

# Global Rubella Update and Incorporating MR vaccine Into National Immunizations Programs

**13<sup>th</sup> Annual Meeting**

**American Red Cross National Headquarters**

**September 9, 2014**

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# GVAP Targets

## By end 2015:

- **Achieve regional measles and rubella/CRS elimination goals**
  - Measles: American (2000), Western Pacific (2012), European (2015) and Eastern Mediterranean (2015)
  - Rubella & CRS: American (2010) and European (2015)

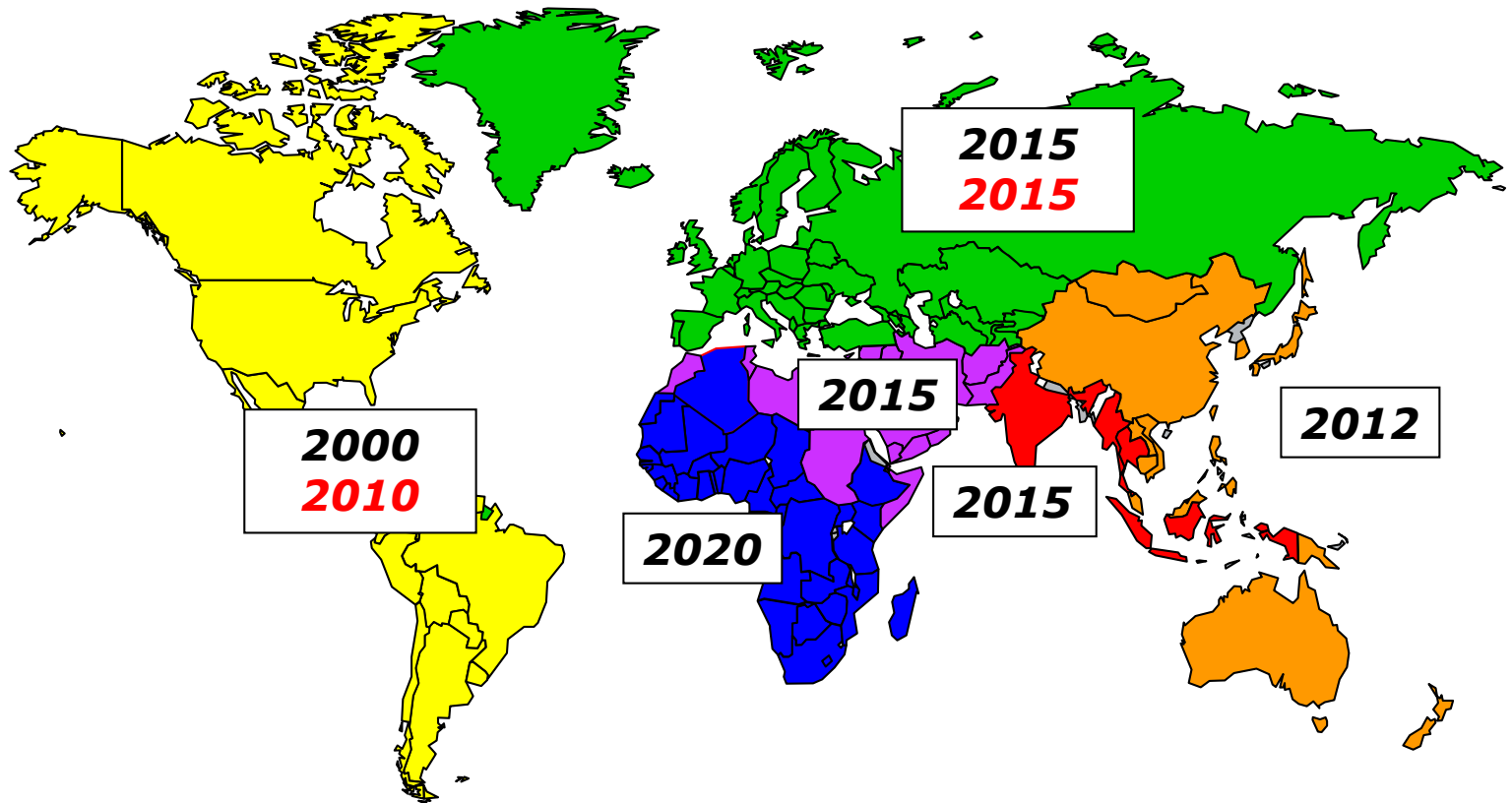
## By end 2020:

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

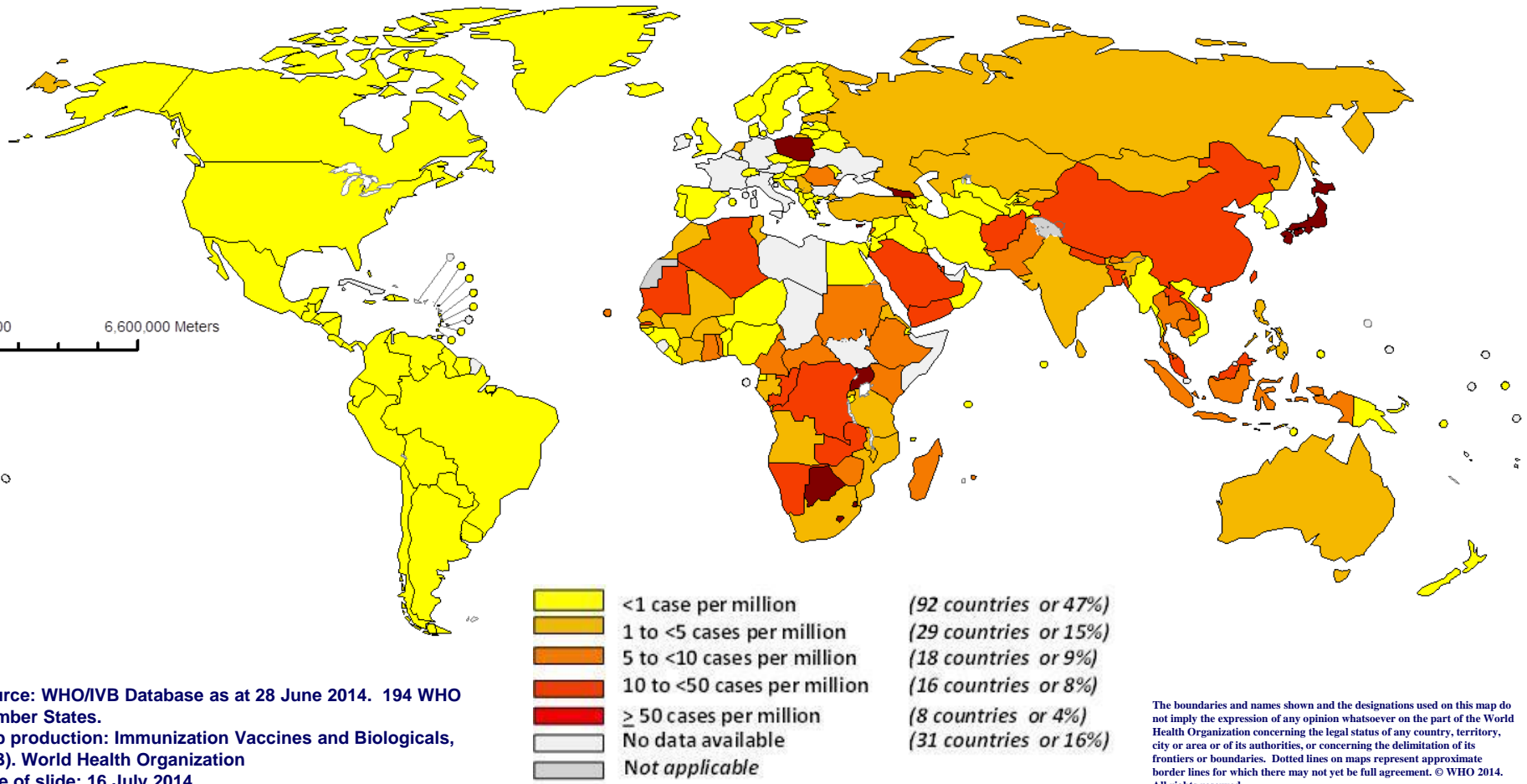
Global Vaccine Action Plan 2011-2020 endorsed by the World Health Assembly May 2012

# Measles and *Rubella* Elimination Goals by WHO Region, 2013

All Regions have measles elimination goals  
**Americas and Europe have rubella elimination goals**



