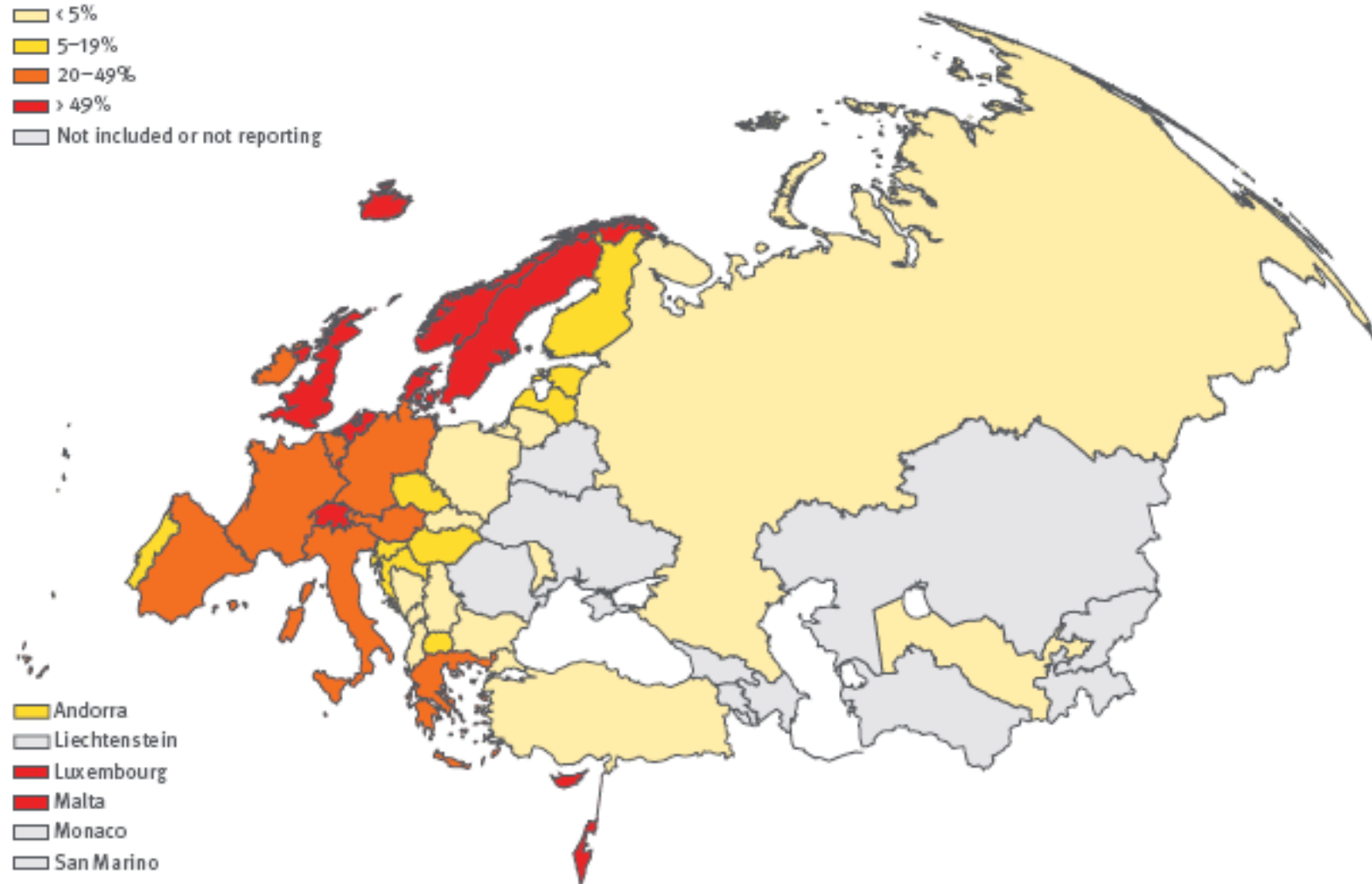


^a Data from the UN Administered Province of Kosovo is not included in the figures reported for Serbia

^b Source: WHO Mortality WHO Mortality Database August 2008. Including deaths from TB coded ICD-9 010-018,137 (BTL 020-025,029) or ICD-10 A15-19,B90

