

Measles and Rubella Elimination Goals, Strategies and Status

ACIP February 22, 2017
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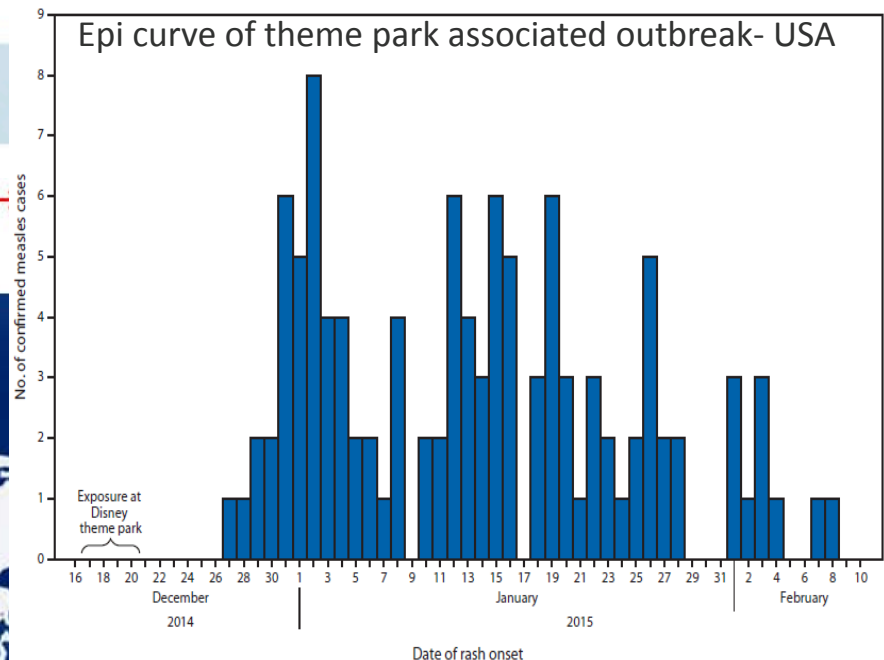
Presentation Outline

- Global Measles and Rubella Strategic Plan
- Global Situation
 - Measles
 - Rubella
- Regional elimination progress
- Strategic plan mid-term review report

Importation of genotype B3



Global transmission of measles viruses from the Philippines, 2014



GLOBAL MEASLES AND RUBELLA

STRATEGIC PLAN

2012–2020

Vision:

Achieve and maintain a world
without measles, rubella and
congenital rubella syndrome



Targets and Milestones

- **Targets**

- **By end 2015:**

- **Reduce global measles mortality by at least 95% compared with 2000 estimates**
 - **Achieve regional measles and rubella/CRS elimination goals**

- **By end 2020:**

- **Achieve measles and rubella elimination in at least five (of the six) WHO Regions**

- **Milestones**

- Reduce annual measles incidence to < 5 cases per million and maintain that level
 - $\geq 90\%$ coverage with routine MCV1 nationally and $\geq 80\%$ vaccination coverage in every district or equivalent administrative unit
 - $\geq 95\%$ coverage with M, MR or MMR during SIAs in every district or equivalent administrative unit
 - Establish a rubella/CRS elimination goal in at least 1 more WHO Region
 - Establish a target date for the global eradication of measles

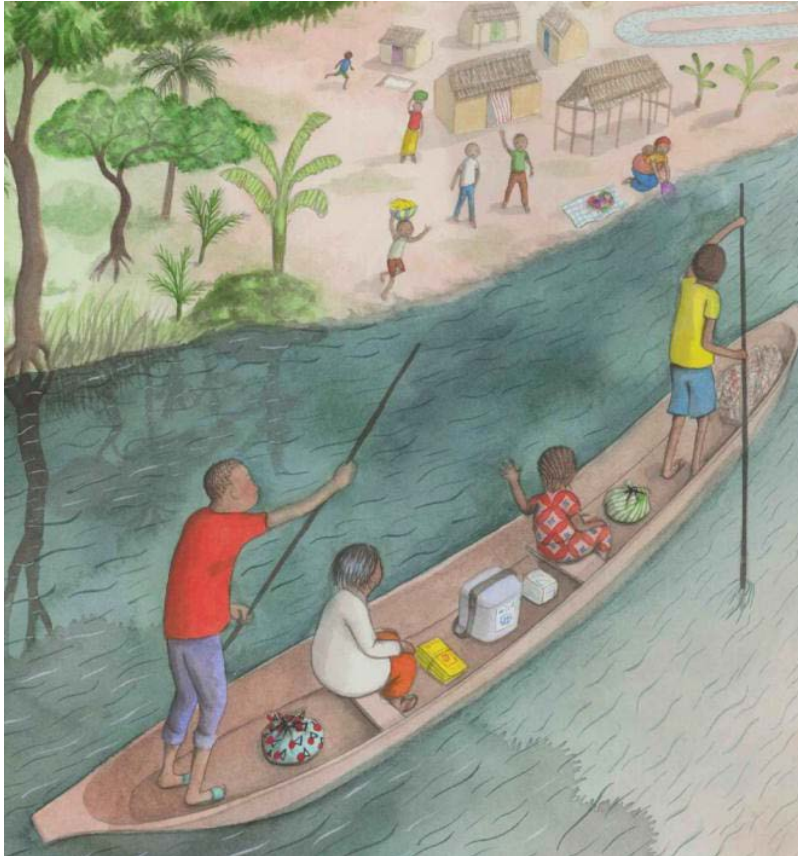
Targets and Milestones

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 - **By end 2015:**
 - Reduce global measles mortality by at least 95% compared with 2000 estimates
 - Achieve regional measles and rubella/CRS elimination goals
 - **By end 2020:**
 - Achieve measles and rubella elimination in at least five (of the six) WHO Regions
- **Milestones (by 2015)**
 - Reduce annual measles incidence to < 5 cases per million and maintain that level
 - > 90% coverage with routine MCV1 nationally and > 80% vaccination coverage in every district or equivalent administrative unit
 - \geq 95% coverage with M, MR or MMR during SIAs in every district or equivalent administrative unit
 - Establish a rubella/CRS elimination goal in at least 1 more WHO Region
 - Establish a target date for the global eradication of measles

Strategies

1. High population immunity through vaccination with two doses of M and R containing vaccines
2. Effective surveillance, monitoring and evaluation
3. Outbreak preparedness and response & case management
4. Communication to build public confidence and demand for immunization
5. Research and development

How far have we come?