# Rubella incidence rate per million population by country in 2013

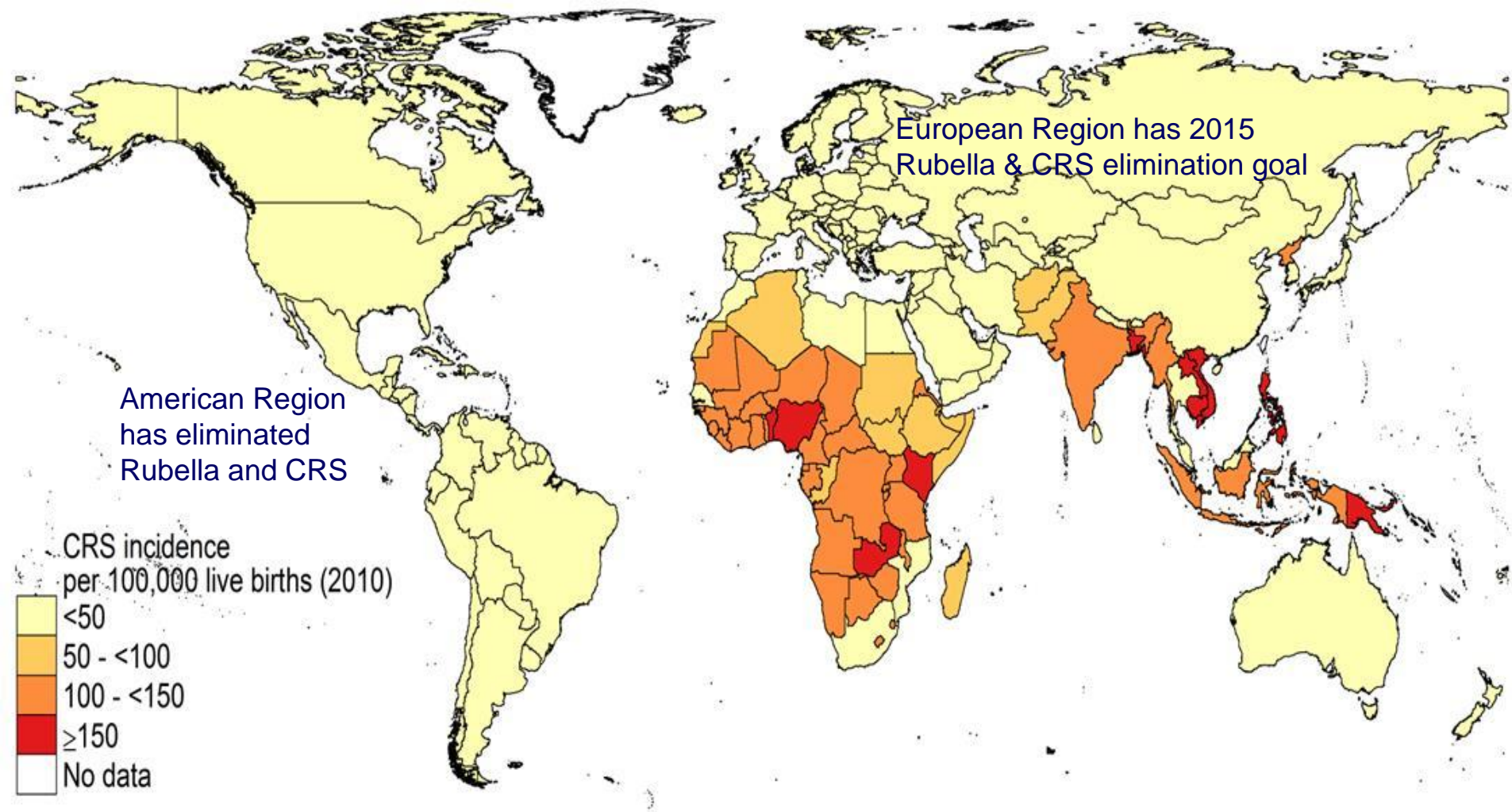


Source: WHO/IVB Database as at 28 June 2014. 194 WHO Member States.

