

Multidrug-resistant tuberculosis: update 2012

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The Global Plan to Stop TB, 2011-2015 (1)

Between 2011 and 2015 ...

- Increase in TB cases tested for R & H yearly from 0.8 million to 1.9 million
- 1 million multidrug-resistant TB (MDR-TB) patients detected and put on treatment
- USD 7.1 billion spent

The Global Plan to Stop TB, 2011-2015 (2)

GOAL AND OBJECTIVES	MAJOR ACTIVITIES	INDICATOR(S)	BASELINE (2009)	TARGET FOR 2015
Goal: To reduce the global burden of drug-resistant TB		Trend in the incidence of MDR-TB	n/a	Declining
Objective 1: Scale up access to testing for resistance to first-line anti-TB drugs among TB patients	Testing for MDR-TB using culture and DST* and molecular technologies (e.g. LPAs).	Percentage of new bacteriologically-positive TB patients tested for resistance to first-line drugs	7%	20%**
		Percentage of previously treated TB patients tested for resistance to first-line drugs	7%	100%
		Number of countries among the 22 HBCs and 27 high MDR-TB burden countries with ≥1 culture laboratory per 5 million population	18–21**	36
Objective 2: Scale up access to testing of susceptibility to second-line anti-TB drugs, as well as HIV testing among confirmed cases of MDR-TB	Testing for susceptibility to second-line drugs using culture and DST; testing for HIV.	Percentage of confirmed MDR-TB patients who had a second-line DST result	15%	100%

The Global Plan to Stop TB, 2011-2015 (3)

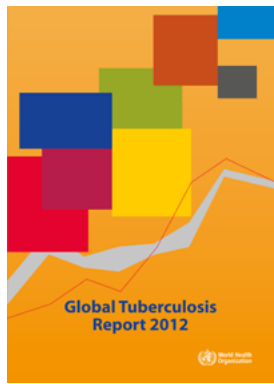
OBJECTIVES (CONTINUED)	MAJOR ACTIVITIES	INDICATOR(S)	BASELINE (2009)	TARGET FOR 2015
Objective 3: Scale up access to effective treatment for drug-resistant TB	Procurement and supply of second-line TB drugs; provision of treatment in hospitals and outpatient clinics, including use of incentives and enablers where appropriate; management of adverse events; training; programme management and supervision; data management; technical assistance.	Percentage of cases with confirmed MDR-TB started on treatment in programmes that follow international guidelines	36%	100%
		Treatment success rate among patients with confirmed MDR-TB	60%	≥75%
Objective 4: Scale up TB infection control in MDR-TB hospital wards and outpatient clinics	Development of national plan on infection control as part of a national plan for MDR-TB; assessments of the current status of infection control; training; implementation of administrative, personal protection and environmental measures, based on results of assessments.	Ratio of TB notification rate among health care workers to notification rate among general population	n/a	~1

The Global Plan to Stop TB, 2011-2015 (4)

OBJECTIVES (CONTINUED)	MAJOR ACTIVITIES	INDICATOR(S)	BASELINE (2009)	TARGET FOR 2015
Objective 5: Strengthen surveillance, including recording and reporting, of drug-resistant TB	Surveillance of drug resistance (DRS) among TB cases through routine testing of patients and/or surveys; provision of international technical assistance for DRS and the development and implementation of recording and reporting systems; advocacy at country level and among international technical and financial partners; training workshops; development and implementation of electronic tools, and associated guidelines and standard operating procedures.	Number of countries reporting results from drug resistance surveys and/or Class A* continuous surveillance	78	110, including the 36 countries that are among the 22 HBCs and/or 27 high MDR-TB burden countries
		Number of high MDR-TB burden countries with an electronic case-based database for MDR-TB patients on treatment at national level	10	27
		Percentage of countries reporting $\geq 50\%$ of the MDR-TB cases that are expected to exist among notified TB cases	23%	100%
		Percentage of countries reporting treatment outcomes for all confirmed cases of MDR-TB	21%	100%
		Number of high MDR-TB burden countries reporting treatment outcomes for all confirmed cases of MDR-TB	2	27
Objective 6: Expand country capacity to scale up the management of drug-resistant TB through global advocacy and policy guidance	Operations of the Working Group on MDR-TB, including meetings, advocacy for access to and effective treatment of drug-resistant TB; resource mobilization.	Number of partners attending meetings of the Working Group	15	30
		Number of high-level missions to countries with a high burden of MDR-TB	1	10

Source: The Global Plan to Stop TB 2011-2015 (www.stoptb.org/assets/documents/global/plan/TB_GlobalPlanToStopTB2011-2015.pdf)

The global TB situation (1)



**Estimated number
of cases, 2011**

**Estimated number
of deaths, 2011**

All forms of TB

8.7 million
(8.3–9.0 million)

0.99 million*
(0.8–1.1 million)

HIV-associated TB

1.1 million
(1.0–1.2 million)

430,000
(400,000–460,000)

**Multidrug-
resistant TB**

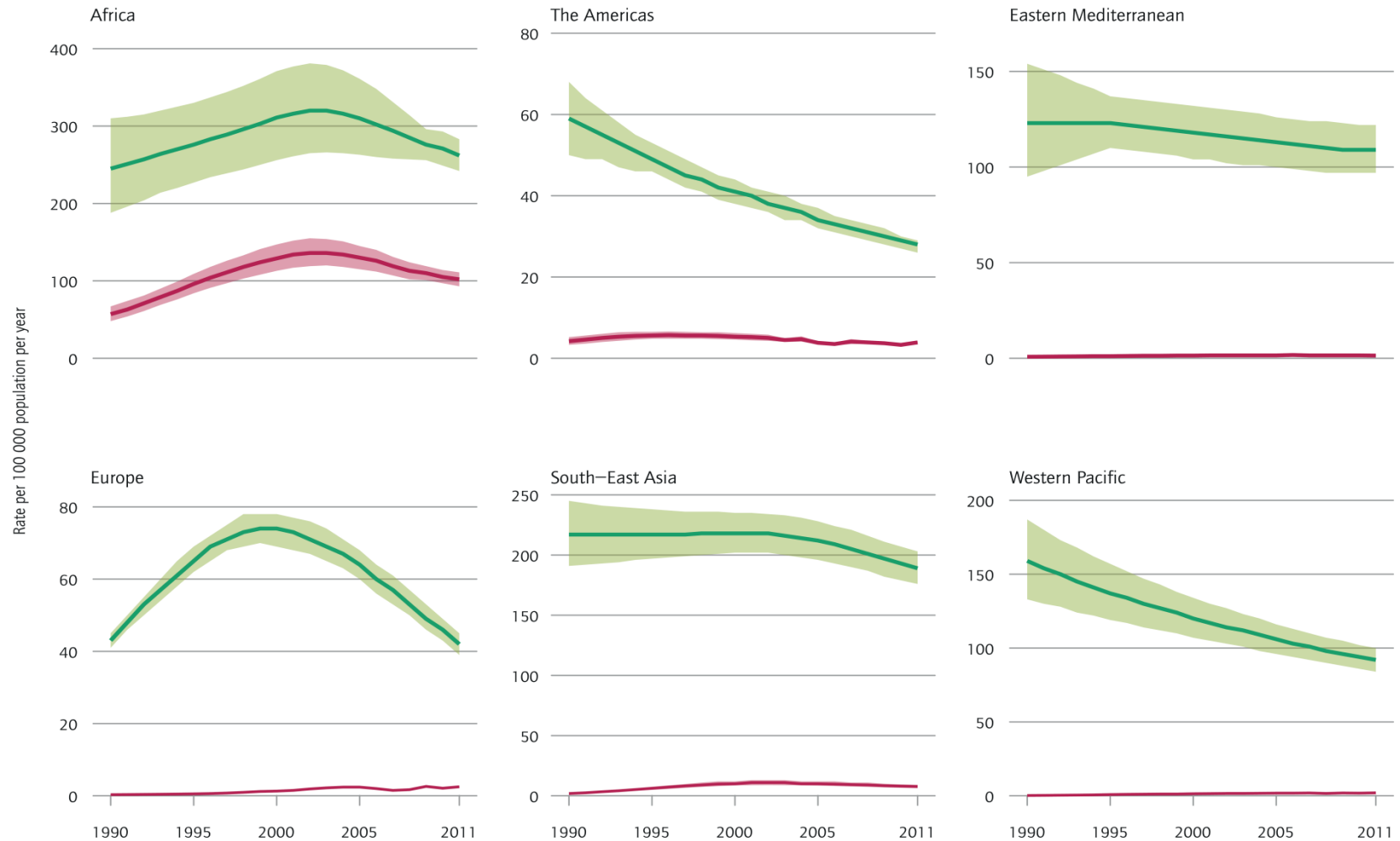
~0.4-0.5 million

Source: WHO Global Tuberculosis Report 2012

* Excluding deaths attributed to HIV/TB

The global TB situation (2)

Estimated TB incidence rates by WHO region, 1990–2011. Regional trends in estimated TB incidence rates (green) and estimated incidence rates of HIV-positive TB (red). Shaded areas represent uncertainty bands.