Map 4: Proportion of notified TB cases of foreign origin, Europe, 2007^a

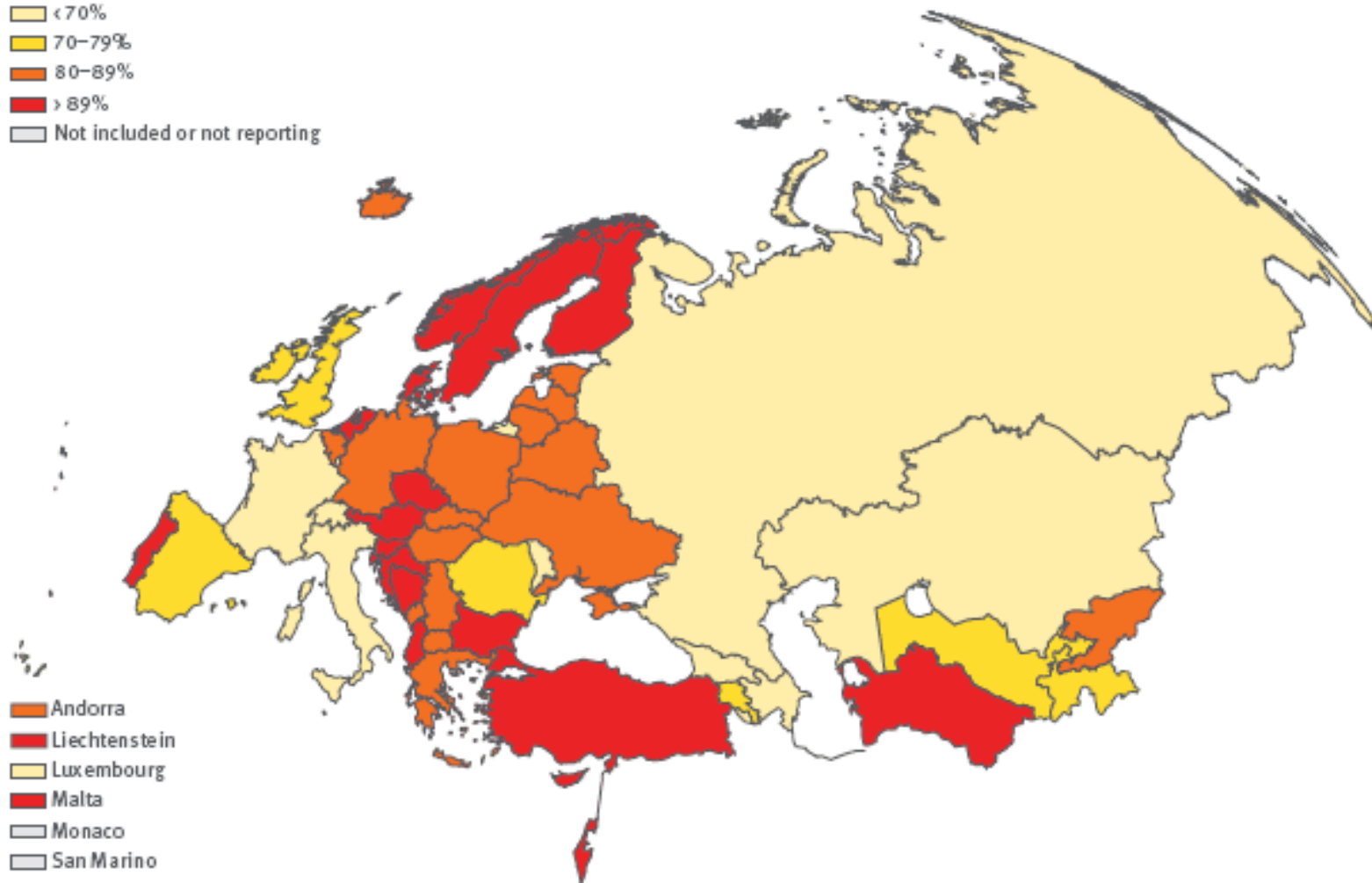
- < 5%
- 5–19%
- 20–49%
- > 49%
- Not included or not reporting



^a Data from the UN Administered Province of Kosovo is not included in the figures reported for Serbia

Map 5: Proportion of previously untreated notified TB cases^a, Europe, 2007^b

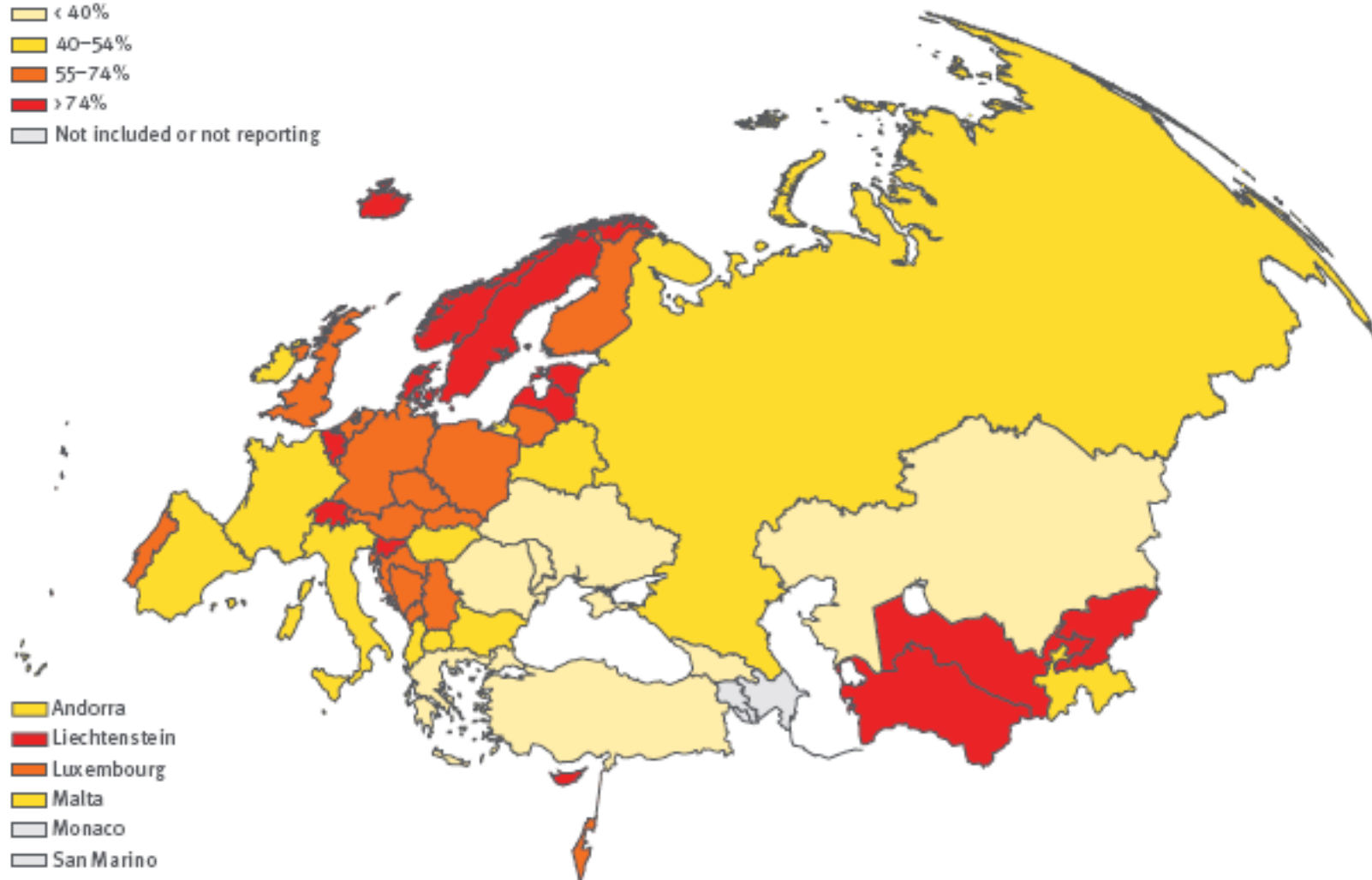
- < 70%
- 70–79%
- 80–89%
- > 89%
- Not included or not reporting