Measles

Milestones

1. Coverage

- Target: >90% routine nationally
- Target: $\geq 95\%$ campaign

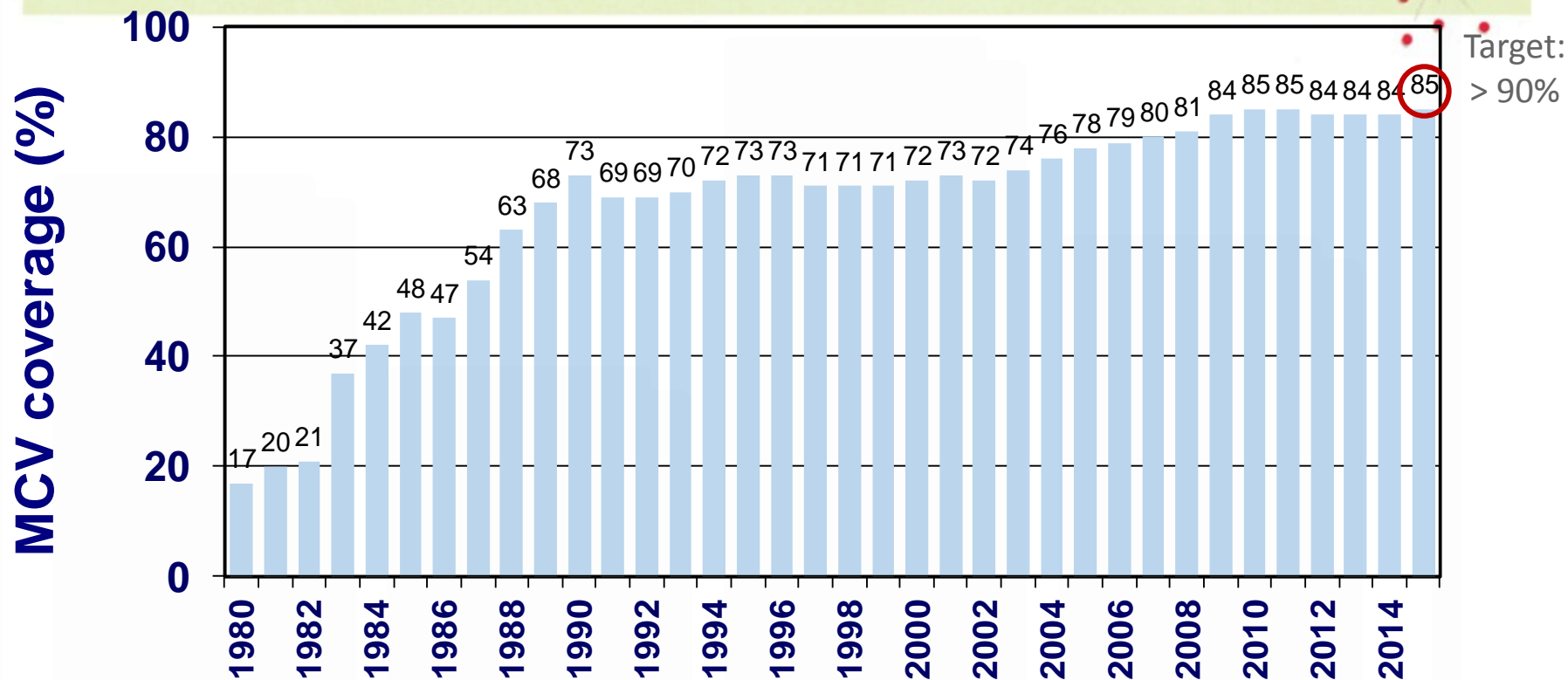
2. Incidence

- Target: < 5/million

3. Mortality

- Target: 95% reduction

Milestone 1- Coverage: Measles containing vaccine 1st dose (MCV1), 1980-2015

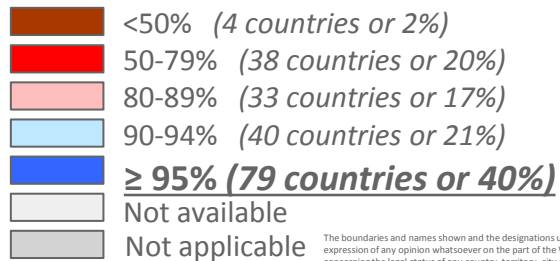


Source: WHO/UNICEF coverage estimates
2015 revision. July 2016

Immunization Vaccines and Biologicals,
(IVB), World Health Organization.

