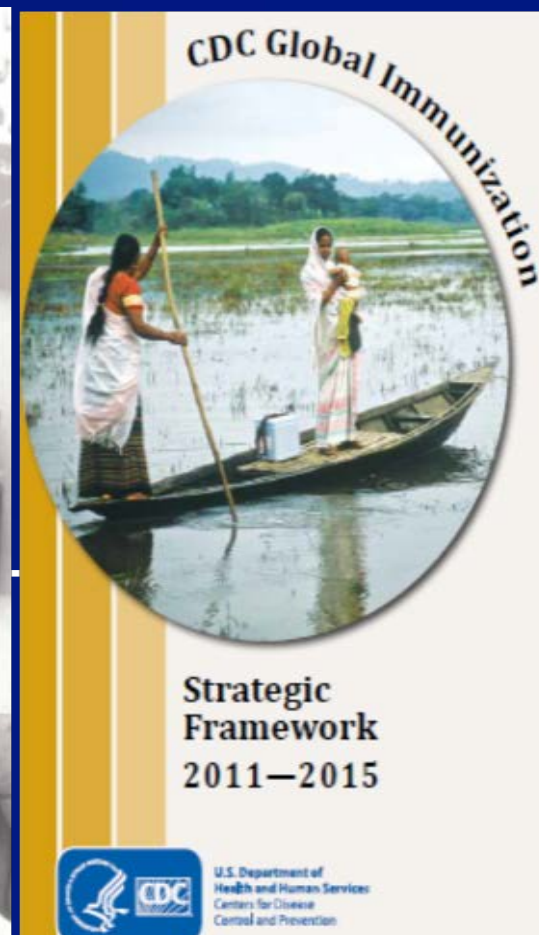
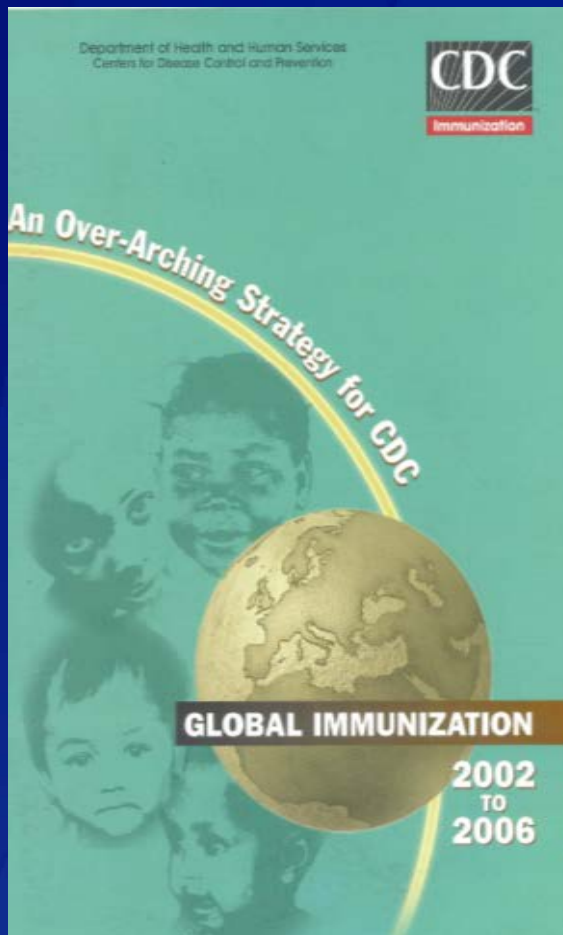


CDC Global Immunization Strategic Framework 2016 - 2020



Outline

- Successes and challenges from 2011-2015
- Evolution of global immunization environment from CDC perspective
- Overview of draft CDC Global Immunization Strategic Framework, 2016-2020

NVAC Global Immunization Priorities

- Complete polio eradication and advance measles mortality reduction and regional measles/rubella elimination goals
- Strengthen global immunization systems
- Enhance global capacity for vaccine safety monitoring and post-marketing surveillance
- Build global Immunization research and development capacity
- Strengthen capacity for vaccine decision making

Four Regions Certified Polio-Free

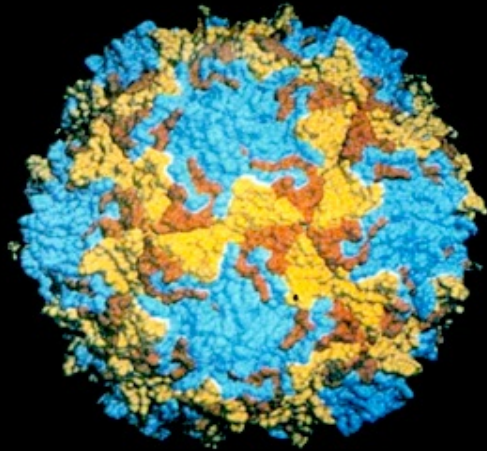


1991: Luis Fermín Tenorio Cortez, had last case in **Americas Region** (Peru)

1997: Mum Chanty, had last case in **Western Pacific Region** (Cambodia)

1998: Melik Minas, had last case in **European Region** (Turkey)

2011: Rukhsar Khatoon, had last case in **Southeast Asia Region** (India)



WILD POLIOVIRUS TYPE 1



WILD POLIOVIRUS TYPE 2

Not detected since
October 1999



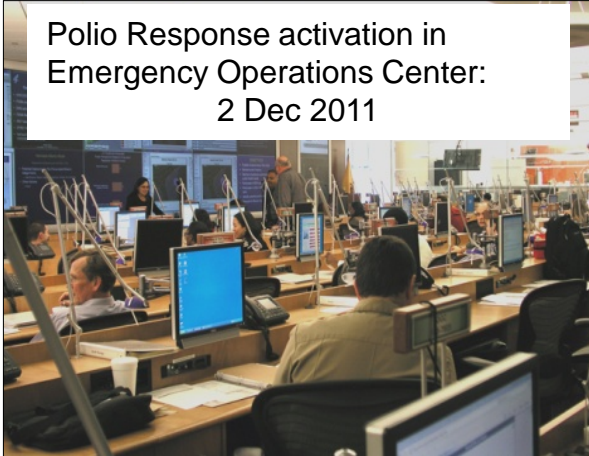
WILD POLIOVIRUS TYPE 3

Not detected since
November 2012

Activation of Emergency Operations

CDC

Polio Response activation in
Emergency Operations Center:
2 Dec 2011



WHO

Polio Response activation in
Strategic Health Operations Center:
2012



UNICEF

Interdivisional Emergency
Coordinating Committee activated
2012



- National Emergency Operations Centers established in Nigeria (2012), Pakistan (2014), Afghanistan (2015)
- In Nigeria and Pakistan, CDC collaborations with MOH and national FETPs established National Stop Transmission of Polio (N-STOP) programs to strengthen operations in high risk districts
 - Reaching the underserved and chronically missed
 - Supporting PEI pillars: SIAs, routine immunization, surveillance, mop up campaigns
 - Providing evidence-base for program management and program improvement