^a Not previously diagnosed used for Belgium, Denmark, Ireland, Italy, United Kingdom and Norway. Data on previous history absent for > 15% of cases in France, Ireland, Italy, Luxembourg, Norway, Spain, Switzerland and United Kingdom

^b Data from the UN Administered Province of Kosovo is not included in the figures reported for Serbia

Map 6: Proportion of TB cases confirmed by culture, Europe, 2007^{a,b}

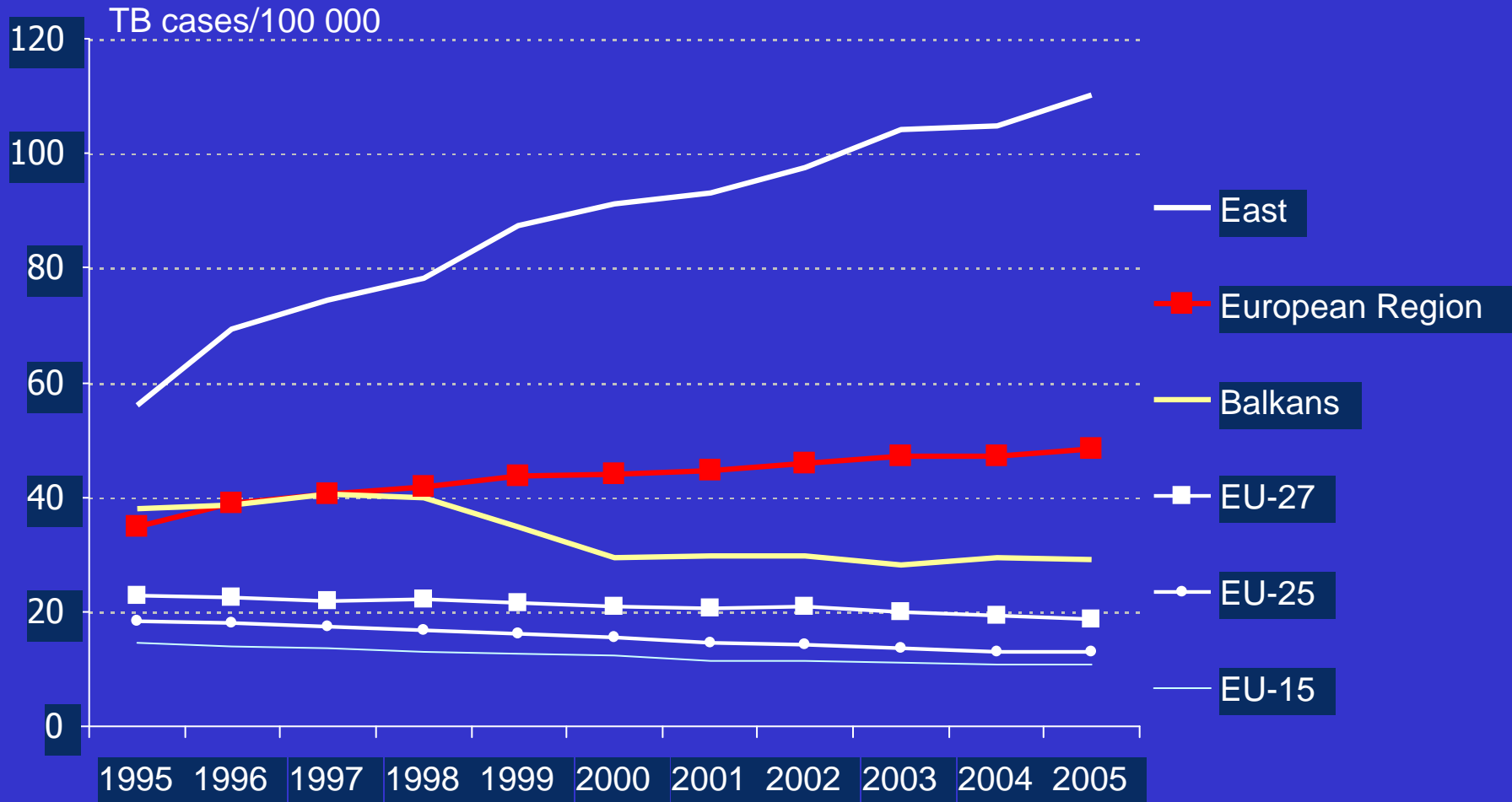


^a Data from the UN Administered Province of Kosovo is not included in the figures reported for Serbia