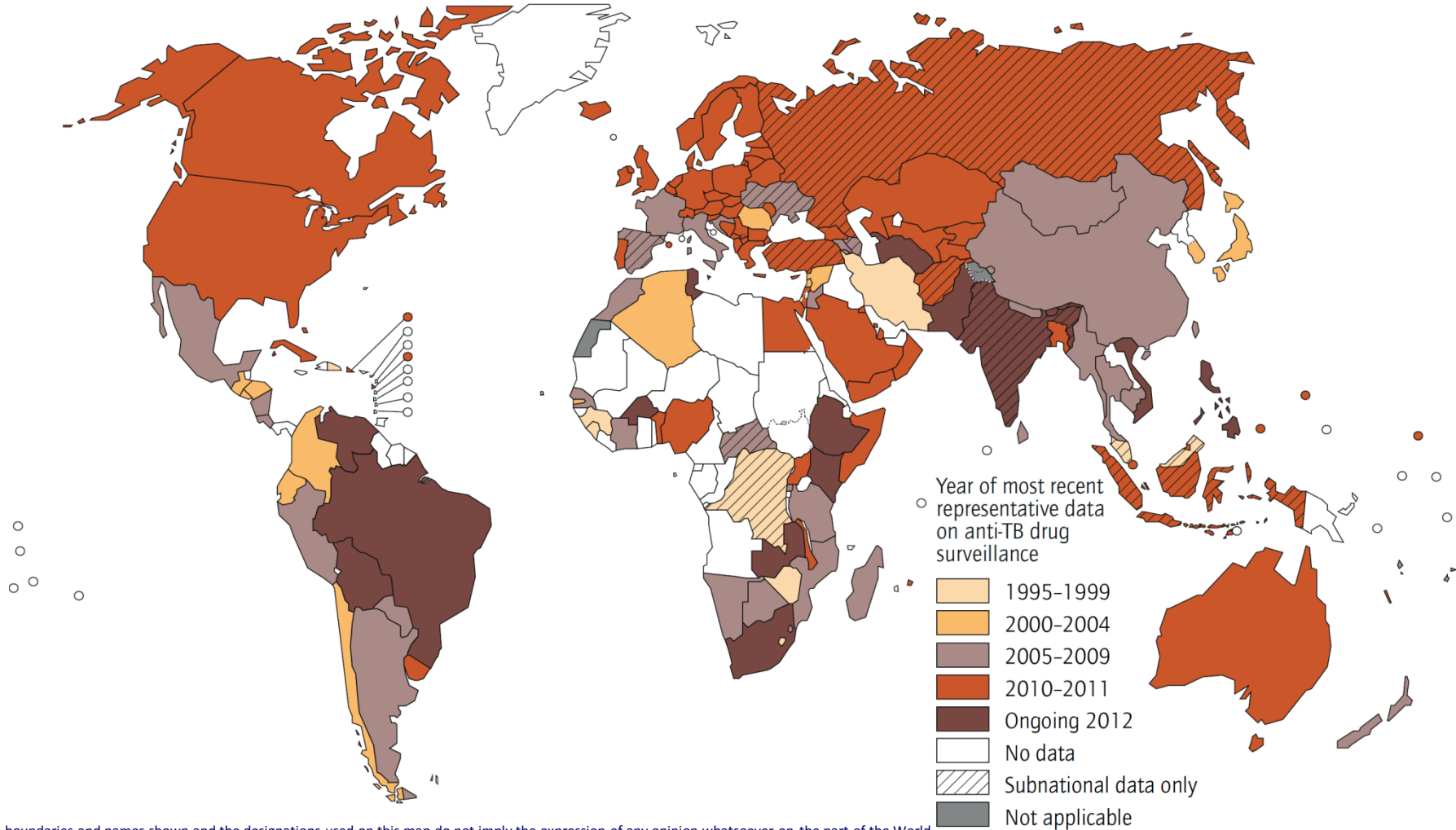
Time trends in MDR-TB

Available data from 74 countries and territories with measurements for at least two years could not answer the question of whether the proportion of previously untreated TB cases with MDR was increasing, decreasing or stable over time at a global or regional level.

WHO REGION	ANNUAL CHANGE	ANNUAL CHANGE LOW ESTIMATE	ANNUAL CHANGE HIGH ESTIMATE
African	5.6%	-7.5%	18.7%
Americas	0.2%	-17.1%	17.5%
Eastern Mediterranean	-0.7%	-23.5%	22.0%
Europe	3.5%	-4.8%	11.9%
South-East Asia	-1.3%	-31.4%	28.8%
Western Pacific	-4.5%	-12.7%	3.8%
GLOBAL	-0.3%	-14.7%	14.1%

Source: WHO Global Tuberculosis Control Report 2011

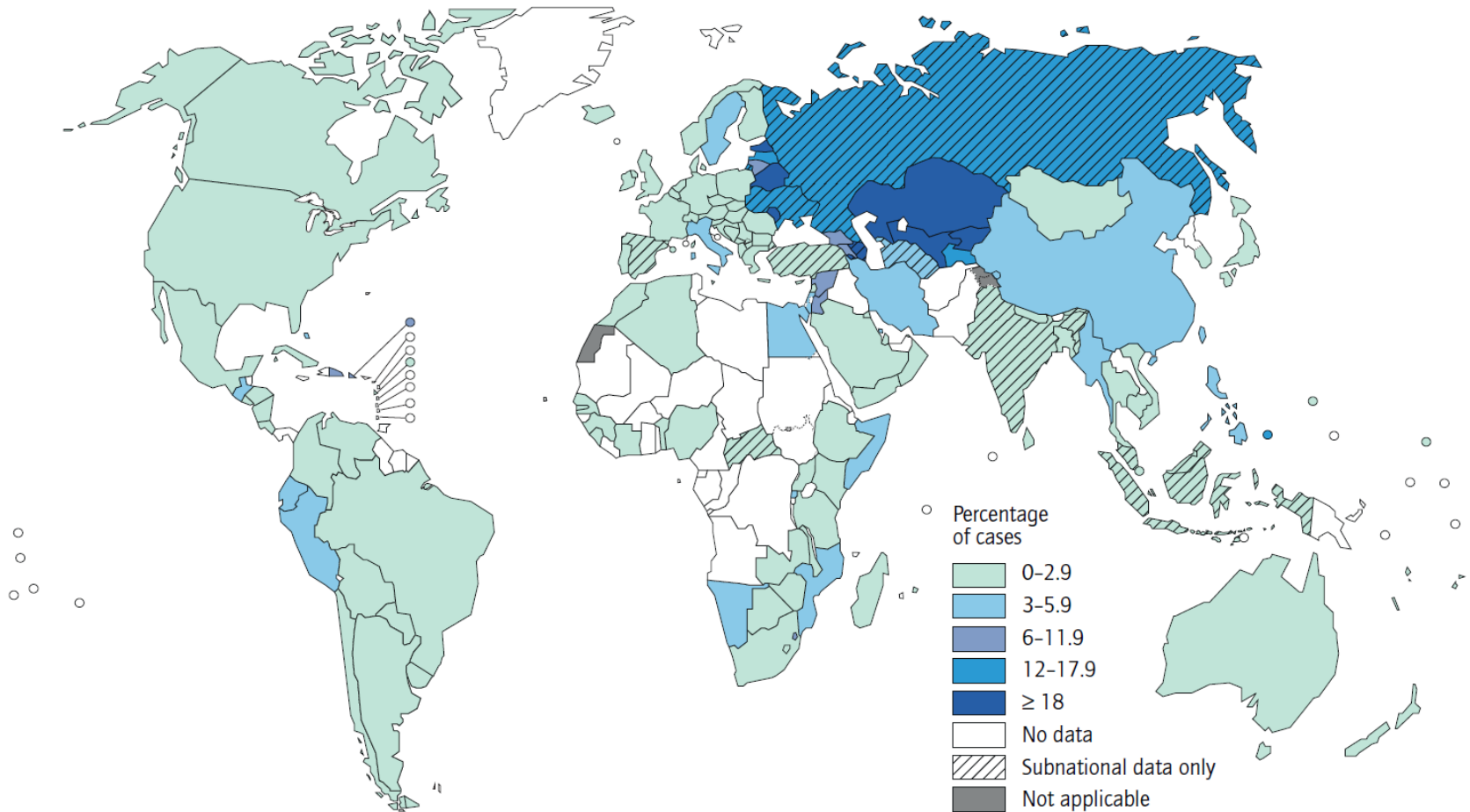
Global coverage of drug resistance surveillance data