Map production: Immunization Vaccines and Biologicals, (IVB). World Health Organization  
Date of slide: 16 July 2014

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# Estimated CRS Incidence (per 100,000 live births), 2010

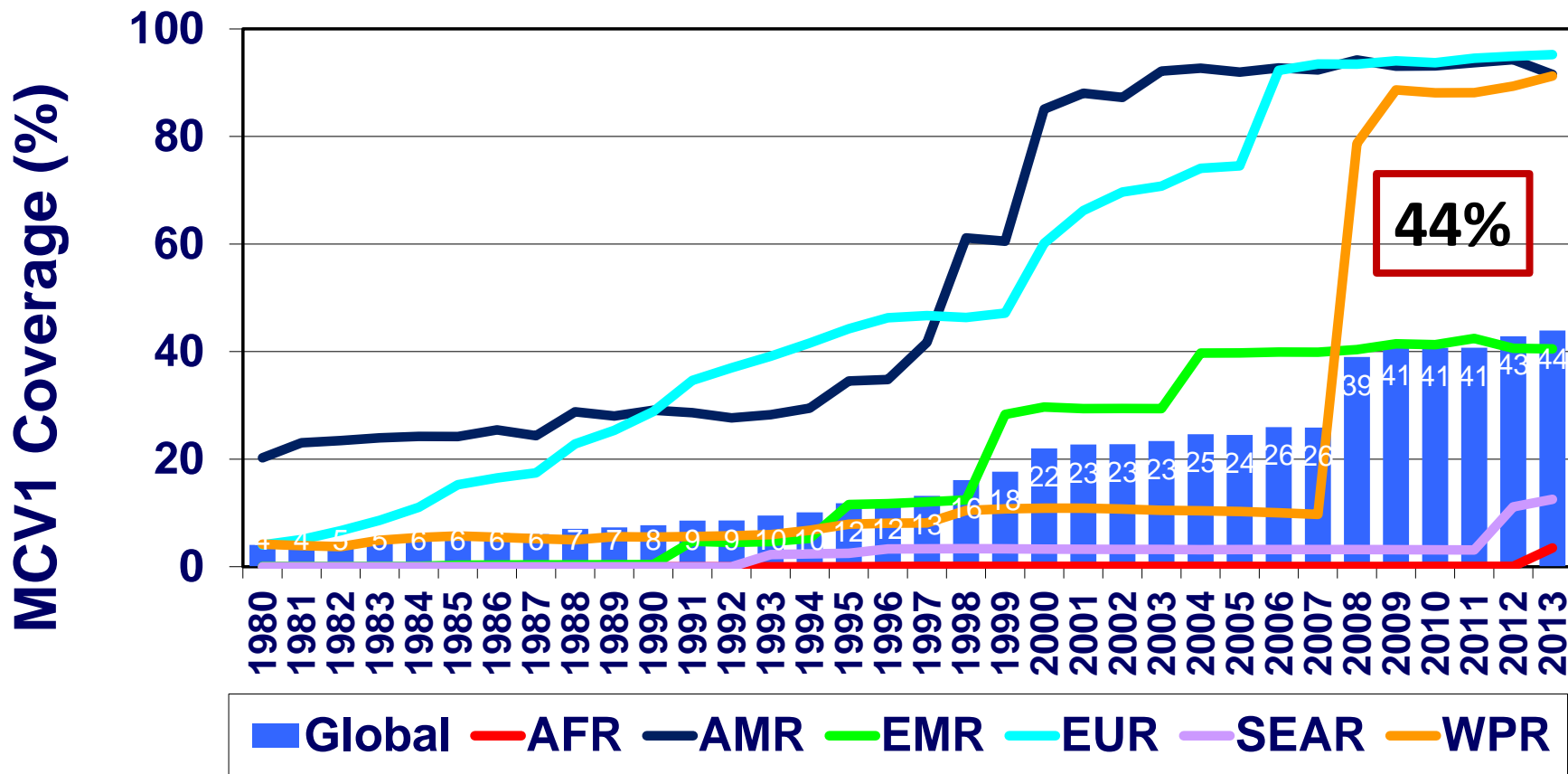


Source: Vynnycky, Adams, HPA, et al (in preparation)