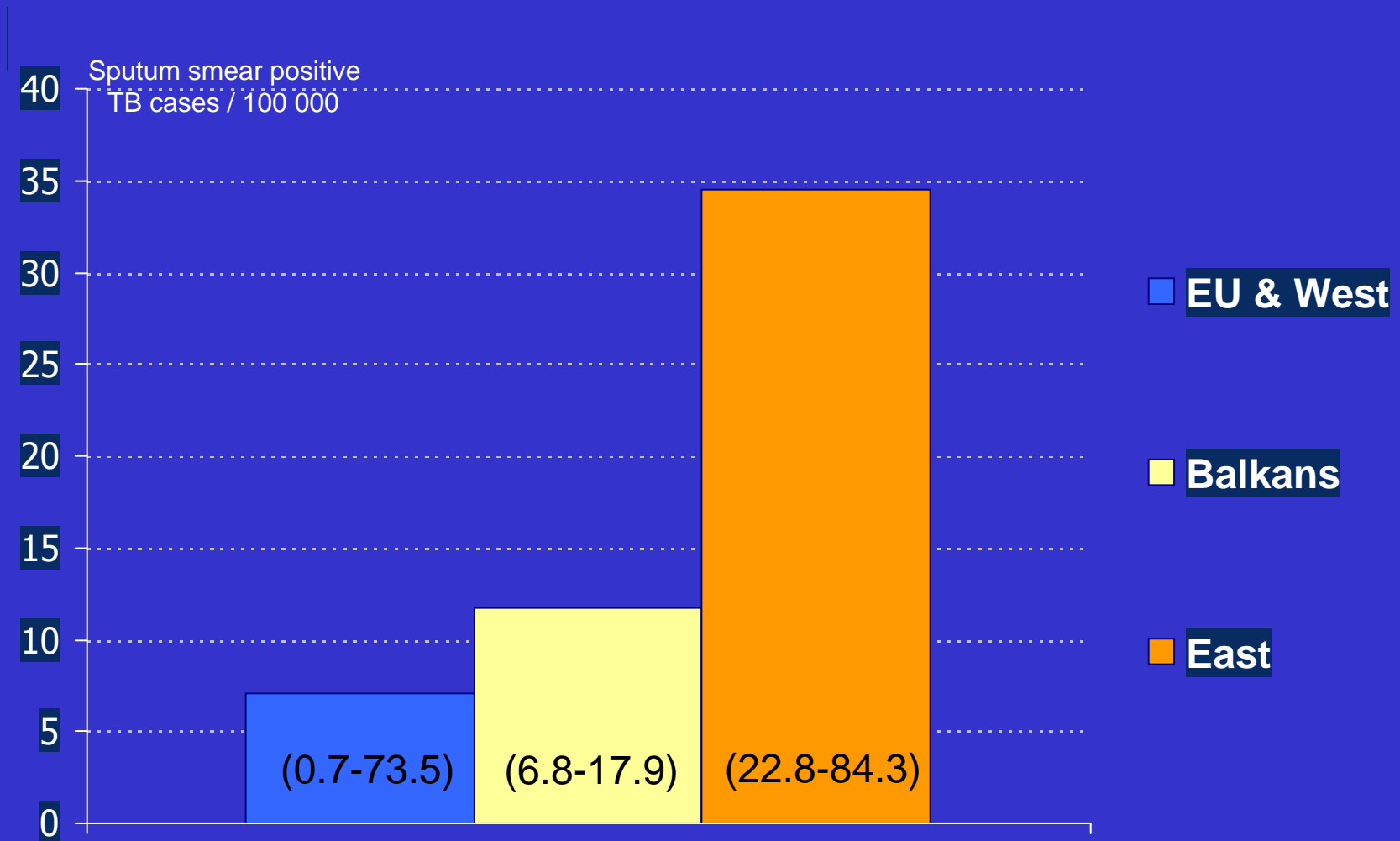
^b Reporting of culture results for 2007 was incomplete at the time of data collection for the Netherlands and Romania

Tuberculosis notification rates (3)