194 WHO Member States. Date of slide: 25
July 2016.

Estimated MCV1 coverage, by country 2015

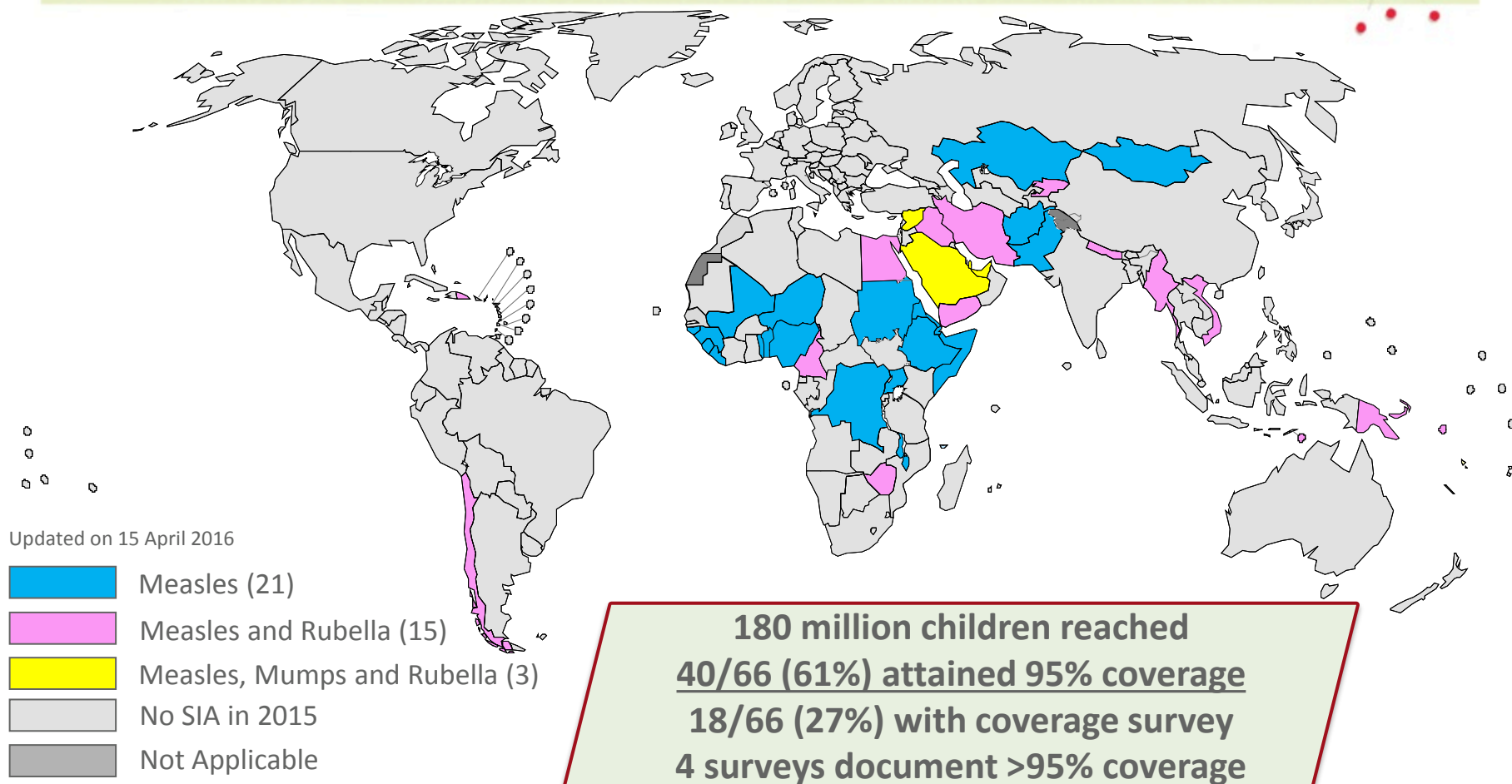


The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2016. All rights reserved

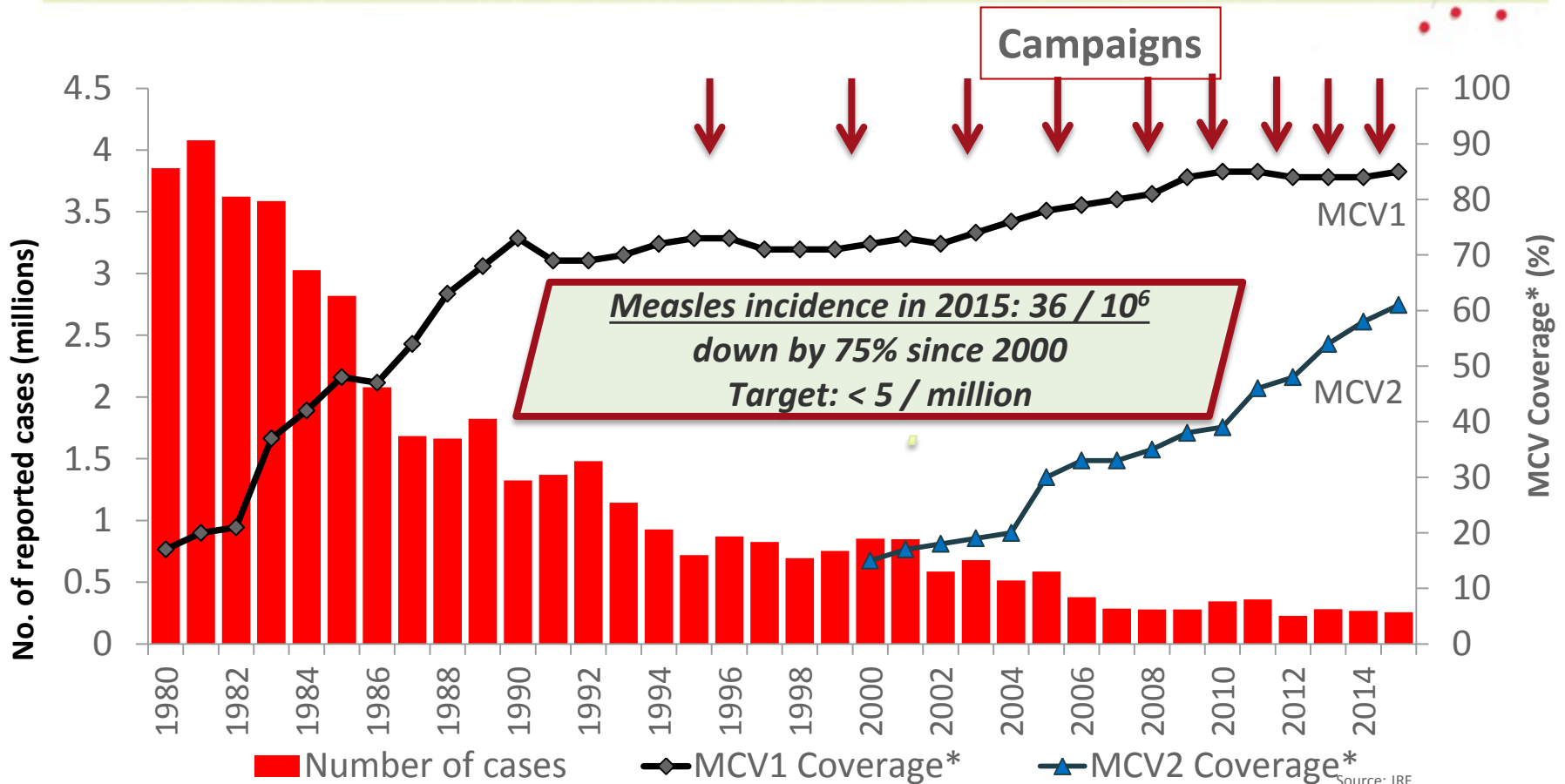
119 (61%) countries have > 90% MCV1 coverage
42 (22%) countries have < 80% MCV1 coverage