# Rubella Containing Vaccine (RCV) Introduction

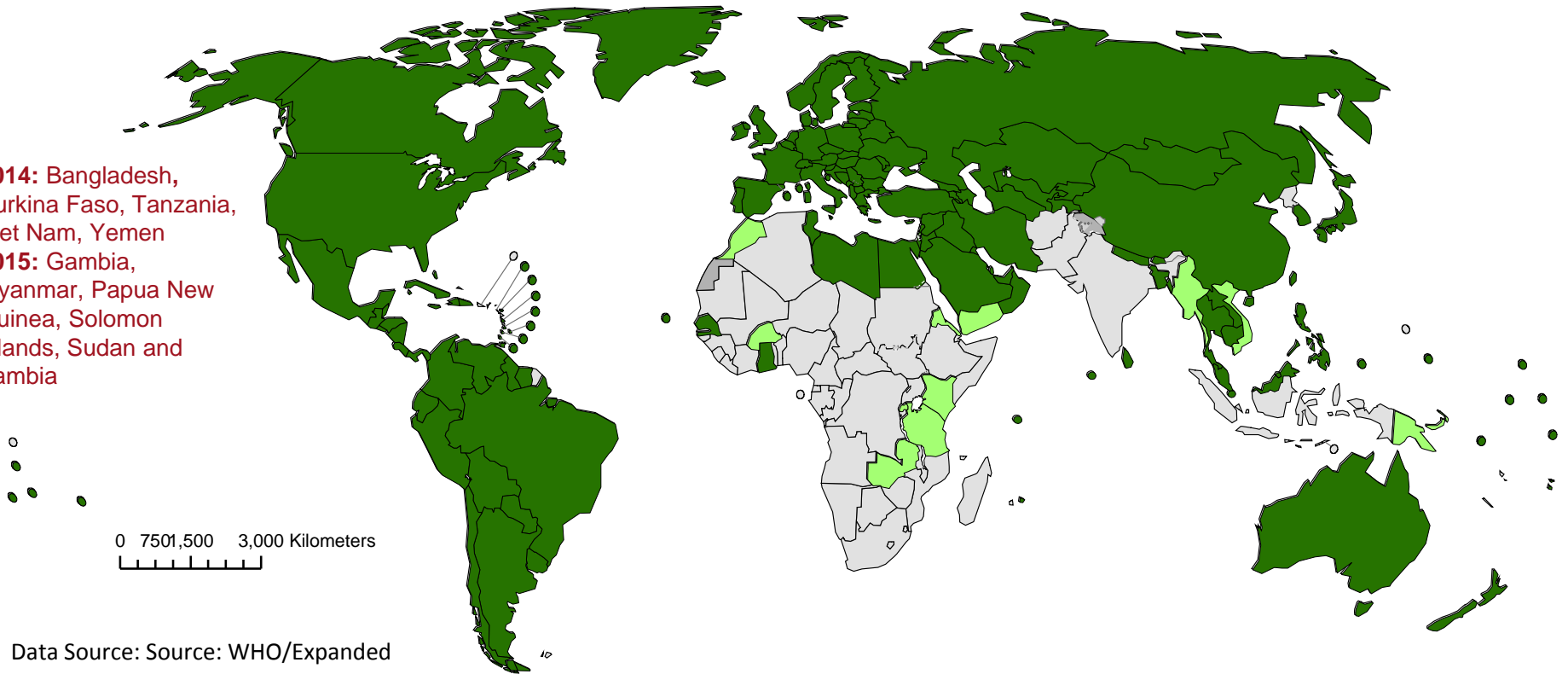
- WHO/SAGE Recommended introduction of RCV into EPI schedules (2011)
  - Introduction requires MCV coverage of  $\geq 80\%$  through Routine or SIA
- GAVI supported introduction in eligible countries
  - Introduction grant
  - Vaccine and portion of operational costs

# Rubella containing vaccine coverage by WHO region, 1980-2013



Source: WHO/UNICEF coverage estimates 2013 revision. July 2014  
 Immunization Vaccines and Biologicals, (IVB), World Health Organization.  
 194 WHO Member States. Date of slide: 24 July 2014.

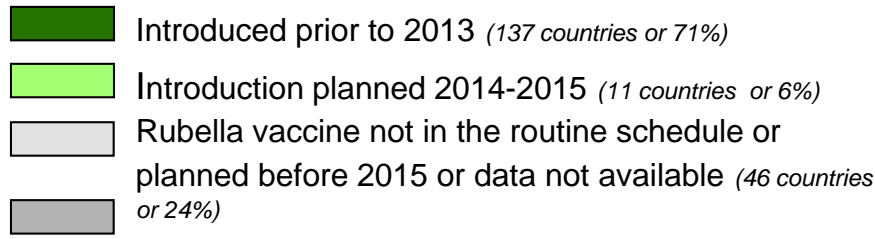
# Distribution of countries using rubella vaccine in their routine immunization schedule in 2013 and countries planning introduction during 2014-2015