Trends, 1995-2005



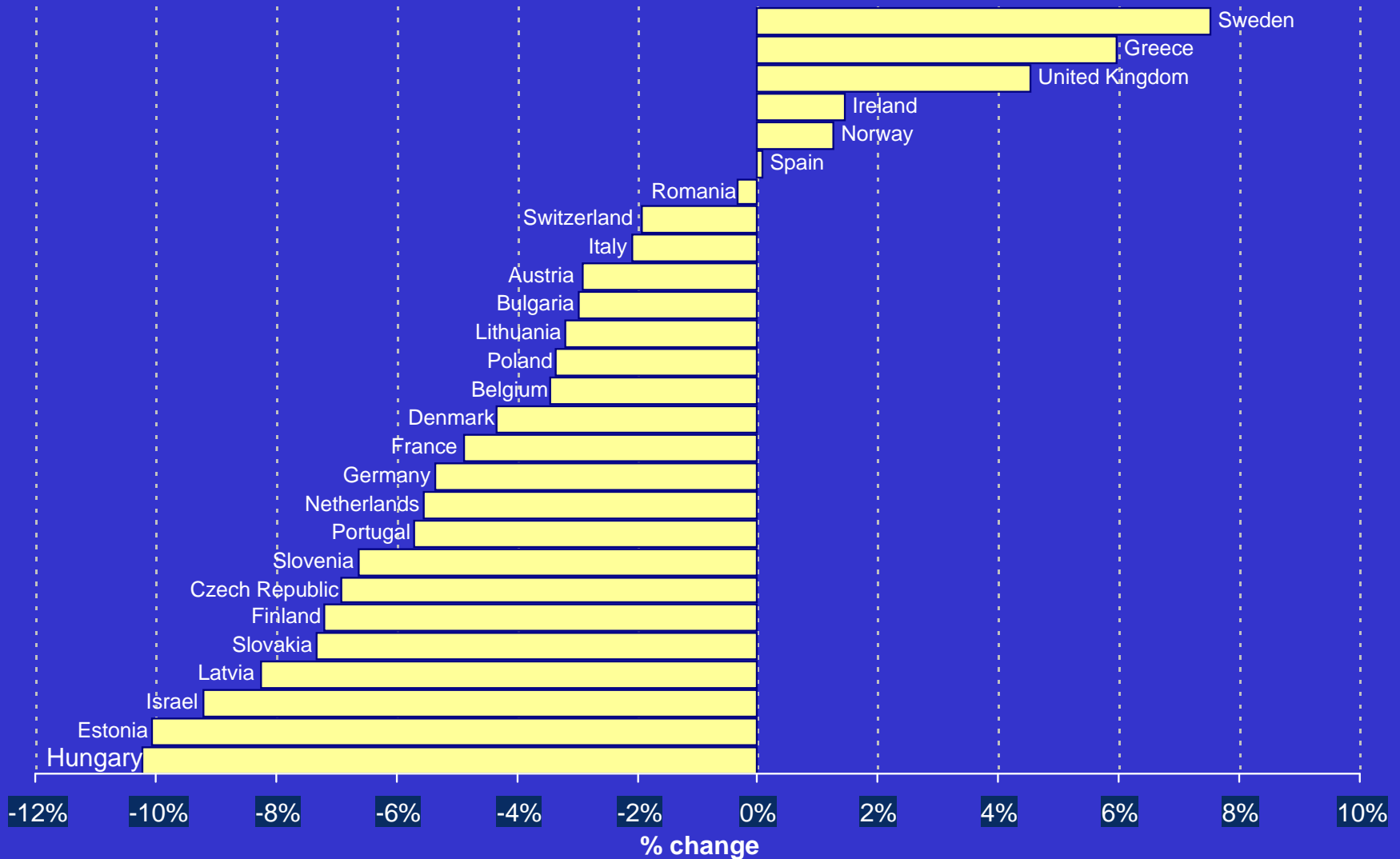
Tuberculosis notification rates (5) Pulmonary smear positive rates, 2005



* Country range shown in brackets. Excluding countries with missing data (Monaco, San Marino, Ukraine) or using the respiratory classification (Belarus, Bulgaria)

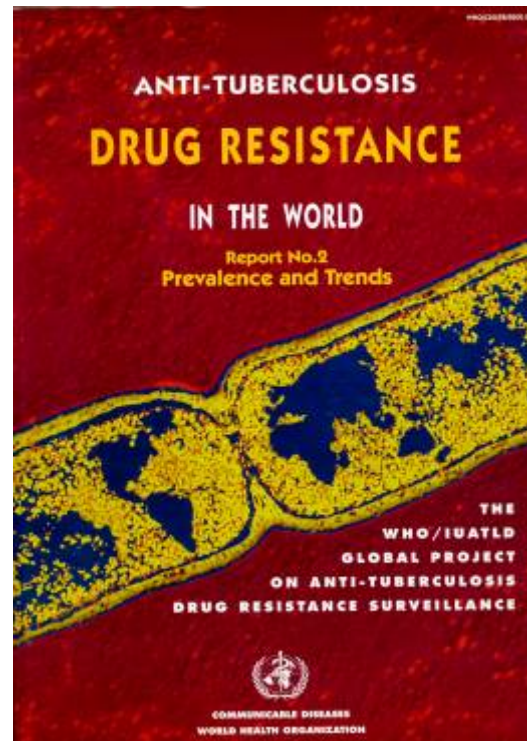
TB notification rates, EU & West*, 2001-2005