Source: WHO/UNICEF coverage estimates 2015 revision. Map production: Immunization Vaccines and Biologicals, (IVB). World Health Organization, 194 WHO Member States. Date of slide: 16 July 2016

39 Countries conducted 66 campaigns in 2015



Milestone 2- *Incidence*: Annual reported measles cases (with MCV coverage) 1980-2015



* Coverage as estimated by WHO and UNICEF.

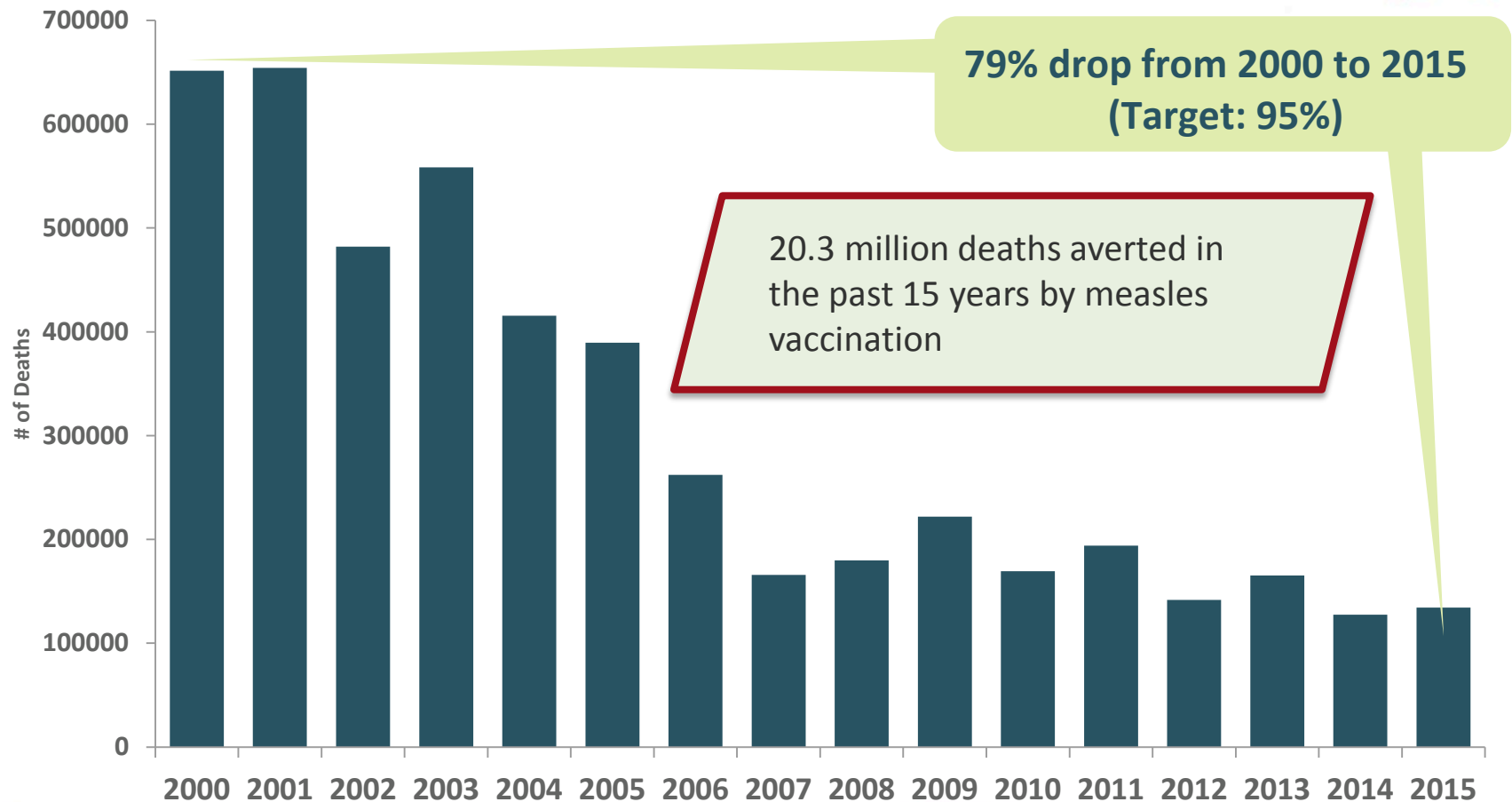
** MCV2 estimates is only available from 2000 when global data collection started, however some countries have introduced the vaccine earlier.

Source: JRF

194 WHO Member States.

Updated on 18 July 2016

Milestone 3- Mortality Reduction: Decrease from 2000 Estimate



*Patel et al, Progress toward regional measles elimination - worldwide, 2000-2015. In press