**2014:** Bangladesh, Burkina Faso, Tanzania, Viet Nam, Yemen  
**2015:** Gambia, Myanmar, Papua New Guinea, Solomon Islands, Sudan and Zambia

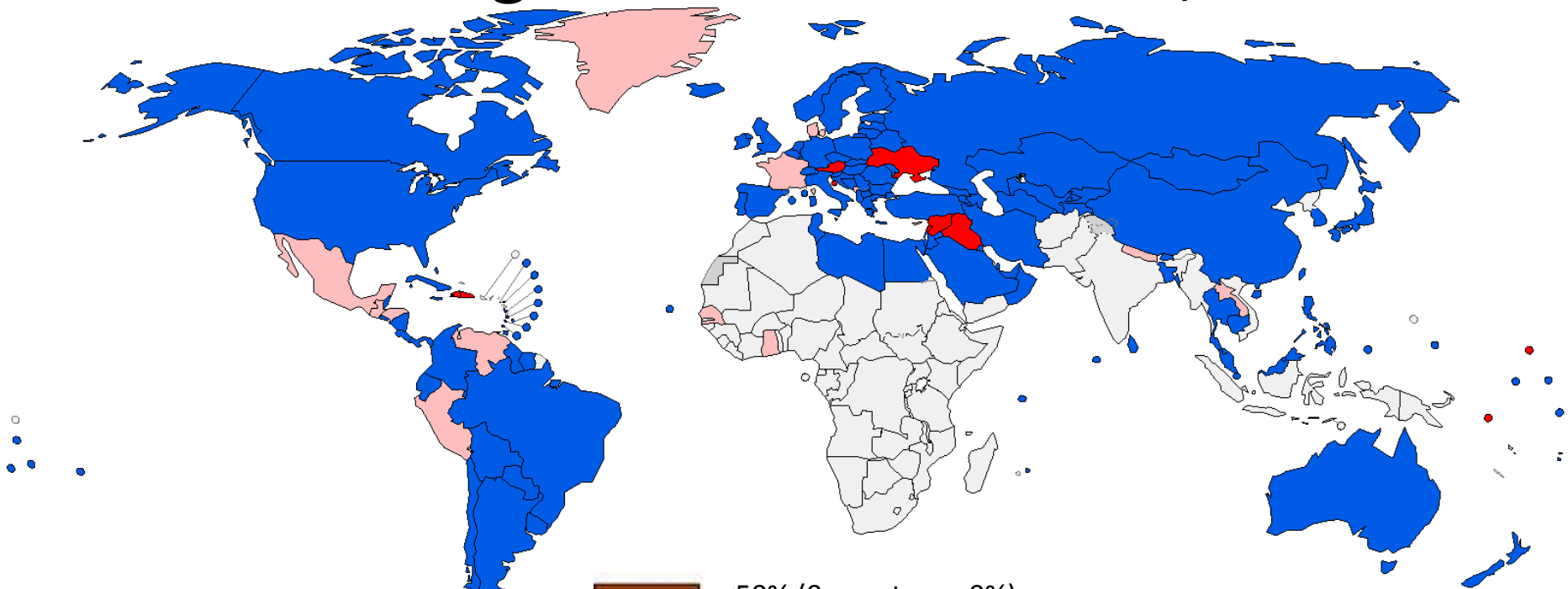
Data Source: Source: WHO/Expanded Programme on Immunization, as at 1 July 2014.





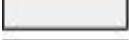

194 WHO Member States  
 Map production: Immunization Vaccines and Biologicals, (IVB), World Health Organization  
 Date of slide: 04 July 2014



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# Immunization coverage with rubella containing vaccines\* in infants, 2013



	<50% (0 country or 0%)
	50-79% (11 countries or 8%)
	80-89% (13 countries or 9%)
	≥90% (113 countries or 89%)
	Not available (3 countries)
	Not introduced (57 countries)

Of countries that have introduced

0 875 1,750 3,500 Kilometers

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\*MCV1 was used as a proxy in the Member States that have introduced Rubella vaccine.