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Proportion of MDR among new TB cases

Latest available data, 1994-2011



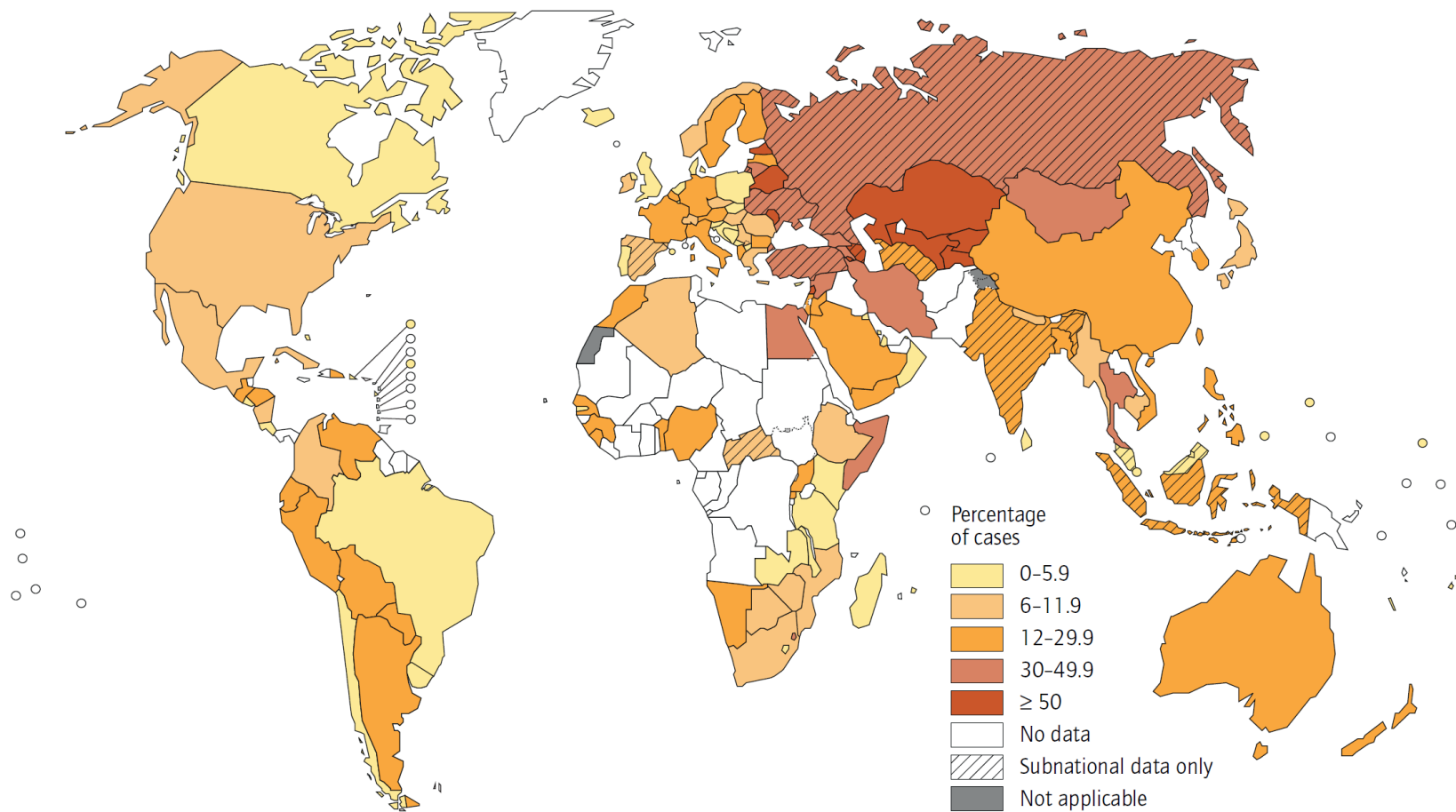
^a Figures are based on the most recent year for which data have been reported, which varies among countries.

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Proportion of MDR among previously treated TB cases

Latest available data, 1994-2011



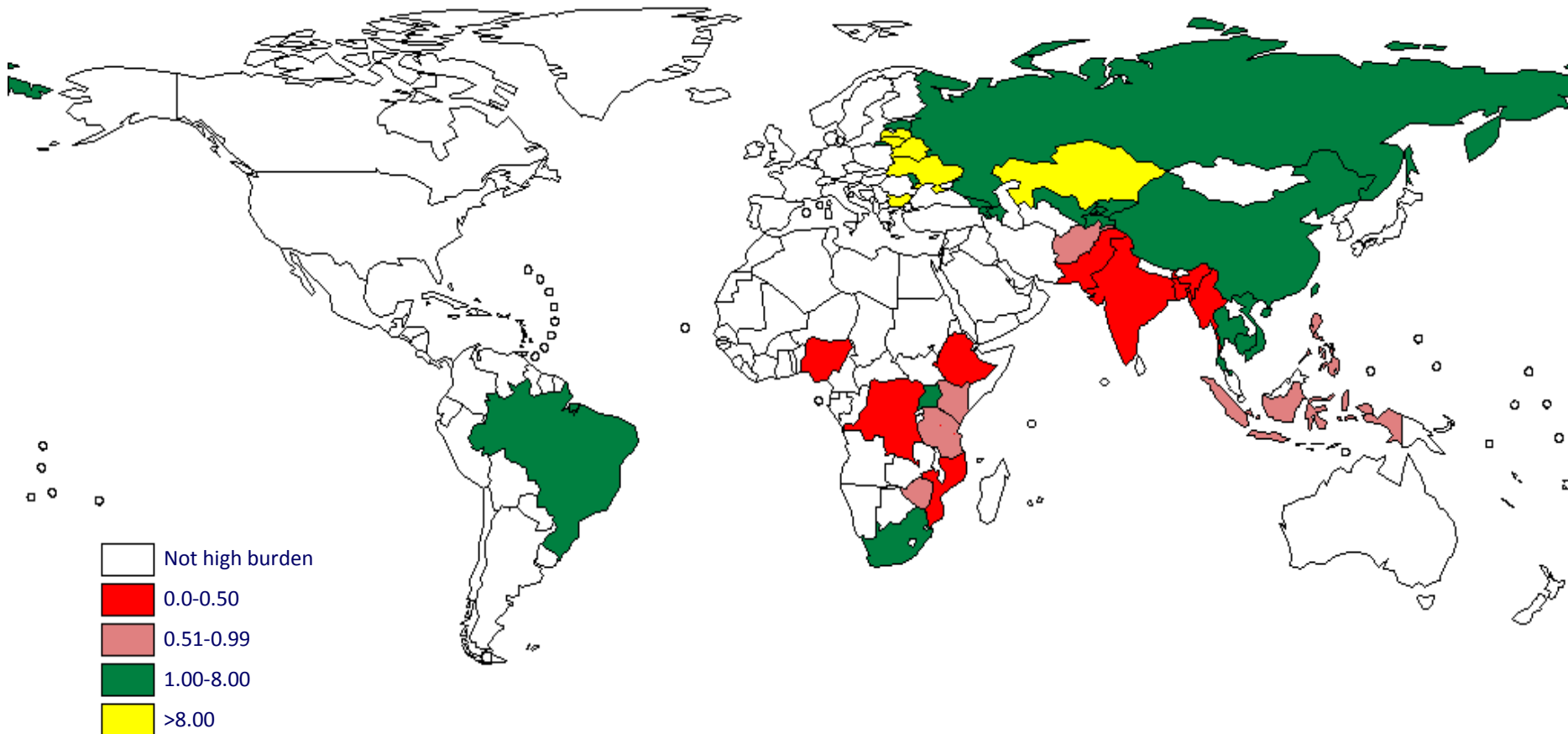
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Culture laboratories for TB per 5 million population