PAKISTAN: EVENTS LEADING TO THE DERAILMENT OF 2012 MOMENTUM FOR POLIO ERADICATION

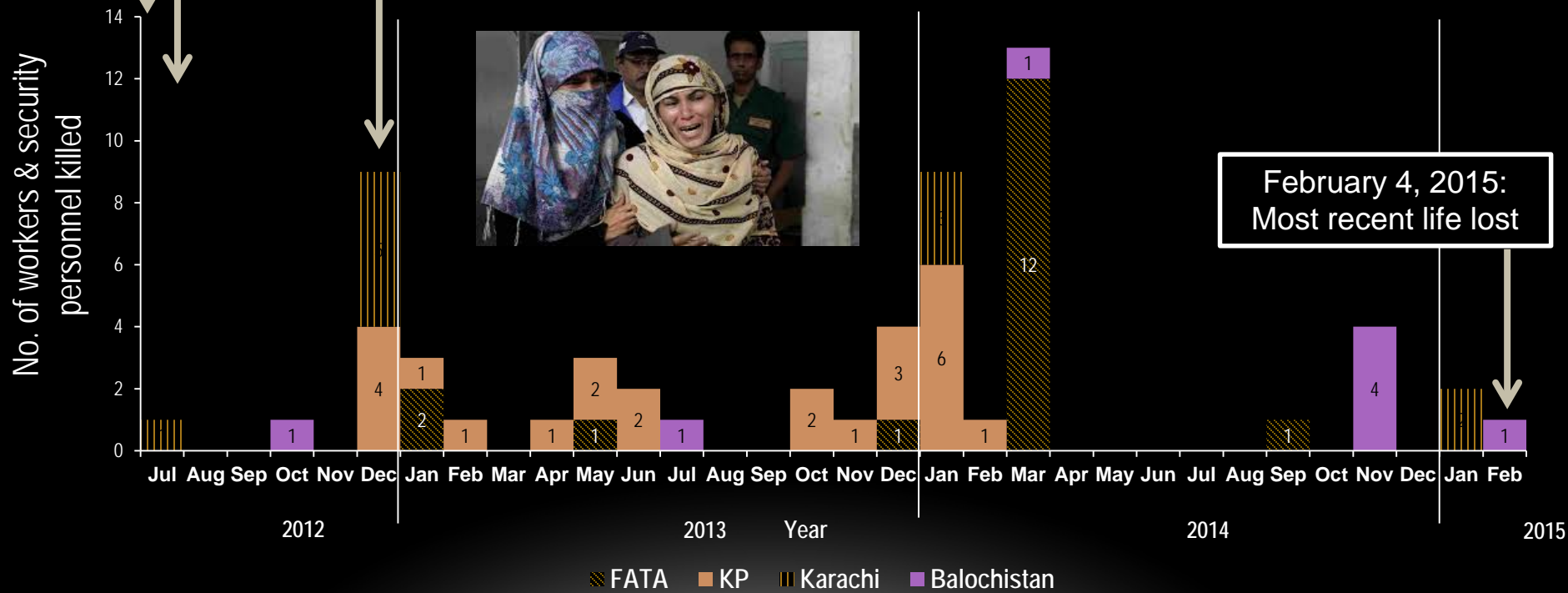
June 2012: Taliban bans vaccination in North & South Waziristan

July 2012: Targeted attacks started on frontline workers

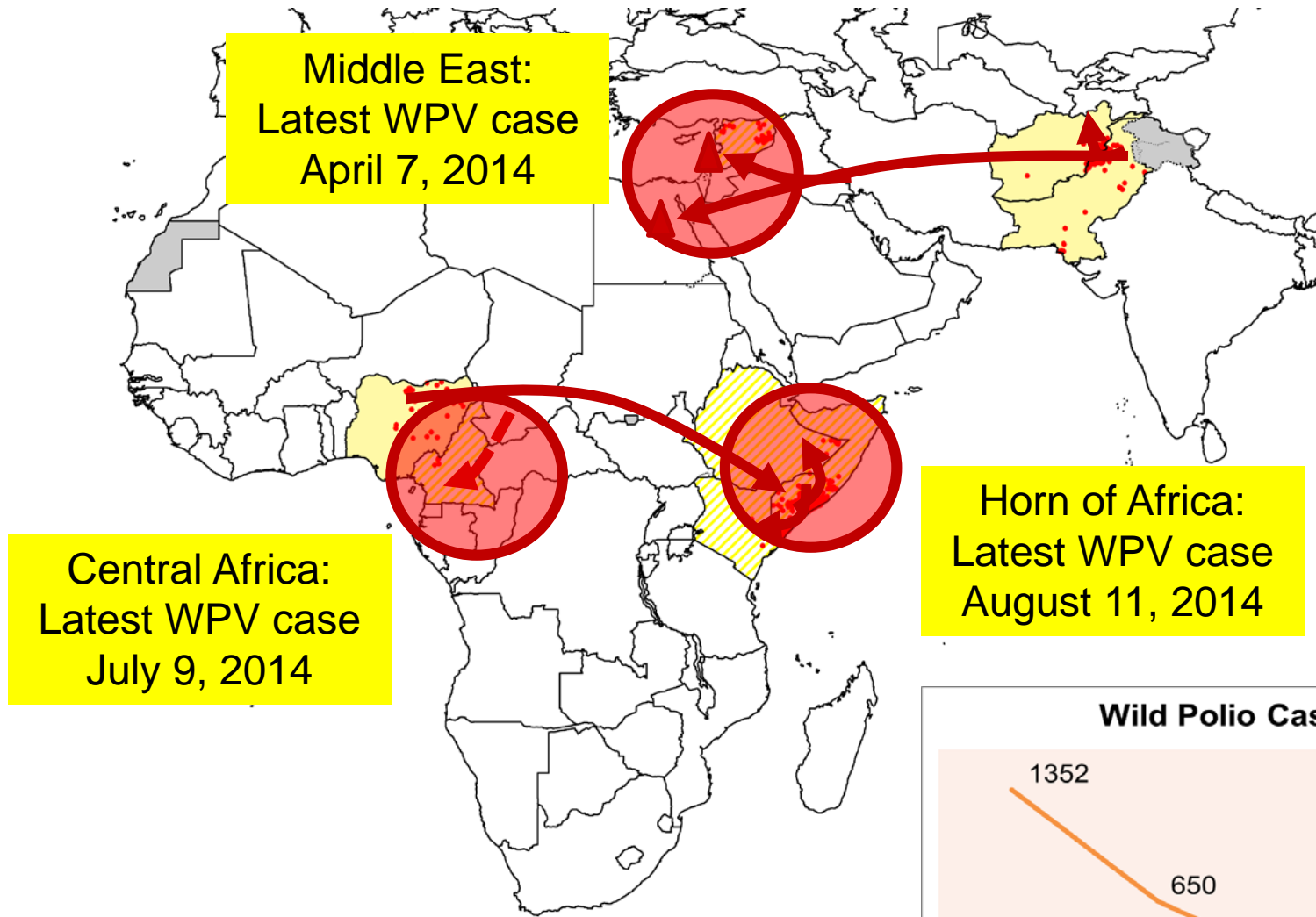
Dec 2012: Start of full blown serial attacks