Mean annual percentage change

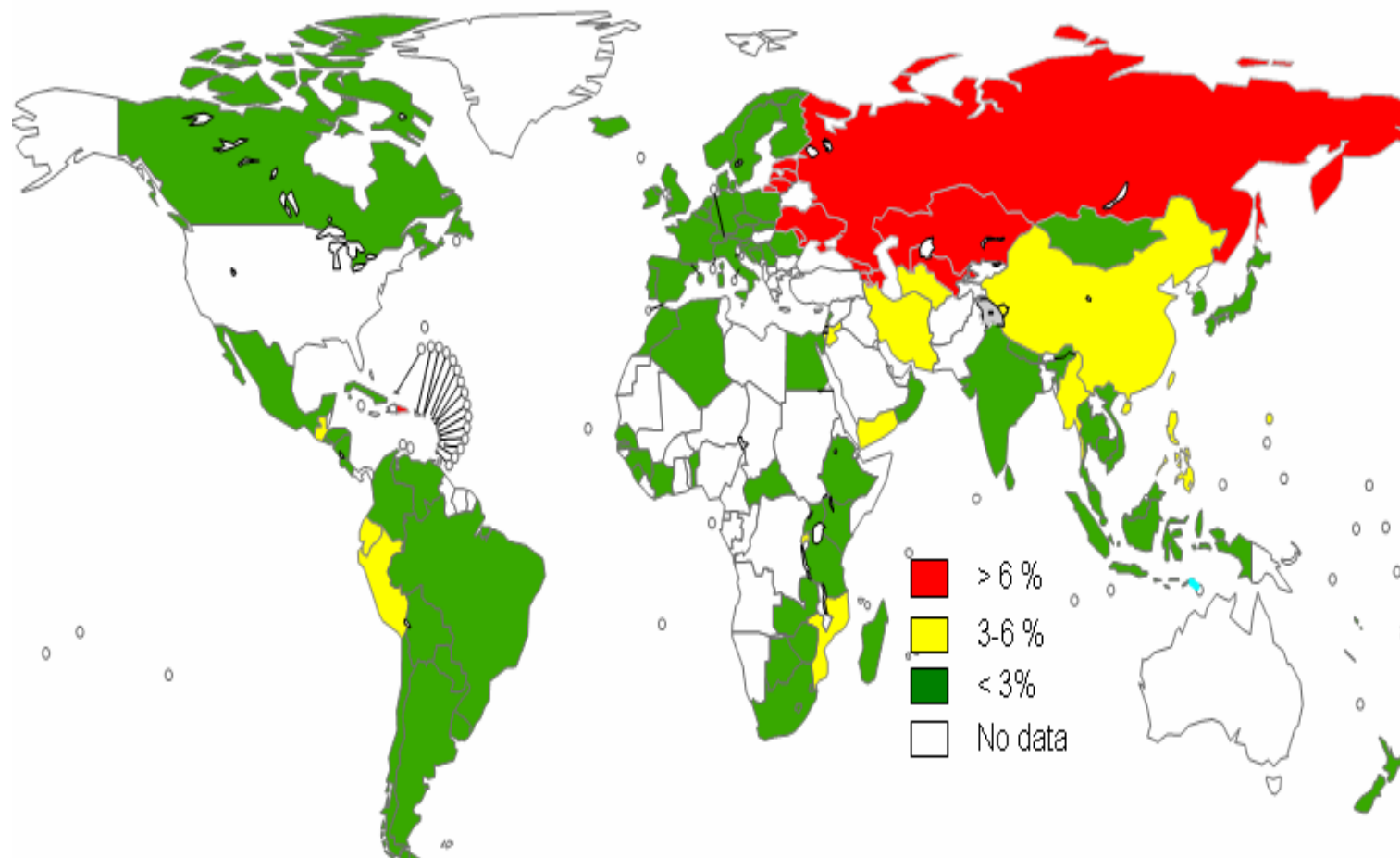


* Excluding countries without data or with <60 cases in 2005 (Andorra, Cyprus, Iceland, Luxembourg, Malta, Monaco, San Marino)

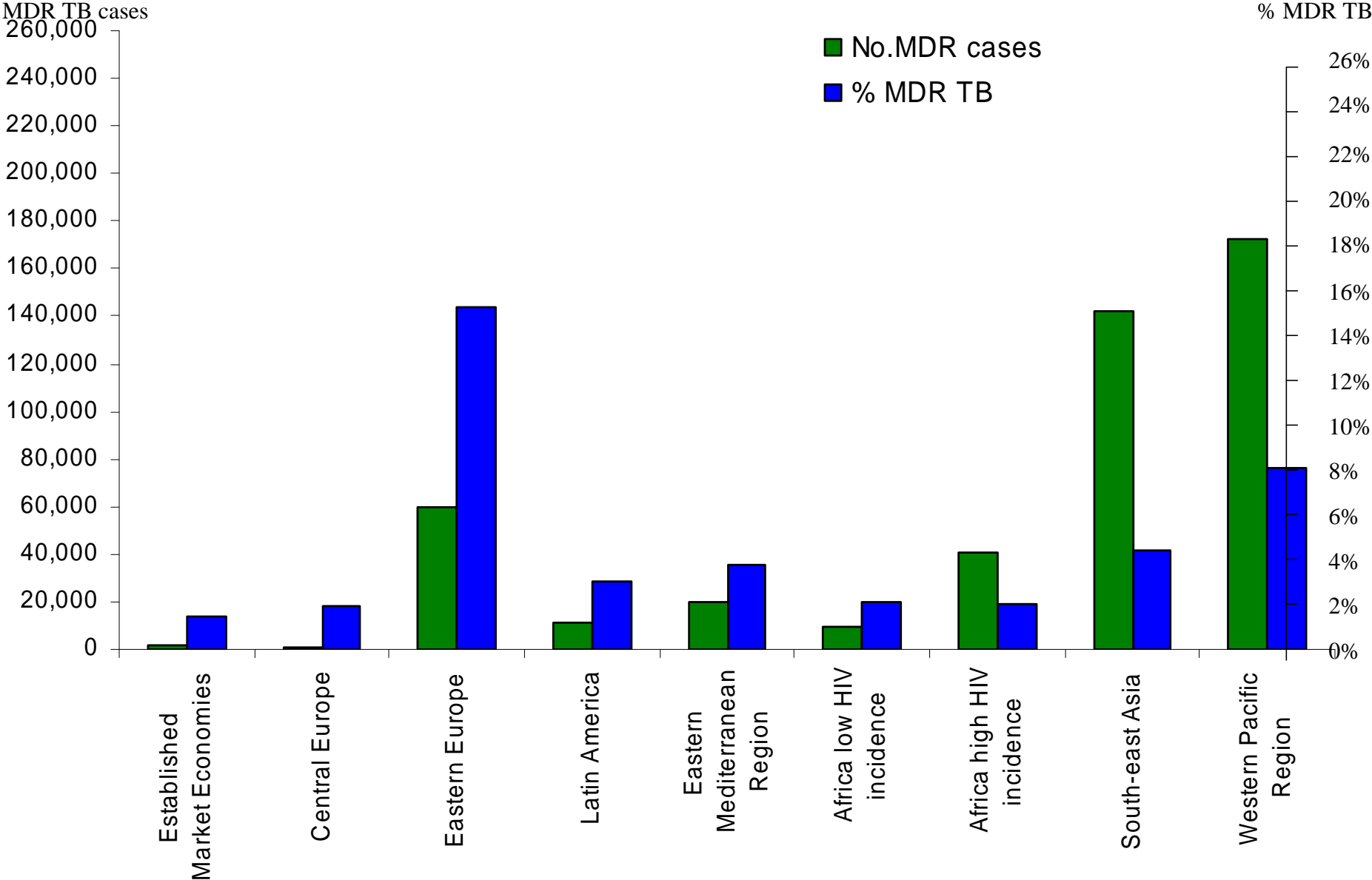
Resistant tuberculosis - a global problem