Countries with high burden of TB, MDR-TB or both, 2011



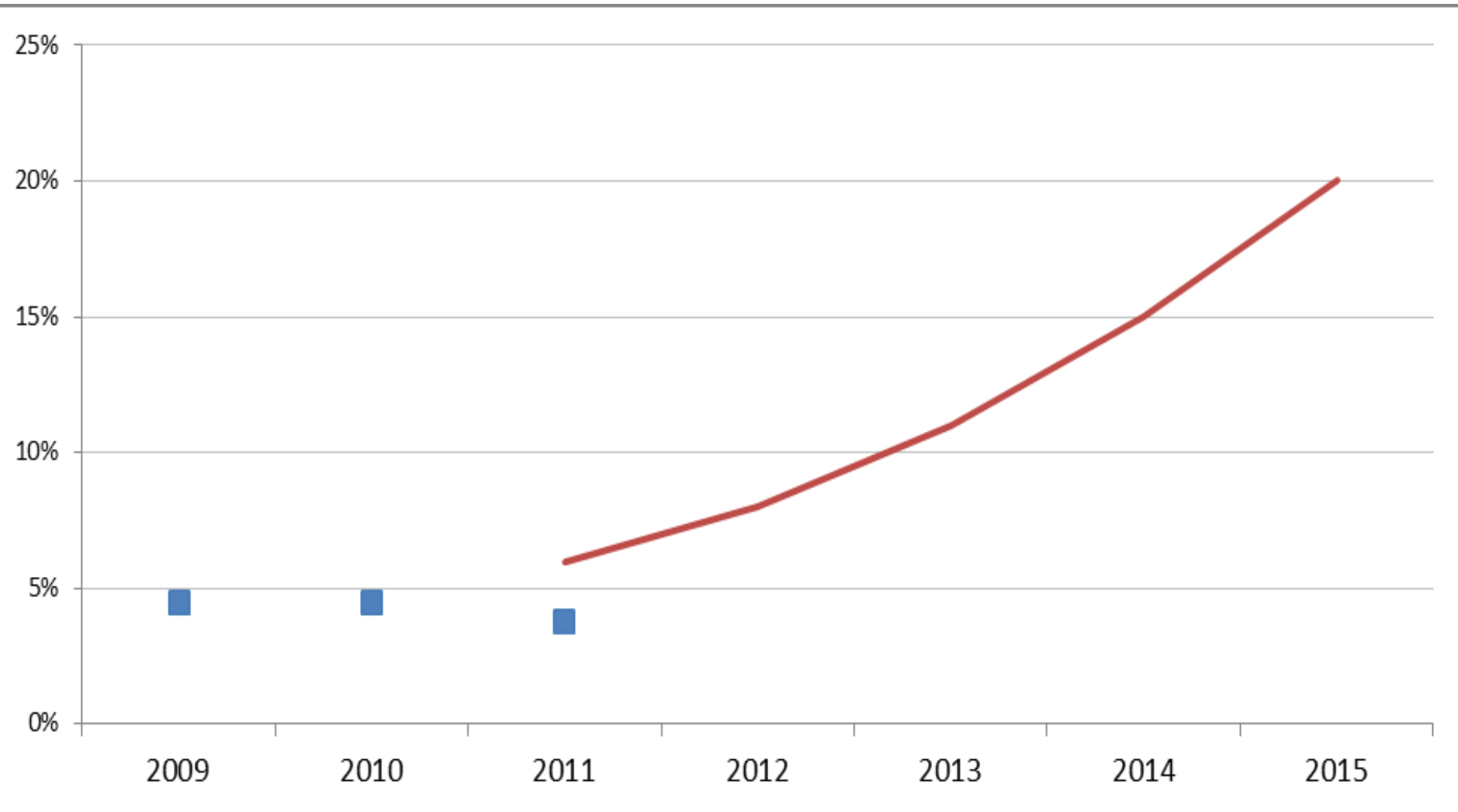
* 2010 data for Azerbaijan, Lithuania, Rep Moldova, Ukraine

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Diagnostic DST for rifampicin and isoniazid (1)

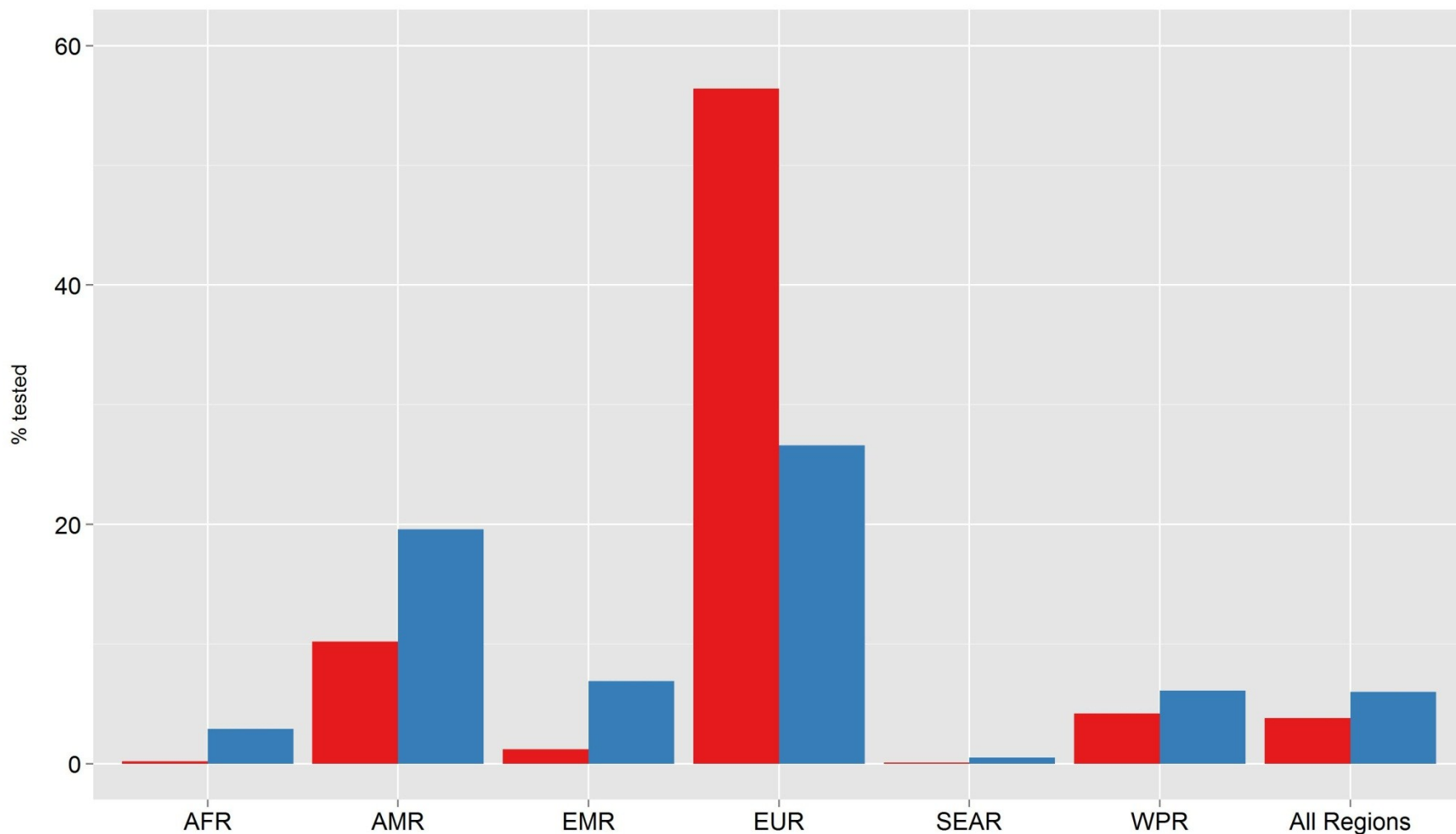
Among new bacteriologically-positive TB cases, 2009-2011