.... and the attacks continue with more than 60 polio workers & security personnel killed

February 4, 2015: Most recent life lost



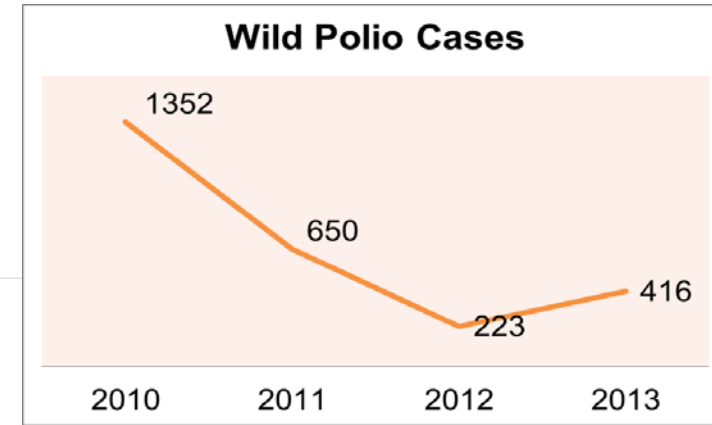
Developments in 2013-14



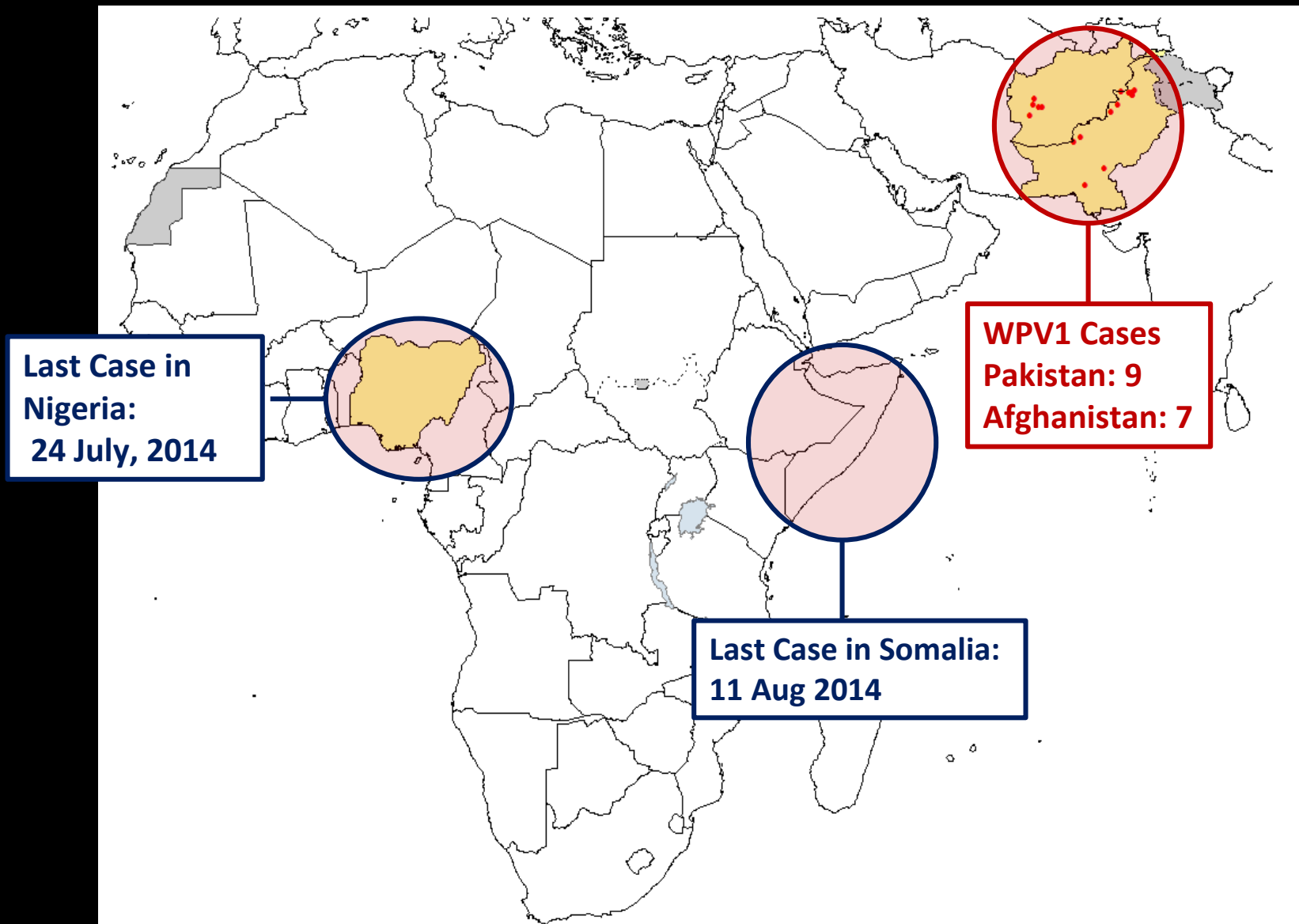
Horn of Africa:
Latest WPV case
August 11, 2014