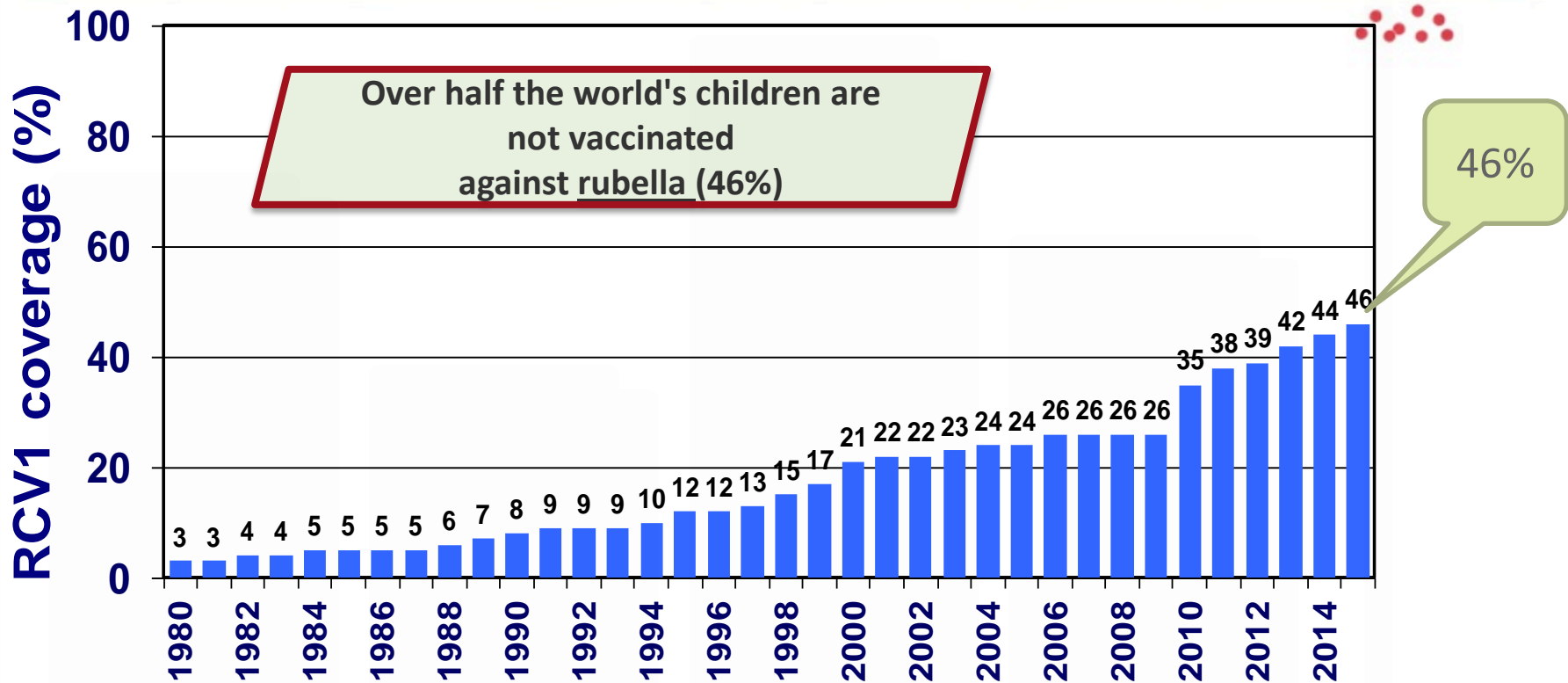
Where we are



Rubella

1. Coverage
2. Burden of Congenital Rubella Syndrome
3. Vaccine introduction

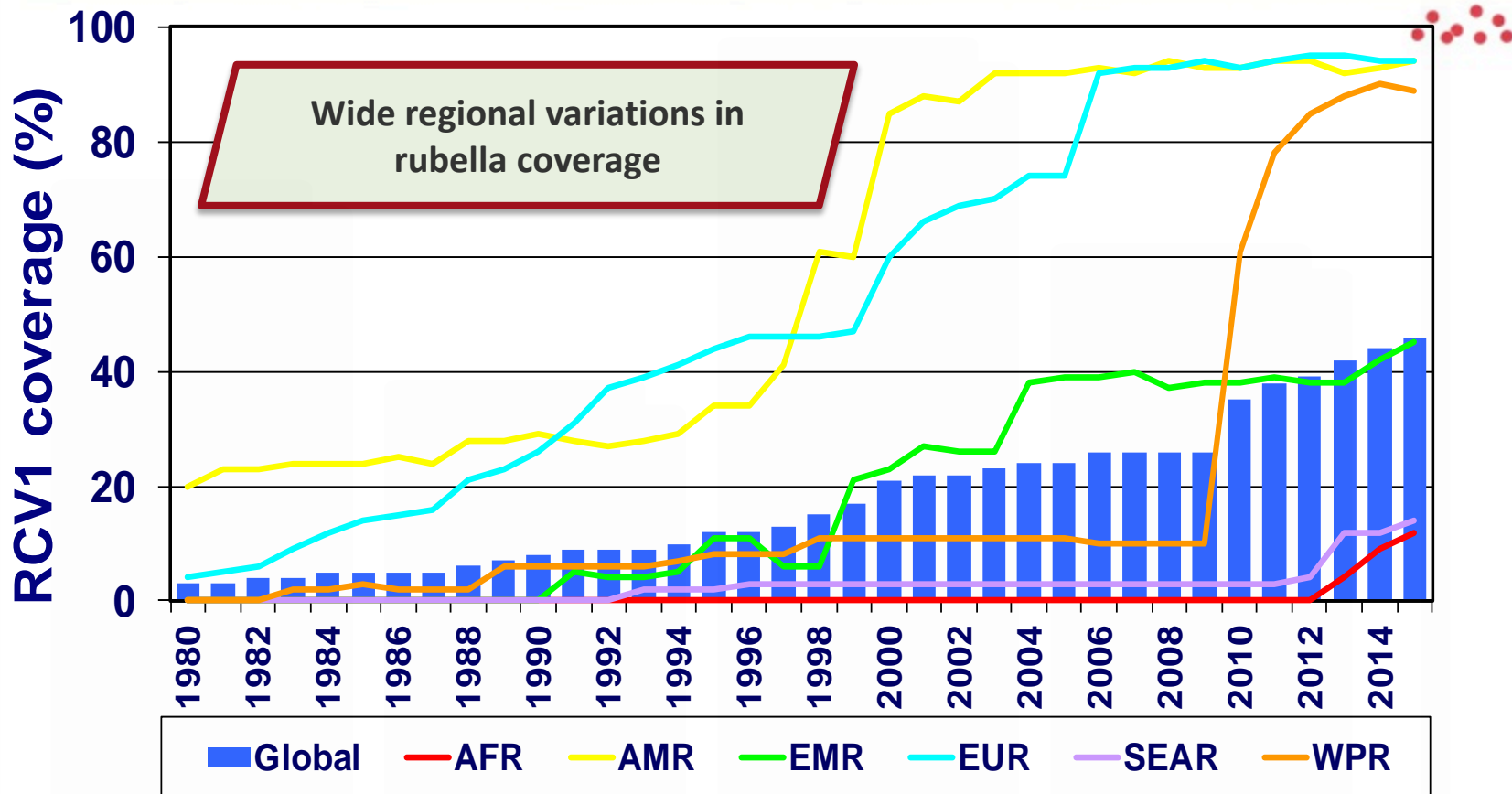
Rubella vaccine 1st dose coverage by WHO region, 1980-2015