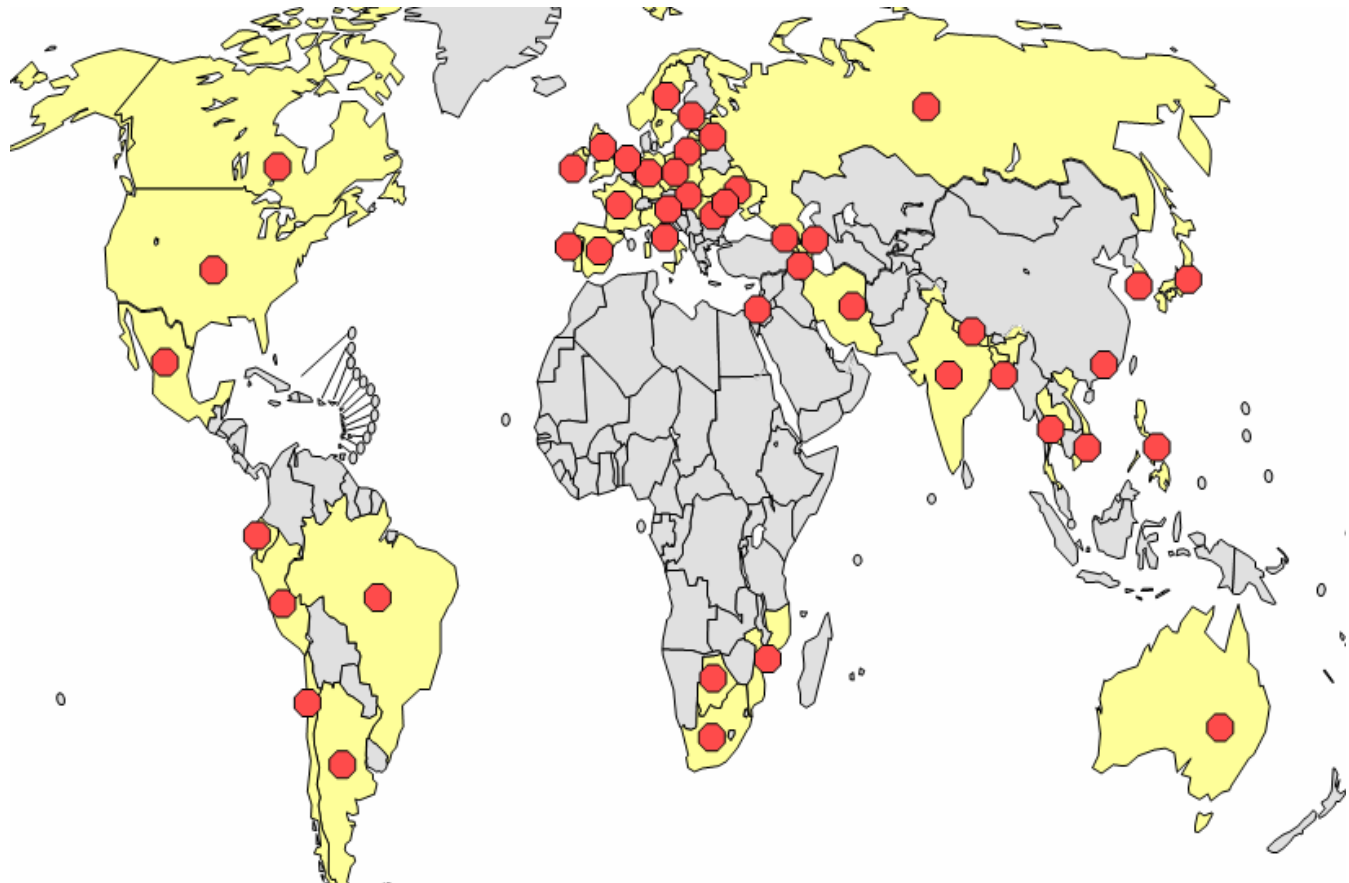
% of MDR-TB among new TB cases 1994-2007