Central Africa:
Latest WPV case
July 9, 2014

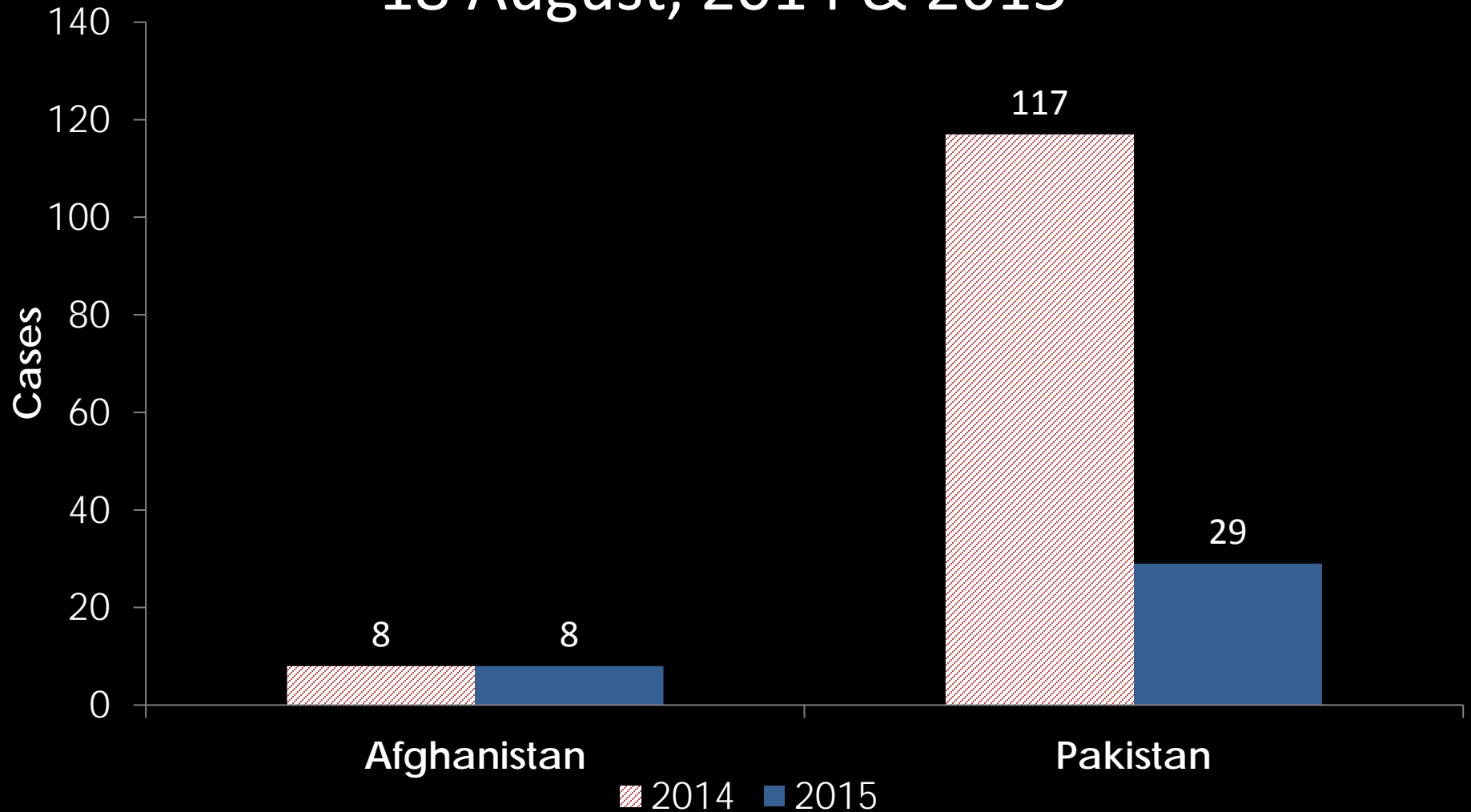
Middle East:
Latest WPV case
April 7, 2014



Wild Poliovirus Cases, Last 6 months



WPV1 Cases, Afghanistan and Pakistan, 18 August, 2014 & 2015*



*Data as of 26 August 2015 (including advance notifications as of this date)

Progress in Pakistan

- Intensified government commitment
- Emergency Operations Centres established
- Improved access in insecure areas
- Improved coordination with Army & security agencies
- Innovations to reach missed children
 - Female community volunteers, health camps, transit posts
- Focus on 12 high risk districts

Ensuring Progress in Afghanistan



- Engagement of new leadership
- Emergency Operations Center
- Access through neutrality & dialogue with all sides
- More rigor & innovation to reduce missed children in updated National Emergency Action Plan