Source: WHO/UNICEF coverage estimates 2015 revision. July 2016
Immunization Vaccines and Biologicals, (IVB), World Health Organization.
194 WHO Member States. Date of slide: 16 July 2016.

*coverage estimates for the 1st dose of rubella containing vaccine are based on WHO and UNICEF estimates of coverage of measles containing vaccine.

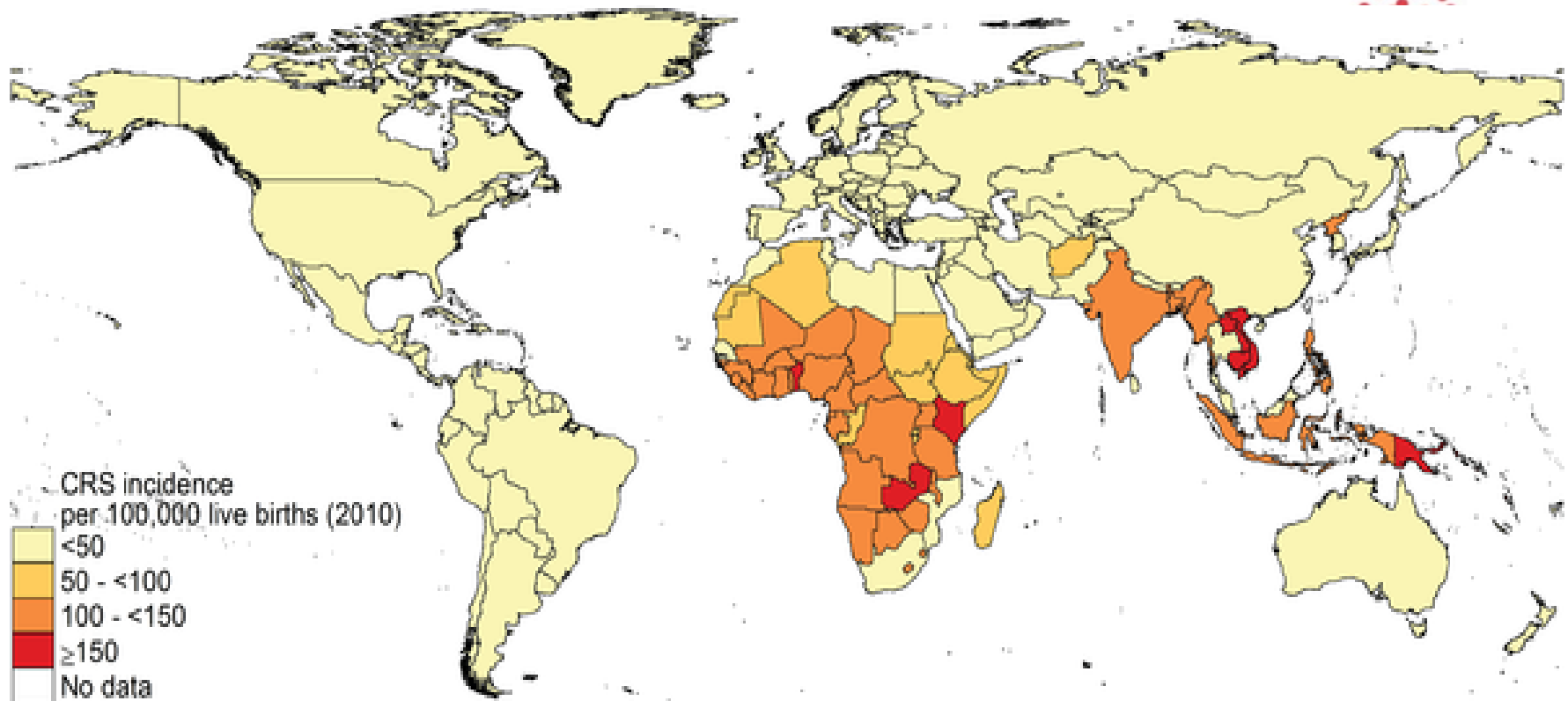
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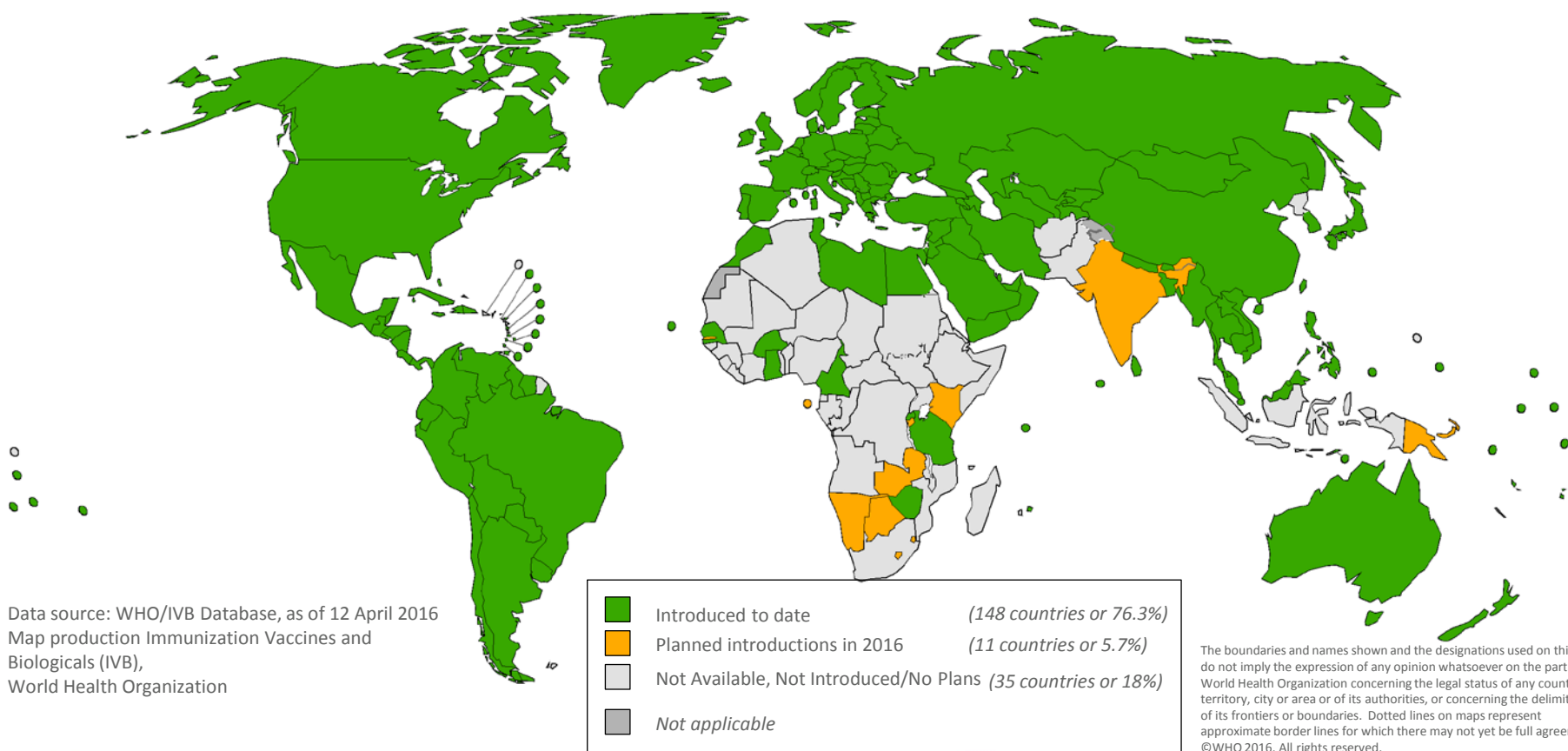
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Rubella Vaccination Prevents CRS: Estimates of the median incidence of CRS per 100,000 live births by country in 2010