(& projections 2011-15 as per Global Plan)

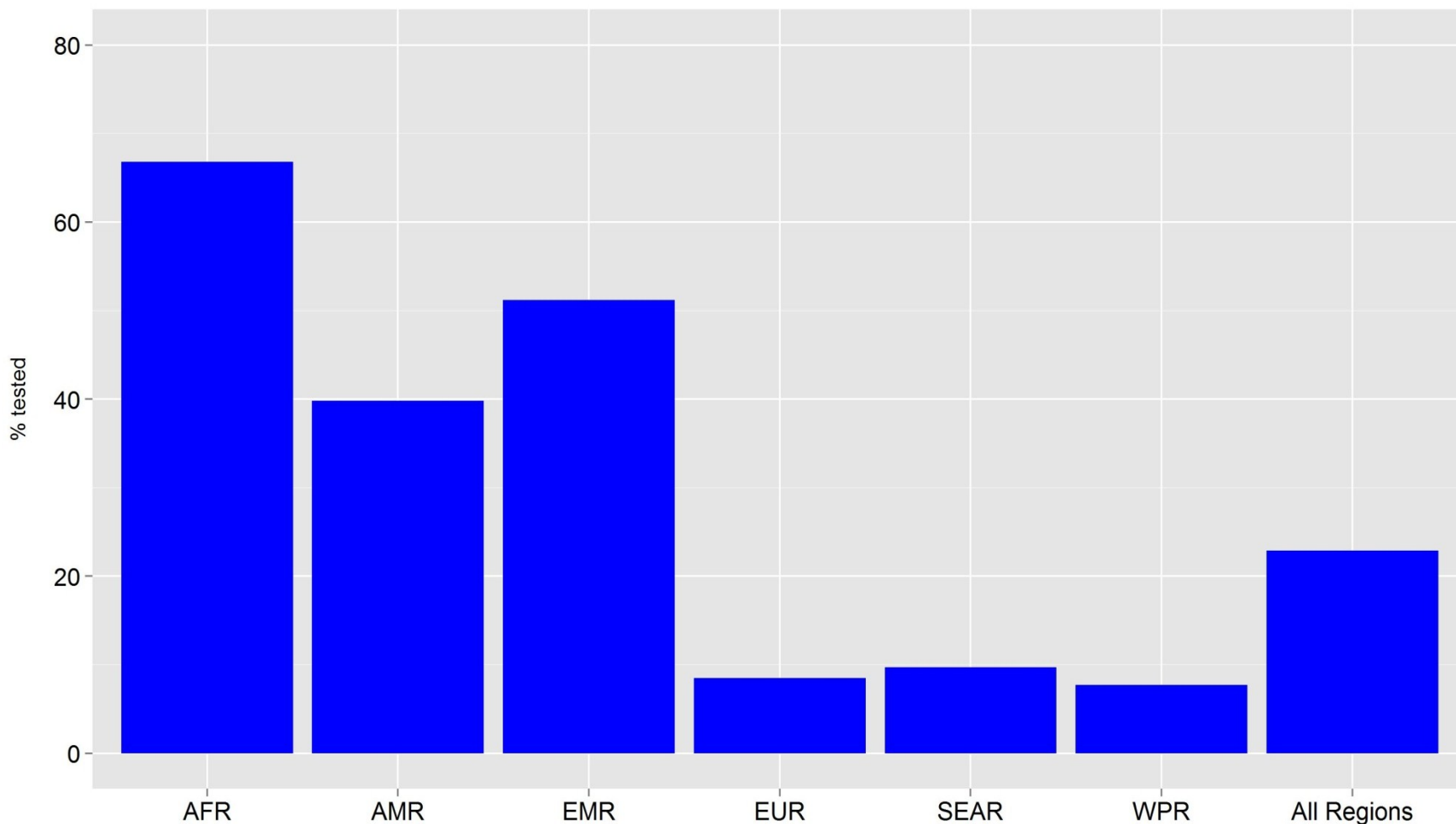


Diagnostic DST for rifampicin and isoniazid (2)

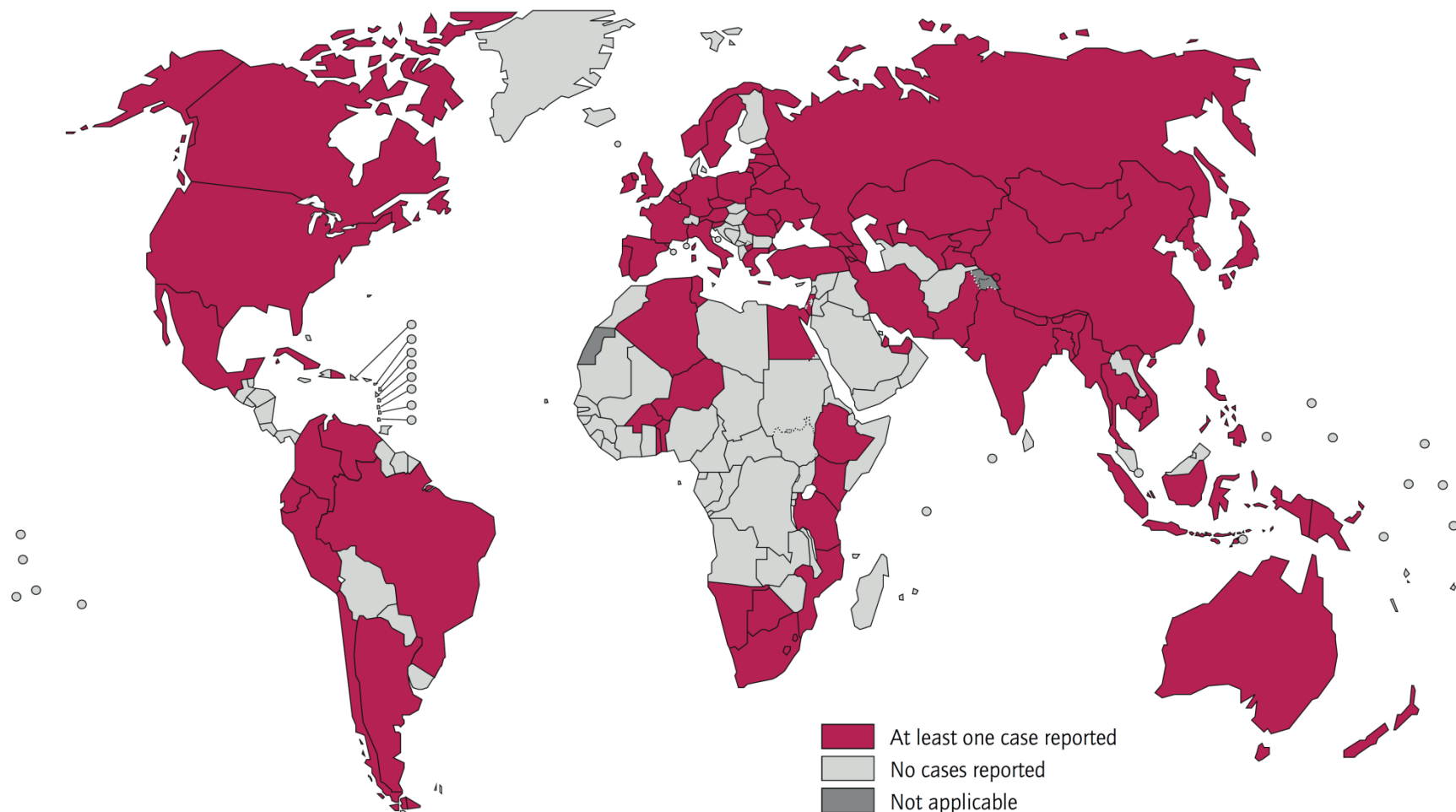
DST coverage for new (red) and retreated (blue) TB patients, by region and globally 2011