Source: WHO/IVB Database as at 28 June 2014. 194 WHO Member States.  
 Map production: Immunization Vaccines and Biologicals, (IVB). World Health Organization  
 Date of slide: 16 July 2014

# Number of Countries that have introduced RCV by Region and GAVI status\*

Region (# countries)	Introduced RCV (# countries)		Not introduced RCV (# countries)	
	Non-GAVI	GAVI	Non-GAVI	GAVI
AFR (46)	3	3	9	32
AMR (35)	32	3	0	0
EMRO (21)	15		0	6
EURO (53)	50	3	0	0
SEAR (11)	4	2	1	4
WPR (27)	21	3	1	2
<b>Total 194</b>	<b>125</b>	<b>14</b>	<b>11</b>	<b>44</b>

\*As of Sept 8, 2014

# Issues with MR introduction

- Establishing surveillance
- Strengthening surveillance
- Vaccine Supply
- Cost of Vaccine
- Integration of MR into routine

# Issues: Establishing Surveillance

- Lack of surveillance
  - Required to monitor targets
  - Rubella Surveillance
    - define epidemiology
    - identify trends
  - CRS Surveillance
    - describe incidence and demographics of mothers
    - demonstrates disease burden
- Surveillance is weak
  - Many countries uses measles case-based surveillance to identify rubella
  - Under-reporting of cases of rubella and CRS
  - Countries not reporting

	2000	2012
<b><u>Rubella:</u></b> No. countries reporting	102	174
No. rubella cases	670,894	94,030
<b><u>CRS:</u></b> No. countries reporting	75	129
No. CRS cases	157	300

Source: MMWR/WER December 2013

# Issues: Reporting

*Estimated Burden of CRS Globally\*† Compared to Reported Cases*

Region	Estimated numbers of CRS Cases**		Reported No. of CRS cases in 2012	Member states reporting CRS in 2012	
	1996	2010	No.	No.	%
AFR	31 133	40 680	69	20	43%
AMR	9 701	3	3	35	100%
EMR	9 265	5 720	20	9	41%
EUR	9 509	12	60	42	79%
SEAR	50 637	47 527	14	6	55%
WPR	10 098	9 127	134	17	63%
GLOBAL	120 342	103 068	300	129	66%