Vynnycky E, Adams EJ, Cutts FT, Reef SE, Navar AM, et al. (2016) Using Seroprevalence and Immunisation Coverage Data to Estimate the Global Burden of Congenital Rubella Syndrome, 1996-2010: A Systematic Review. PLoS ONE 11(3): e0149160. doi:10.1371/journal.pone.0149160
<http://journals.plos.org/plosone/article?id=info:doi/10.1371/journal.pone.0149160>

Countries with rubella vaccine in the national immunization program or planned introductions in 2016

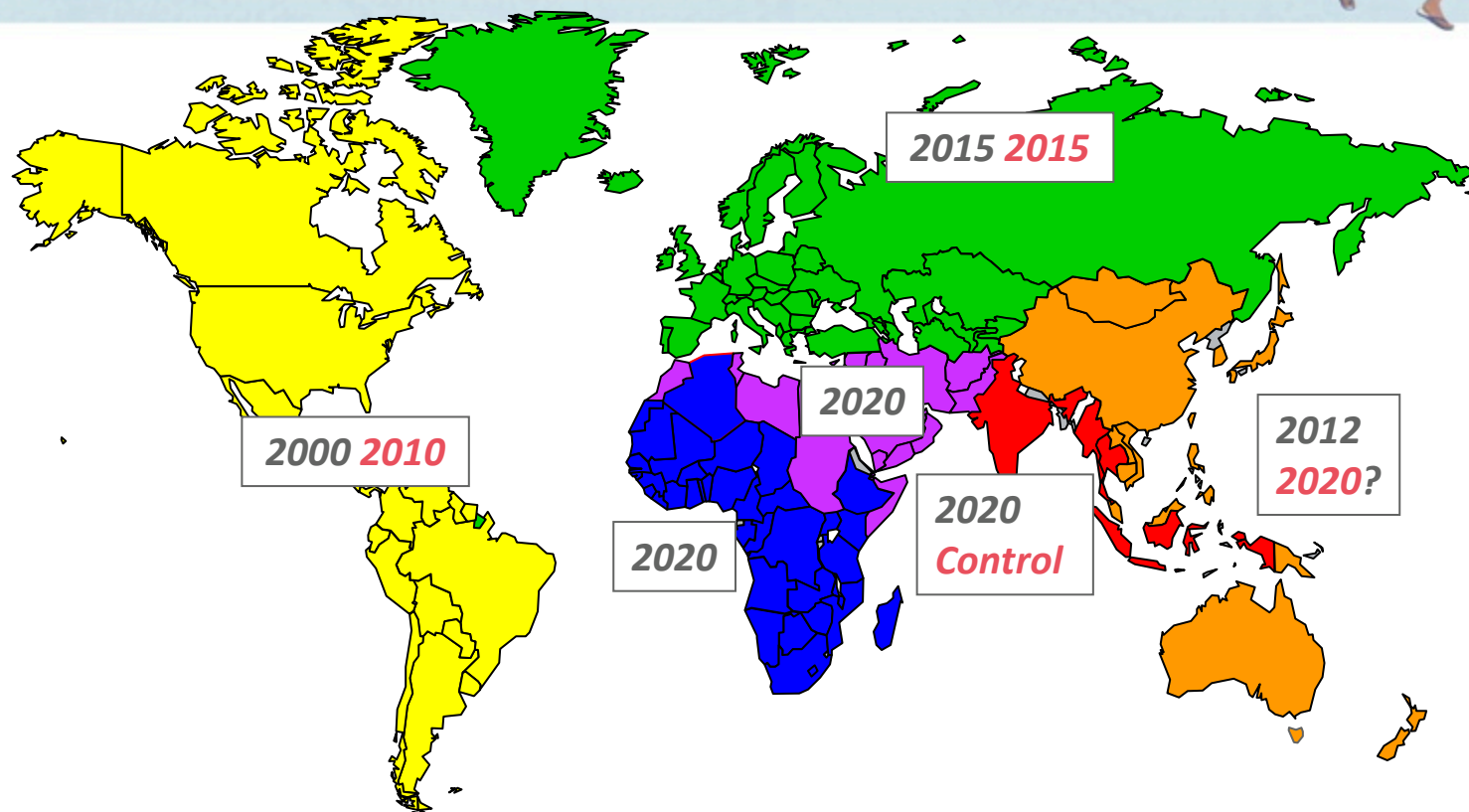


Data source: WHO/IVB Database, as of 12 April 2016
Map production Immunization Vaccines and Biologicals (IVB),
World Health Organization



Regional Progress

Measles and Rubella Elimination Goals by WHO Region, 2016



All Regions have measles elimination goals

Americas, European and Western Pacific Regions have rubella elimination goals

Regional Verification of Measles and Rubella Elimination, 2016



WHO Region	Regional Verification Commissions Established	Elimination Achieved	
		# of countries	% of countries
African (AFR)	No	-	-
Americas (AMR)	Yes	Measles: 36 <i>Rubella: 36</i>	100% <i>100%</i>
European (EUR)	Yes	Measles: 21 <i>Rubella: 24</i>	40% <i>45%</i>
Eastern Mediterranean (EMR)	No	-	-
South-East Asian (SEAR)	Yes	-	-
Western Pacific (WPR)	Yes	Measles: 7	19%

Regional Scorecard for Measles & Rubella Elimination (2015)



WHO Region	Elimination Target	MCV1 /MCV2 coverage	Measles/Rubella incidence (/million)	Comment
AFR	2020 – measles	74%	100	Off track for 2020 goal
		18%	5.6	No rubella target
AMR	2000 – measles	94%	0.6	Measles Verified:5/2016
	2010 – rubella	53%	0	Rubella Verified:9/2015
EUR	2015 – measles	94%	31	Off track- both
	2015 – rubella	89%	0.9	
EMR	2020 – measles	76%	33	Off track
		68%	3.0	No rubella target
SEAR	2020 – measles	85%	17	2020 goal
		71%	2.6	Rubella control target
WPR	2012 – measles	96%	35	Late; setback in 2014-15
	No date - rubella	93%	5.1	rubella target 2020?
Global	measles	85%	37	All Regions by 2020
	rubella	46%	?	5/6 Regions by 2020

Challenges to Measles-Rubella Elimination

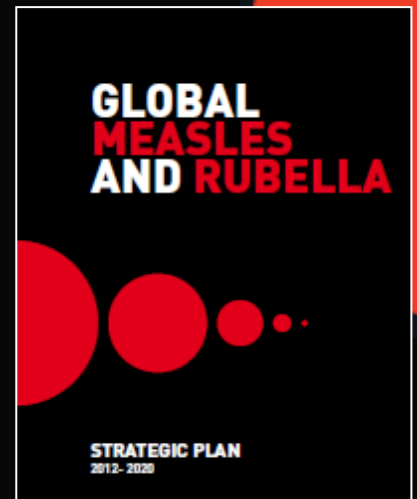


- AMR– risk of importations
- AFR– weak immunization & health systems, reliance on campaigns
- EUR– vaccine hesitancy, susceptible adults, variable surveillance quality
- EMR– security issues that limit access; persistent low coverage in some countries
- SEAR– large federalized countries (e.g. India, Indonesia) with heterogeneous coverage and need to strengthen and expand case-based surveillance