DST coverage for second-line drugs among MDR-TB cases, 2011

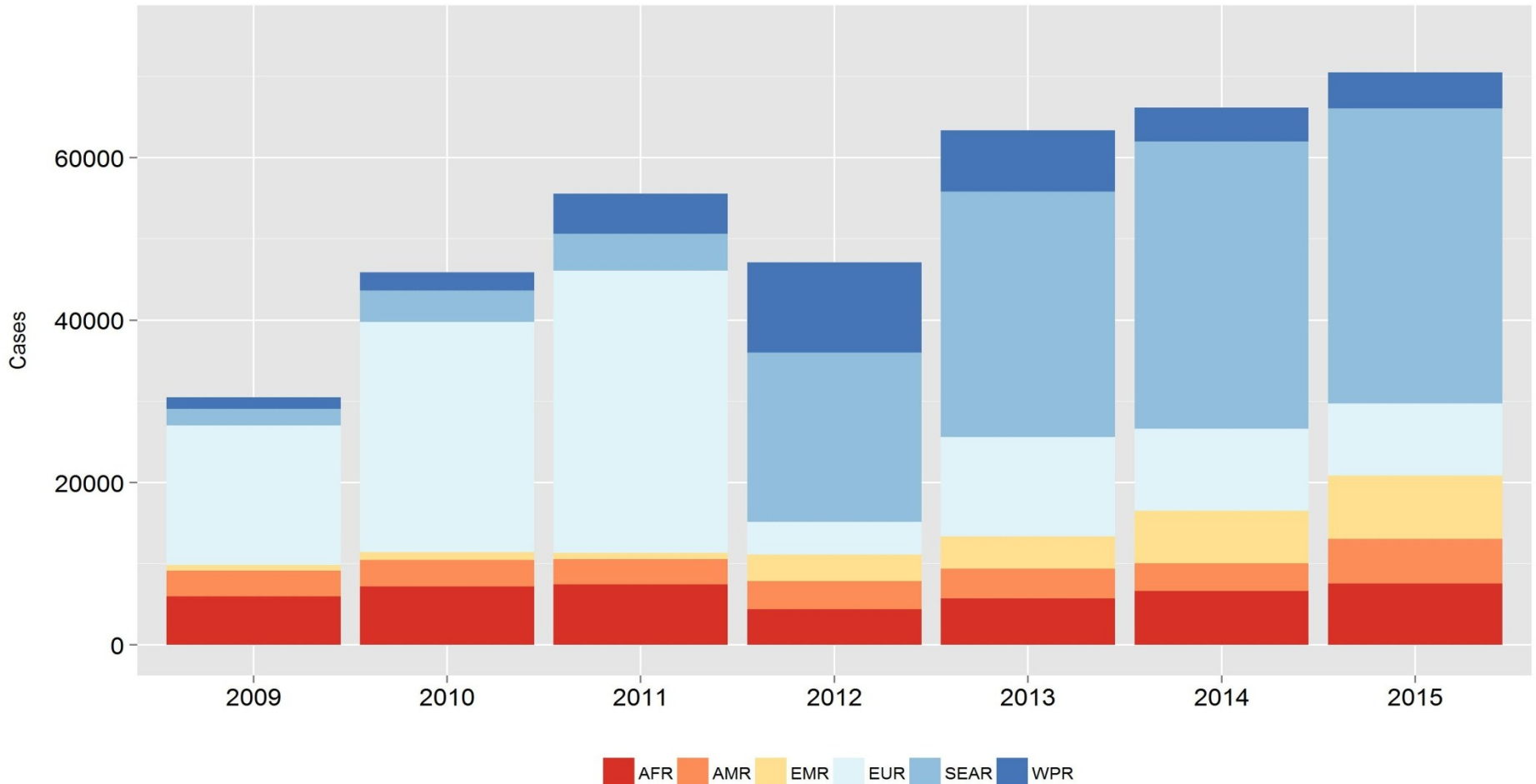


Countries that had reported at least one XDR-TB case by Oct 2012



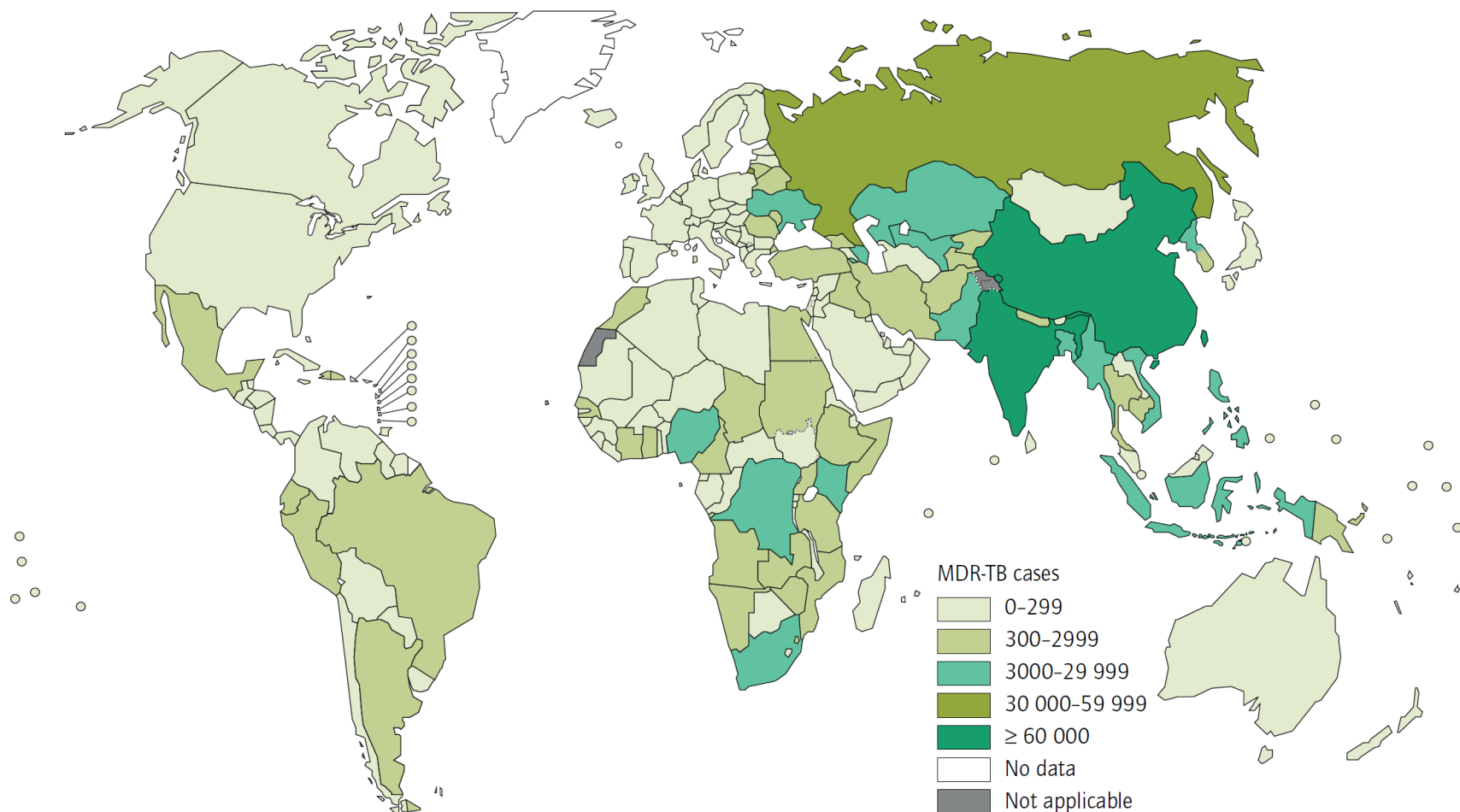
MDR-TB notification and enrolment (1)