POLIO ENDGAME STRATEGIC PLAN 2013-18

GOAL: Complete polio eradication by end-2014 and certification in 2018

OBJECTIVE 1

Polio virus detection and interruption

OBJECTIVE 2

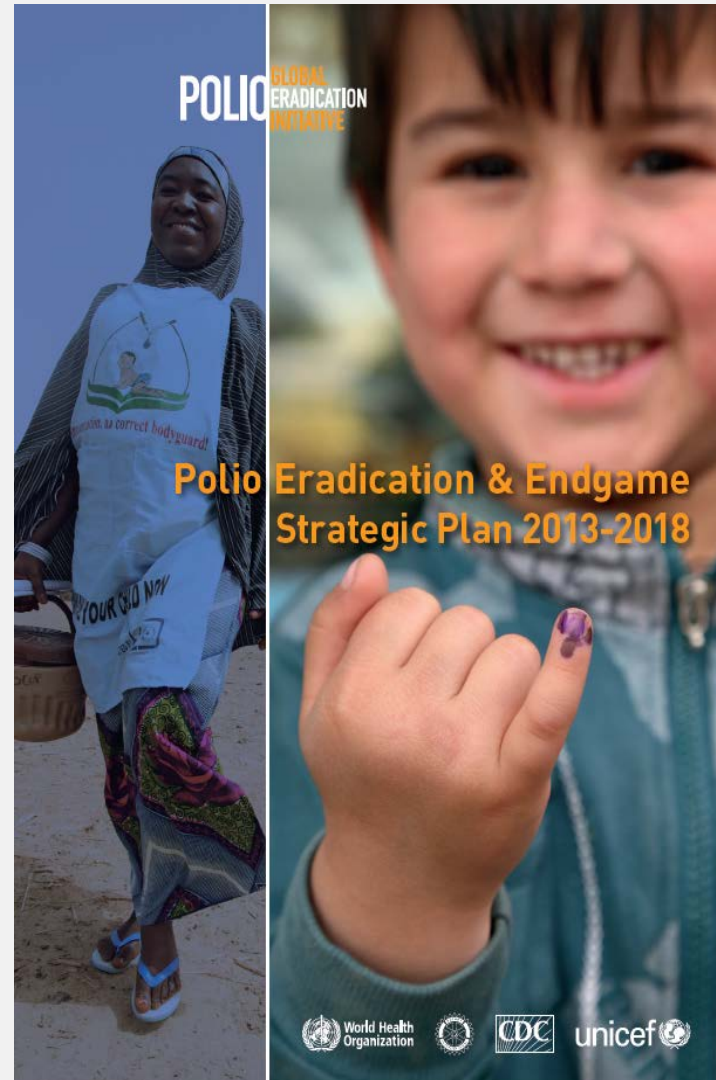
Immunization systems strengthening and OPV withdrawal