- WPR– measles resurgence in China, Philippines

All Regions

- Need for increased visibility and political commitment to regional elimination goals
- Susceptibility gaps including among older children and adolescents
- Lack of human and financial resources
- Vaccine hesitancy

MIDTERM REVIEW OF THE GLOBAL MEASLES AND RUBELLA STRATEGIC PLAN 2012 – 2020



Presented to SAGE Geneva, 19 October 2016

Major findings and conclusions (1)



- Tremendous progress made since 2001, however, neither measles nor rubella elimination on track to achieve ambitious goals
- Basic strategies articulated are sound
- Full implementation has been limited by inadequate country ownership and global political will, reflected in inadequate resources
- It is premature to set a timeframe for measles eradication at this point
 - A determination should be made, not later than 2020, whether a formal global goal for measles eradication should be set with timeframes for achievement

Major findings and conclusions (2)



- Disease incidence is the most important indicator of progress
- There is an urgent need to strengthen the collection and use of surveillance data to better guide program strategy and implementation
 - Outbreaks highlight program weaknesses
- Strengthening of immunization systems is critical to achieving regional elimination goals
 - Two doses of measles or measles-rubella vaccine delivered through ongoing services is the standard for national programs.
 - Regular preventative campaigns should be conducted if coverage is insufficient for high population immunity

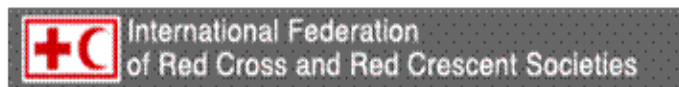
Summary



- US still at high risk of importation due to ongoing global transmission
- Effective vaccination strategies exist, resulting in major achievements but targets **not** met
 - Midterm review:

“[The basic strategies are sound, however,] the main impediments to full implementation have been inadequate country ownership and global political will, reflected in inadequate resources”
- Global efforts to assist countries to introduce rubella containing vaccine are needed
- Mid-term review recommendations are being implemented to continue progress towards a world without measles, rubella and congenital rubella syndrome

Thank you from the Measles and Rubella Initiative Partners



Anne Ray Charitable Trust



Lions Clubs International
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