Enrolments on MDR-TB treatment:
reported (2009-2011) and projected (2012-2015)



MDR-TB notification and enrolment (2)

Number of MDR-TB cases estimated to occur among notified pulmonary TB cases, 2011



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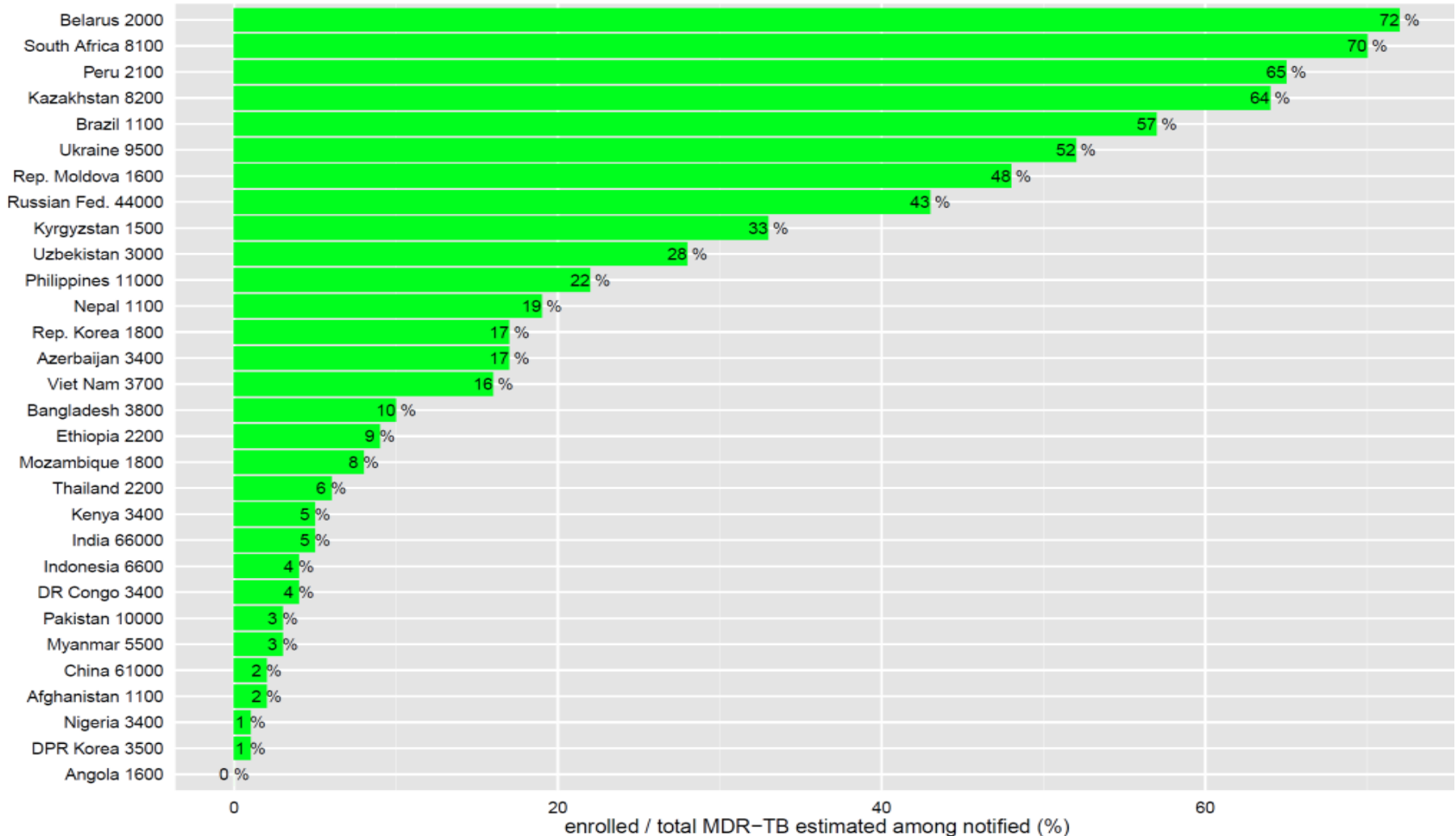
MDR-TB notification and enrolment (3)

MDR cases reported vs estimated among notified TB, 2011

WHO Region	2011		
	Estimated	Reported	Ratio
African	45,000	12,384	28%
American	5,900	2,969	50%
East Med.	17,000	841	5%
European	76,000	32,348	43%
S-E Asian	89,000	6,615	7%
West Pacific	78,000	4,392	6%
Global	310,000	59,549	19%

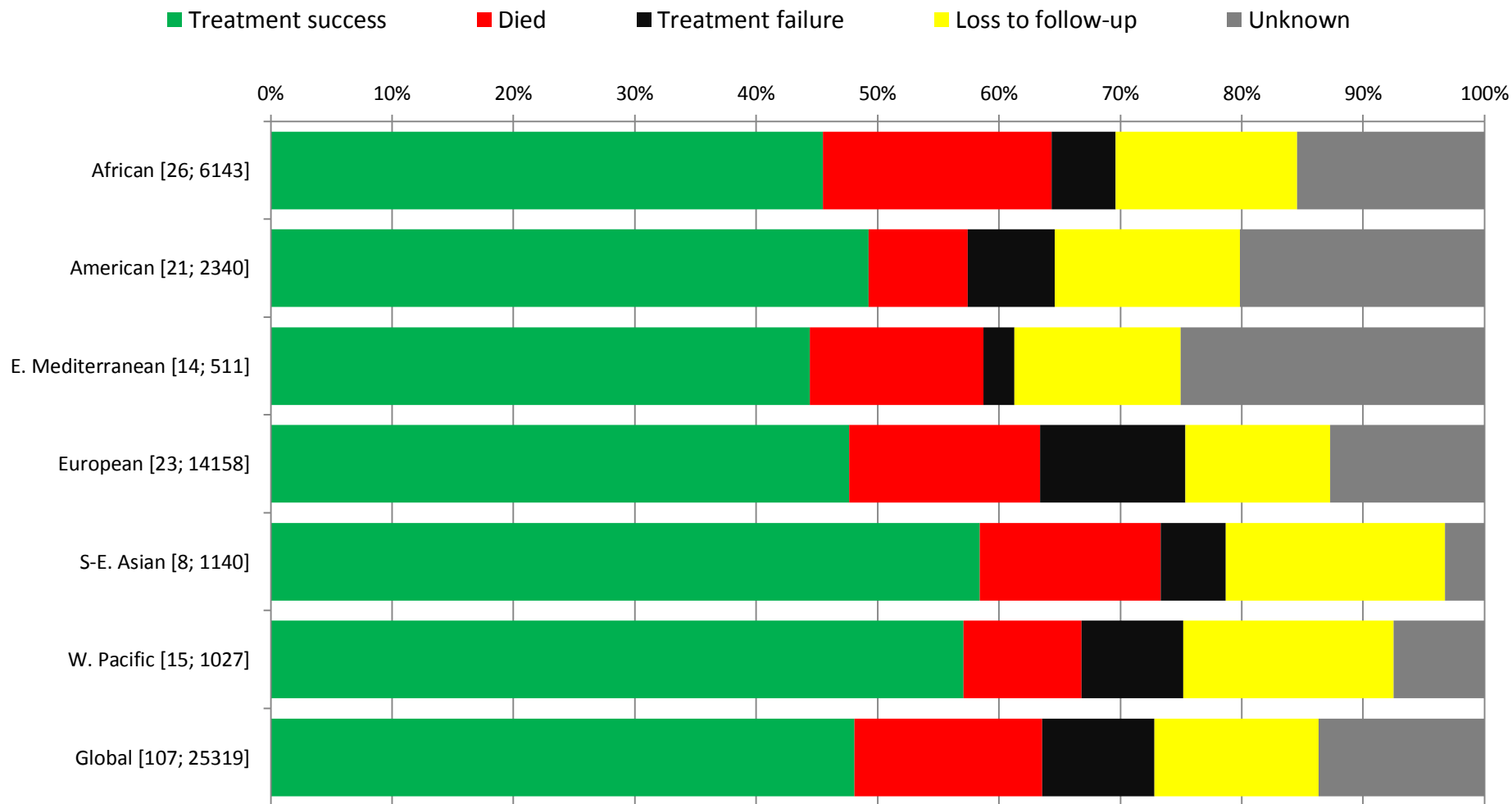
MDR-TB notification and enrolment (4)