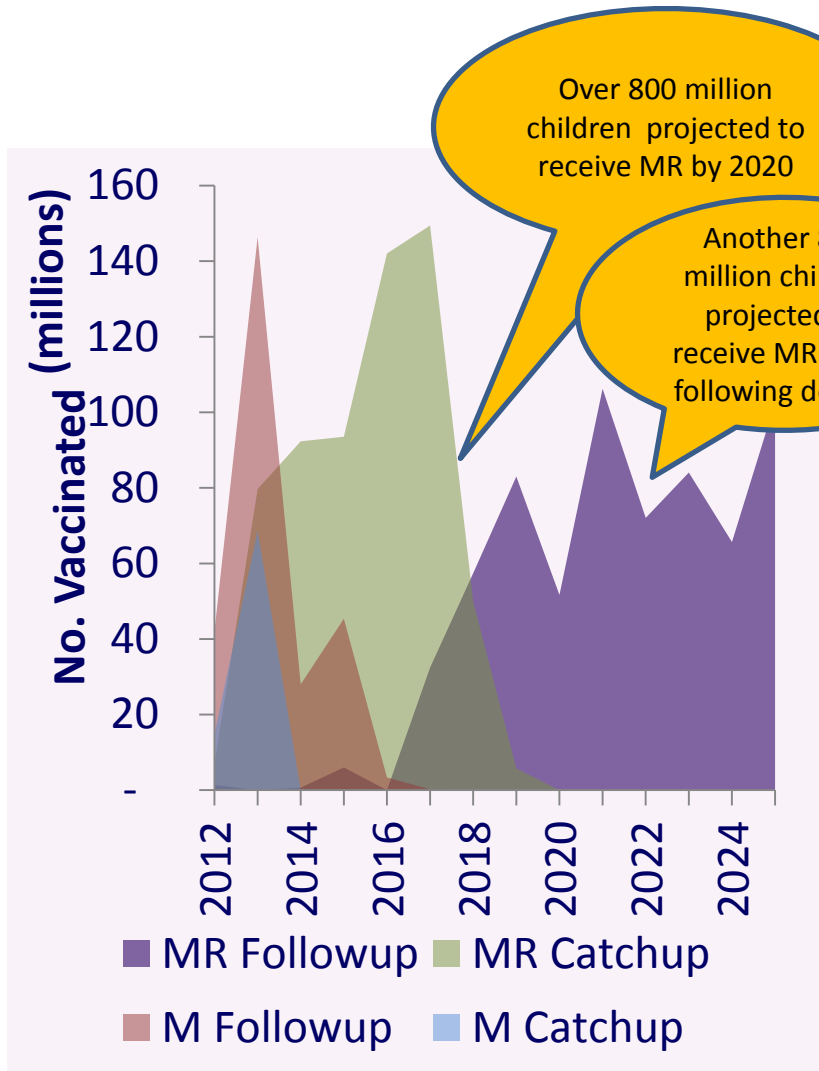
\*unpublished, Adams E, Vynnycky E

\*\* lower and upper limits of plausible estimates different from mean by factor of 1 - 100

†All member states

# Issues: Vaccine Supply

## *Rubella Vaccine Introduction Forecast, 2012-2024*



- Currently single manufacturer of MR vaccine
- Several manufacturers coming on line
- Some populous countries introducing sooner than expected

# Issues: Cost of Vaccine

- SAGE recommendation on providing MR for both doses of MCV
  - Increase in costs for the routine
- Several countries rely on donors to pay for the MCV vaccines, will they pay for MR?
- GAVI supports MR vaccine in the SIA but not the routine

# New SAGE Recommendations for Rubella

- Optimizing the use of rubella containing vaccine
- Target age range for M, MR SIAs
- Vaccination of Health Workers

# SAGE November 2013:

## Optimizing the use of rubella containing vaccines

### SAGE noted:

- that among the WHO Regions, only the AMR and EUR have rubella elimination targets and urged AFR, EMR, SEAR and WPR to work towards establishing regional rubella elimination goals

### Recommended that:

- countries achieving  $\geq 80\%$  measles coverage through routine or SIAs, or both, to **take the opportunity offered by measles elimination activities to introduce RCVs**
- countries introducing RCV for the first time should carry out a **catch-up campaign** using MR/MMR vaccine for children aged 9 months to <15 years, and use **MR /MMR in routine immunization** with the first dose of measles-containing vaccine
- countries which currently give the first dose of RCV with the 2nd routine dose of measles vaccine should change the schedule to **give the first dose of RCV with the first dose of MCV as MR or MMR**

# SAGE November 2013:

## Target age range for M, MR SIAs

SAGE reviewed:

- several country examples with different vaccine delivery strategies to determine criteria for when countries should expand the target age range for SIAs

And concluded that:

- no single criterion can identify the ideal target age range for measles or MR SIAs

Recommended that:

- countries **integrate their surveillance, demographic, survey** and (if available) seroprevalence **data together with vaccination coverage information**, history of MCV and RCV use, **and local knowledge**
- **vaccination coverage should be verified for all M and MR SIAs** through statistically valid and generally accepted methodology
- where possible, **all doses given during SIAs should be documented** in the child's vaccination record and the number of zero-dose children vaccinated recorded by age group.

**→ Need to develop a practical approach for operationalizing this recommendation**

# SAGE November 2013:

## Vaccination of health care workers

### SAGE reviewed:

- the known risk of spreading disease from health workers to patients or from patients to health workers

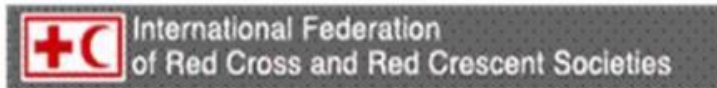
### Recommended that:

- **all health workers should be immune to measles and rubella**
- verification of vaccination and/or immunity should be **integrated into standard infection control guidelines** or other health-worker standards of care
- Regions and countries should develop plans to **operationalize these recommendations**

# Summary

- Rubella and CRS are significant public health issues that needs to be tackled
  - However, there is significant underreporting of both diseases
- Introduction of RCV should accelerate to reach goals
  - Two regions have elimination goals
  - Two regions have rubella/CRS control goals
- Monitoring of those goals requires surveillance strengthening
- Introduction of RCV should be integrated with MCV
  - SIA planning requires review the epidemiology for both diseases to maximize the benefit of the SIA
  - Logistics for MR vaccine
  - Ensure that HWs are immune to BOTH measles and rubella

# Partners supporting measles and rubella:



Anne Ray Charitable Trust



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