OBJECTIVE 3

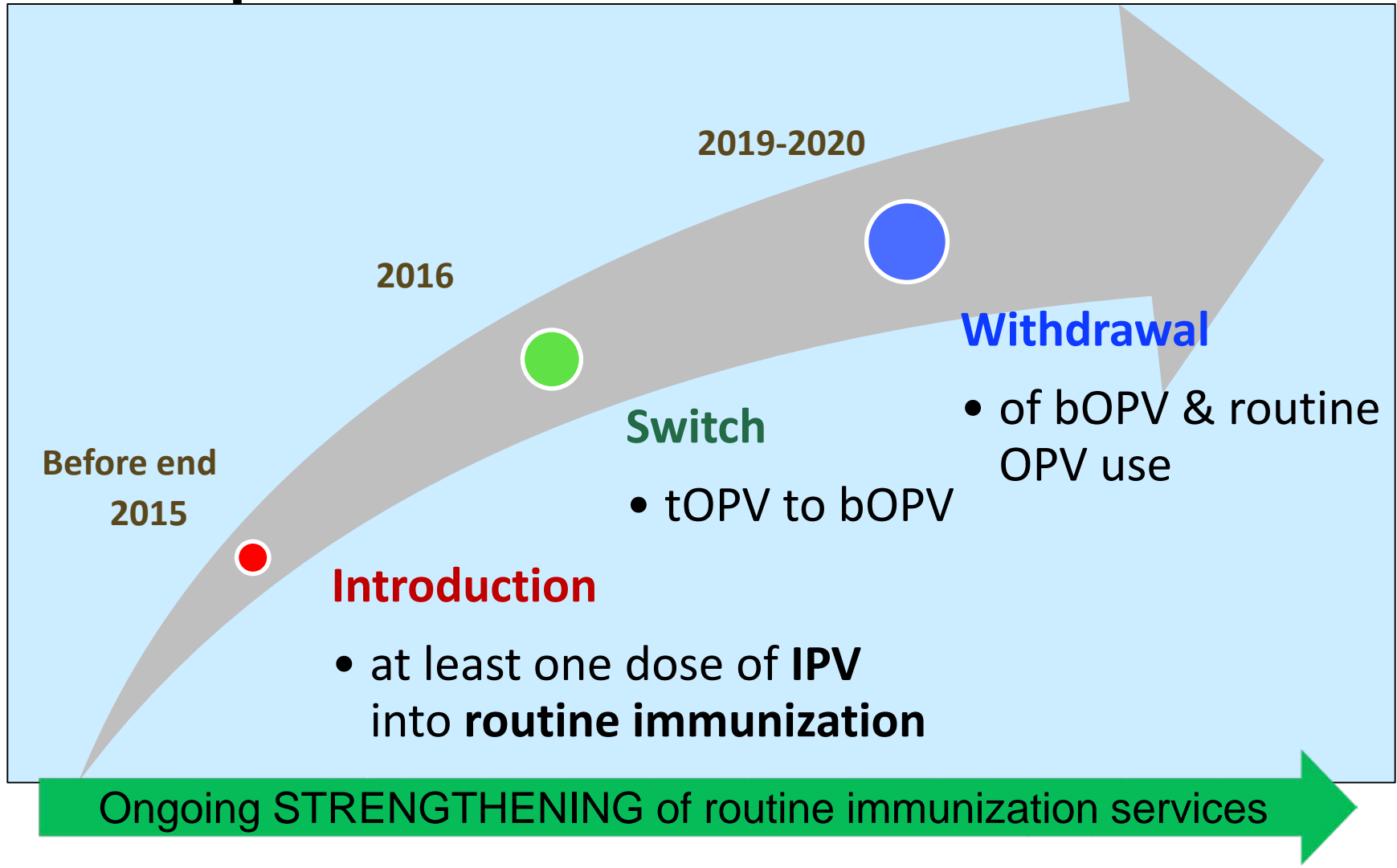
Containment and certification

OBJECTIVE 4

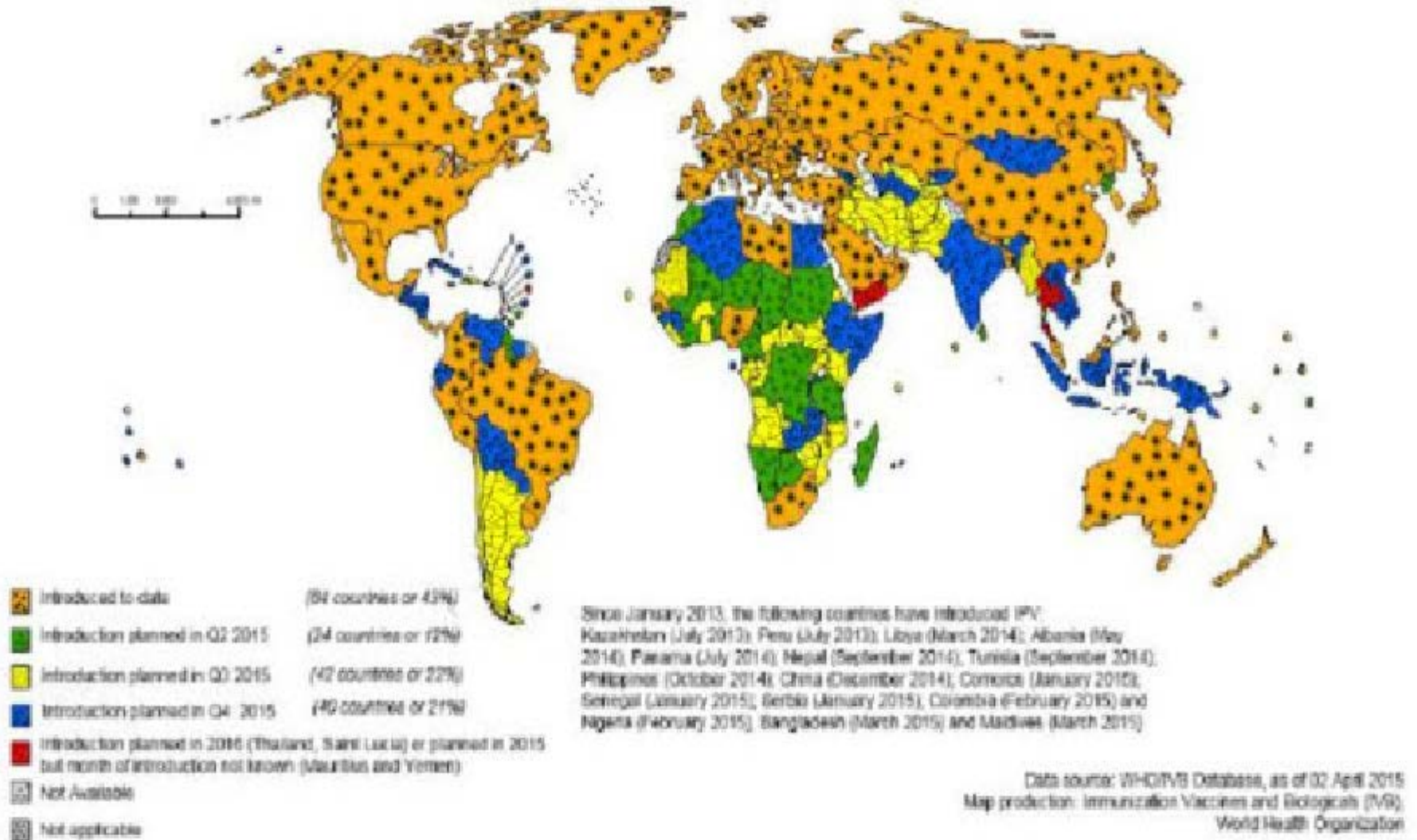
Legacy (Transition) planning



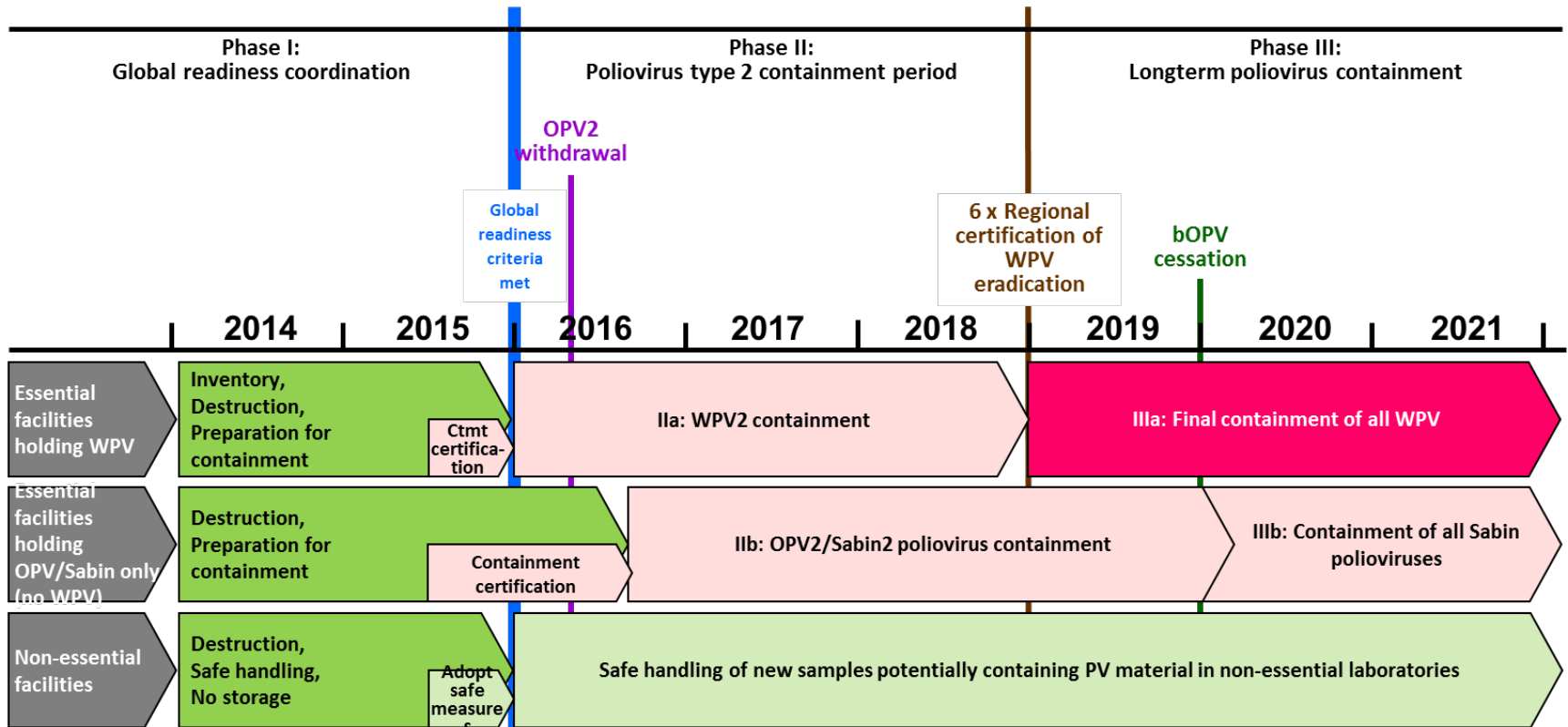
IPV Introduction and tOPV/bOPV Switch Incorporated into Plan for OPV Withdrawal