MDR TB Burden Among All Cases by Regions



Countries reporting XDR-TB as of Feb 2008



✦ WHO estimates 40 000 new XDR cases/yr

✦ www.who.int/tb



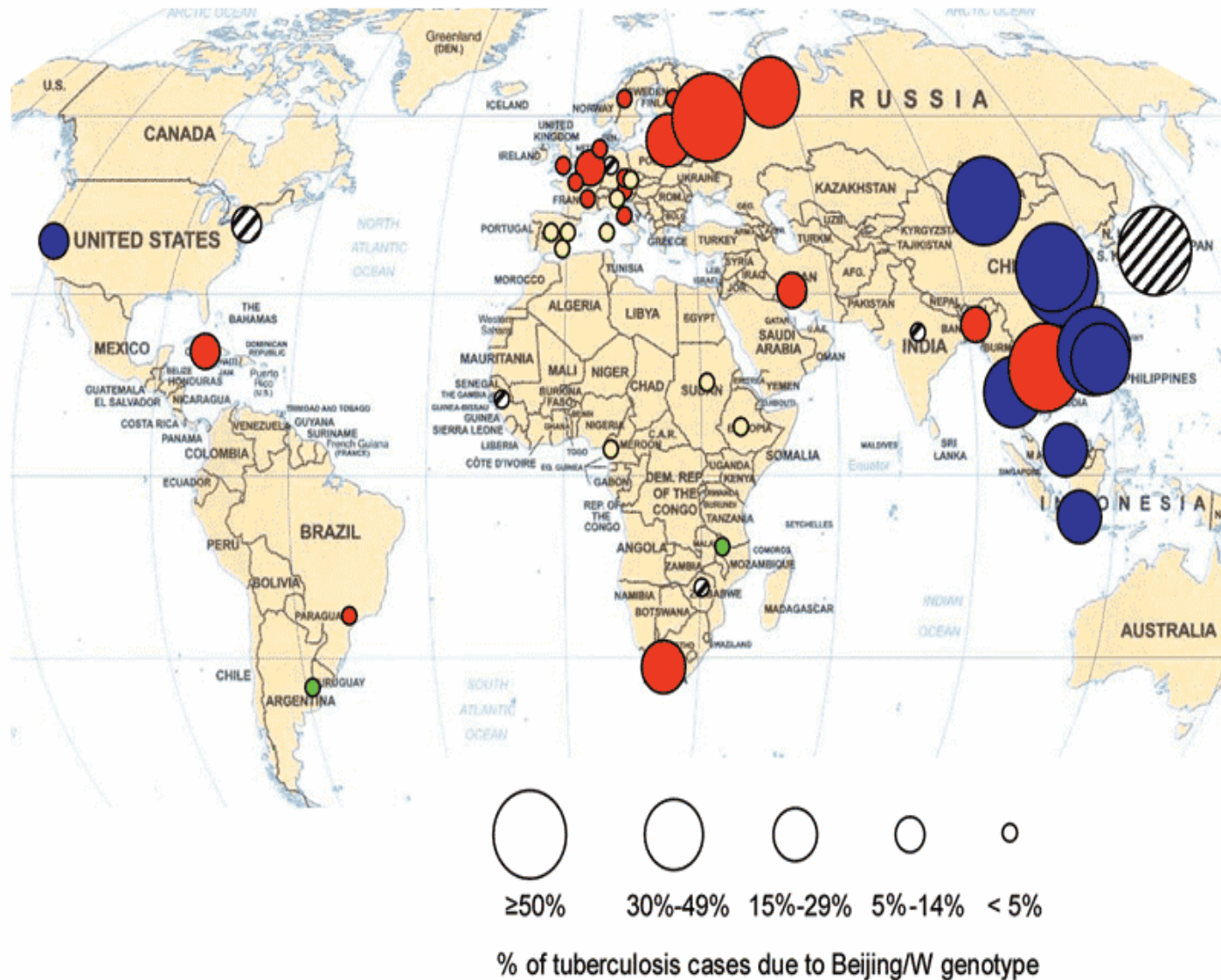
International Centre for Prison Studies





Molecular typing of M tuberculosis offers

1. Increased understanding of TB transmission
2. Identification of risk groups and risk settings
3. A tool for improved infection control
4. Improved characterization of failure cases
5. A tool for TB lab QC



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Figure. Distribution of Beijing genotype tuberculosis (TB). Size of circle indicates percentage of TB cases due to Beijing genotype; color in circle indicates drug sensitivity and distribution trend. Blue, pattern 1 (stable, no association with drug resistance); red, pattern 2 (increasing, associated with drug resistance); green, pattern 3 (increasing, drug sensitive); yellow, pattern 4 (absent); striped, trend or association with drug resistance not known.

The Beijing family and MDR-TB

Estonian example:

% of Beijing isolates

<u>MDR-TB</u>	<u>Any Res.</u>	<u>Susc.</u>
87.5	67.2	12.0

A. Kruuner et al JCM, 2001.