% estimated MDR-TB cases enrolled on treatment in 2011



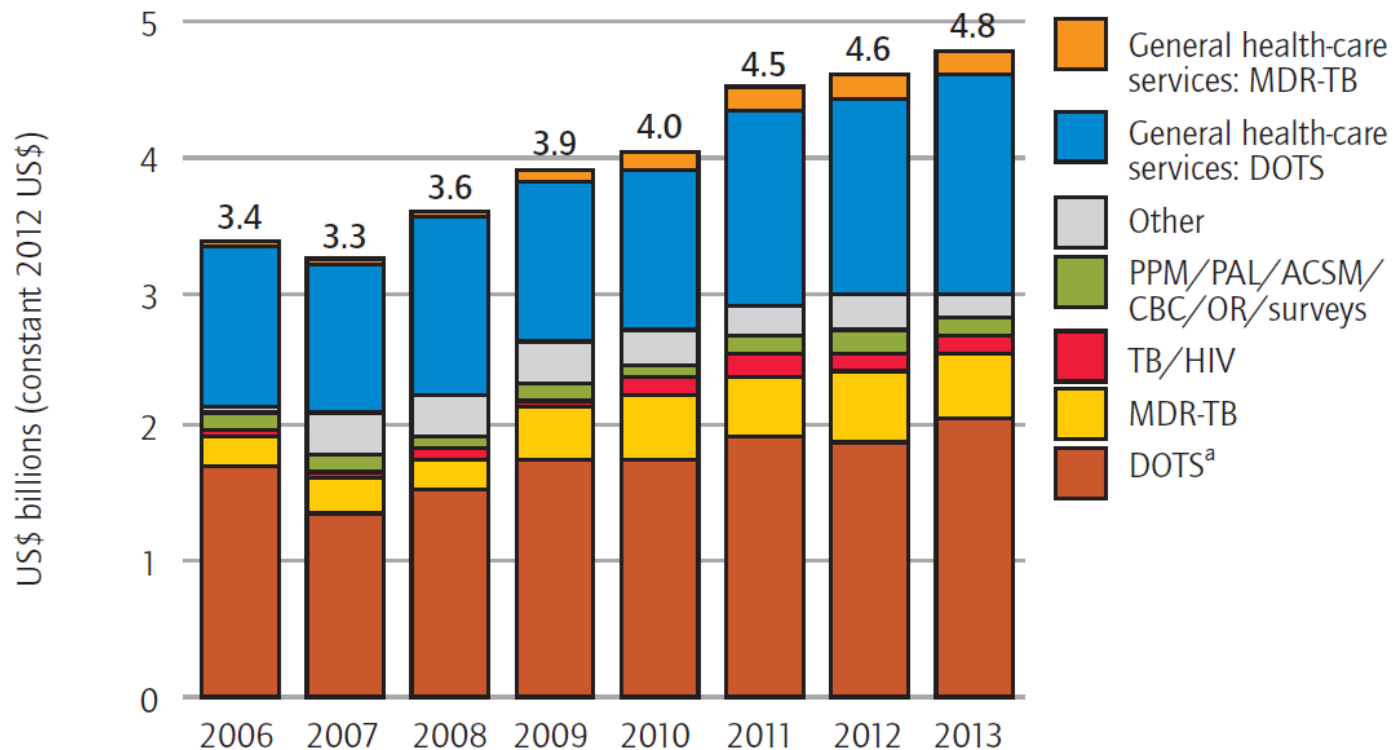
Outcomes of MDR-TB treatment

For MDR-TB patients started on treatment in 2009



Funding for MDR-TB (1)

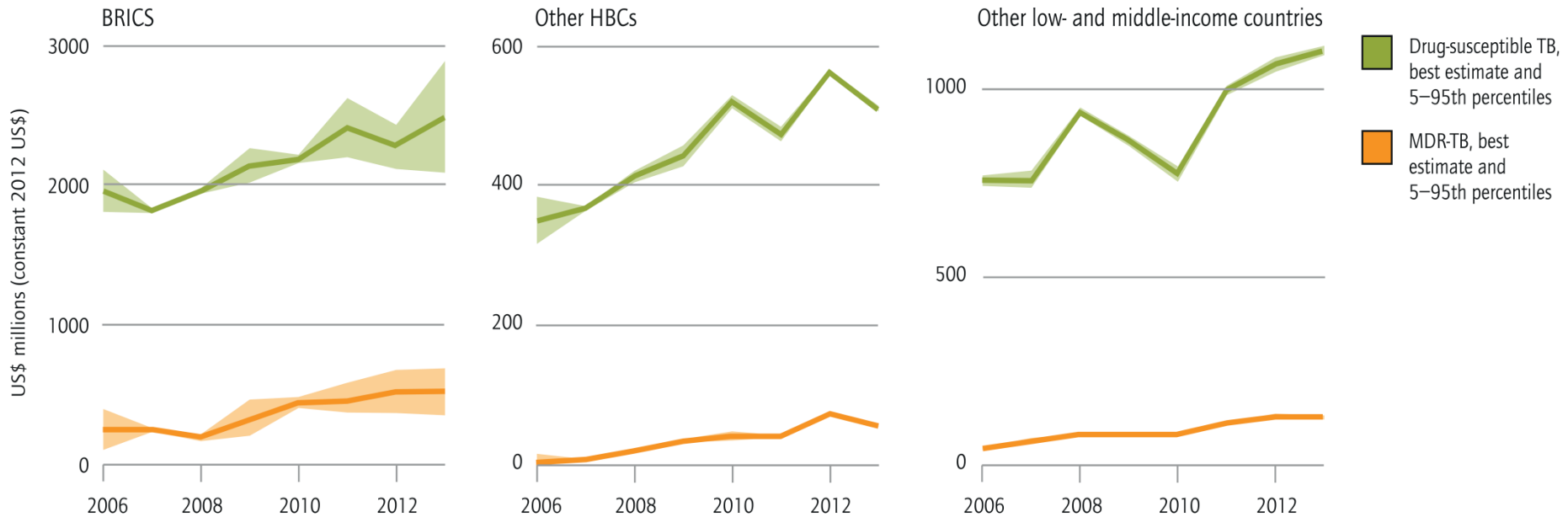
Funding for TB care and control in 104 countries reporting 94% of global cases, by line item, 2006–2013



^a DOTS includes funding available for first-line drugs, NTP staff, programme management and supervision, and laboratory equipment and supplies.

Funding for MDR-TB (2)

Funding for drug-susceptible TB^a and MDR-TB,^b 2006–2013, by country group



^a Costs include first-line drugs, NTP staff, programme management and supervision, laboratory equipment and supplies, hospital stays and clinic visits.

^b Costs include second-line drugs, programme management and supervision, hospital stays and clinic visits.

BRICS=Brazil, the Russian Federation, India, China and South Africa.

Other HBCs=High TB burden countries except for the BRICS

Conclusions (1)

- Even if most TB patients in the world are not drug-resistant, the burden of MDR-TB in the world continues to represent a formidable challenge to global TB control.
- Coverage of DST for TB patients remains low and as a result a minority of drug-resistant TB patients are detected and notified. Information remains incomplete.
- While there has been progress in recent years in scaling-up MDR-TB treatment only about one fifth of MDR-TB patients estimated to occur are reported to be put on treatment.

Conclusions (2)

- Treatment of MDR-TB is complicated and less effective than for drug-susceptible TB. Countries need to place more MDR-TB patients on adequate treatment and strive to attain the Global Plan target of 75% success which less than a third of countries achieve till now.
- The research pipeline soon promises to deliver new anti-TB drugs and a shorter regimen which would be effective against both drug-susceptible and drug-resistant TB.

Conclusions (3)

- Monitoring of the MDR-TB response needs to take advantage of modern technology to collect data efficiently and provide managers with indicators for timely action.
- To reach the Global Plan targets, substantial resource mobilization will be needed, both from domestic and from external sources. The price of treating a patient needs to be reduced.