IPV Introduction Status and Planned Introduction by End 2015



Poliovirus Containment Requirements, 2015 – 2020



National Certification Committees (NCC)

Expected to oversee the process and documentation of:

- The detection and interruption of all WPV transmission and the quality of the AFP surveillance system
- Implementation of safe handling and containment measures to minimize risks of facility-associated reintroduction of poliovirus

Key Activities:

Immediately: Countries that have not formed NCCs should do so

By January 2016 – NCCs submit WPV containment reports to RCC

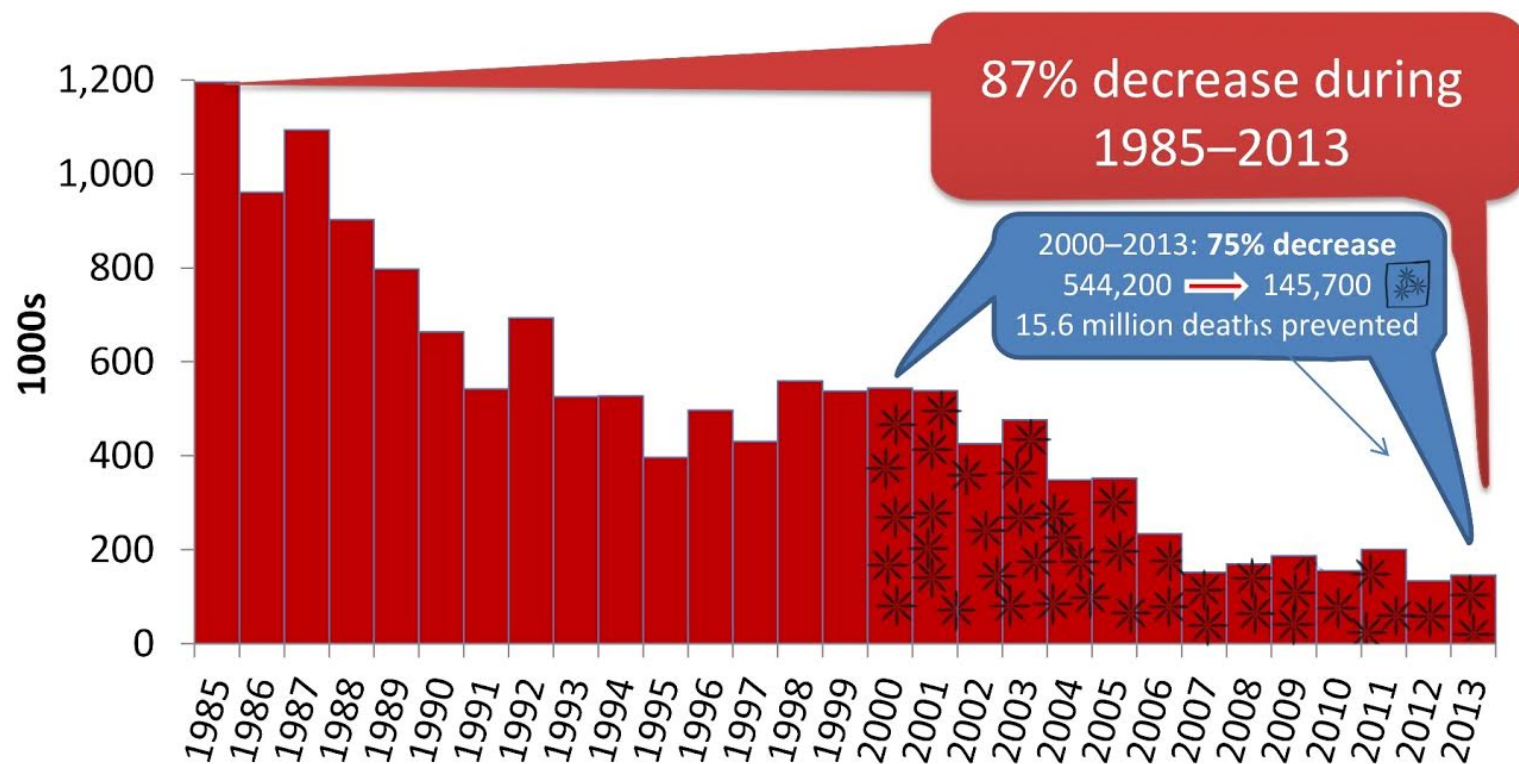
July 2016 – NCCs submit Sabin poliovirus 2 containment reports to RCC

Measles and Rubella Elimination

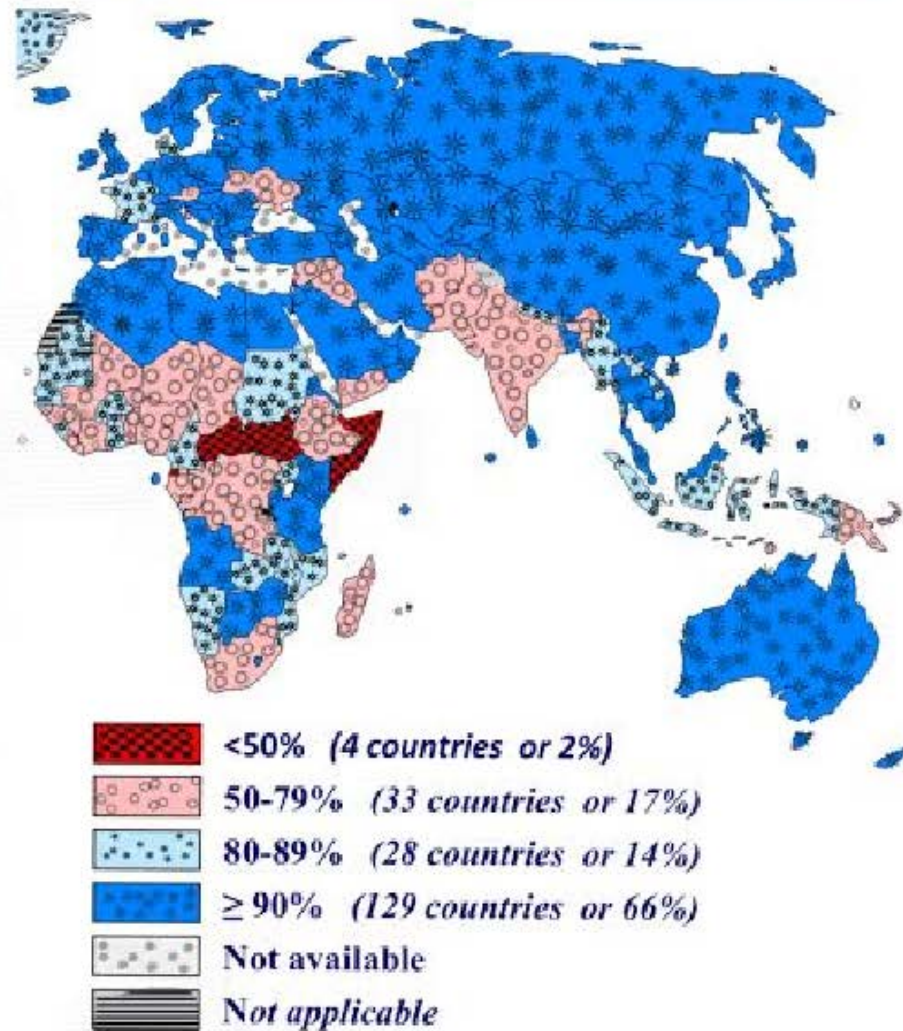
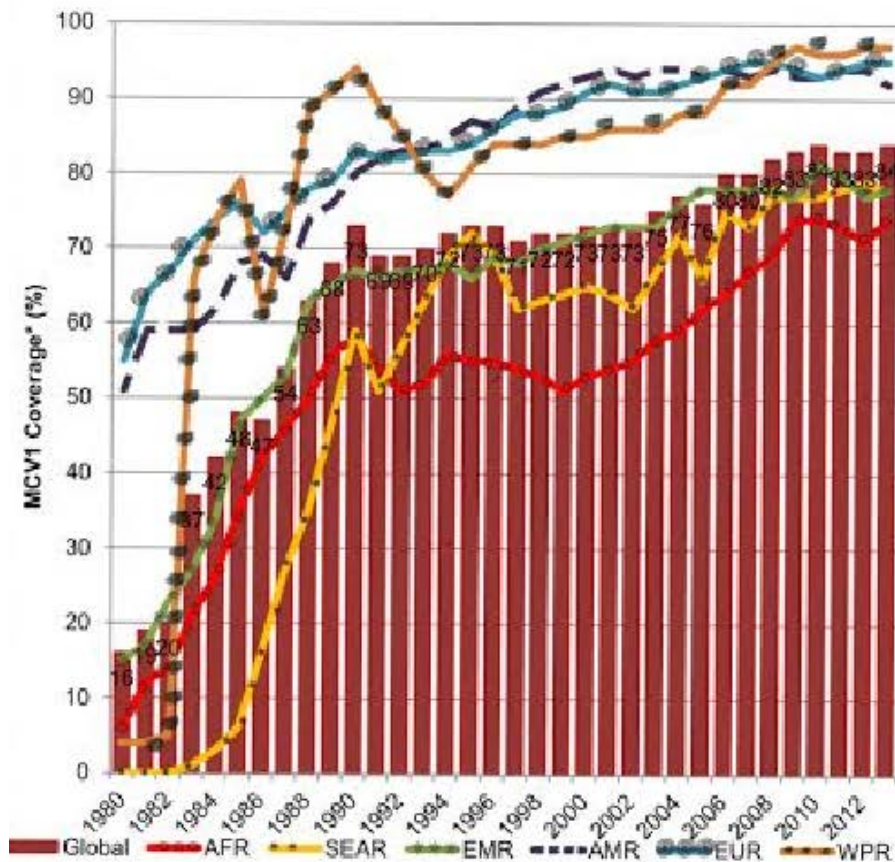


www.MeaslesRubellaInitiative.org @MeaslesRubella

Reduction in Estimated Measles Deaths, 1985–2013



Global MCV1 coverage plateaued at 83%–84% during past 5 years



Progress Towards Measles Elimination by WHO Region 2014-15

WHO Region	Measles Elimination Target Date	Regional Verification Commissions Established	Measles Elimination Achieved	
			No. of countries	% of countries
Americas ¹	2000	Yes	34	97%
Europe ²	2015	Yes	22	41%
Western Pacific ³	2012	Yes	6	22%
Eastern Mediterranean	2015	No	-	-
South-East Asia	2020	No	-	-
Africa	2020	No	-	-

1. Progress report on Plan of Action for Maintaining Measles, Rubella, and CRS Elimination in the Americas, 12 Sept 2014

2. Third meeting of the European Regional Verification Commission for Measles and Rubella Elimination 10-12 Nov 2014

3. <http://www.wpro.who.int/mediacentre/releases/2015/20150327/en/>

Strengthening Global Immunization Systems

Health System Strengthening to Support Vaccine Introduction

Meningococcal A conjugate vaccine rollout 2010–17



Countries	2010	2011	2012	2013	2014	2015	2016	2017
1 *Burkina Faso	C						R	
2 *Mali	C	C					R	
3 *Niger	C	C					R	
4 *Chad		C	C				R	
5 *Cameroon		C	C				R	
6 *Nigeria		C	C	C	C		R	
7 *Ghana			C			R		
8 Benin			C				R	
9 Senegal			C				R	
10 Sudan			C	C			R	
11 The Gambia				C			R	
12 *Ethiopia				C	C	C	R	
13 Mauritania					C			R
14 Cote D'Ivoire					C			R
15 *Togo					C			R
16 Guinea						C		R
17 South Sudan						C	C	R
18 *DRC						C		
19 Uganda						C	C/R	
20 Kenya						C	C/R	
21 *CAR						C	C/R	
22 Eritrea						C		R
23 Burundi						C		R
24 Guinea Bissau						C		R
25 Rwanda						C		R
26 Tanzania						C		R
Total vaccinated	20m	35m	48m	50m	64m			

* countries with CDC/DBD/MVPDB surveillance strengthening activities;
 C=mass vaccination campaigns, R=introduction to routine immunizations

Observations from roll-out:

- 217 million persons vaccinated, 15 countries.
- 0 cases of menA among vaccinated
- No safety concern: serious AEFIs mostly coincidental.
- Not all countries are as well-prepared for introduction, and some also complicated by conflict, civil unrest, Ebola.
- Routine immunization starting 2015.

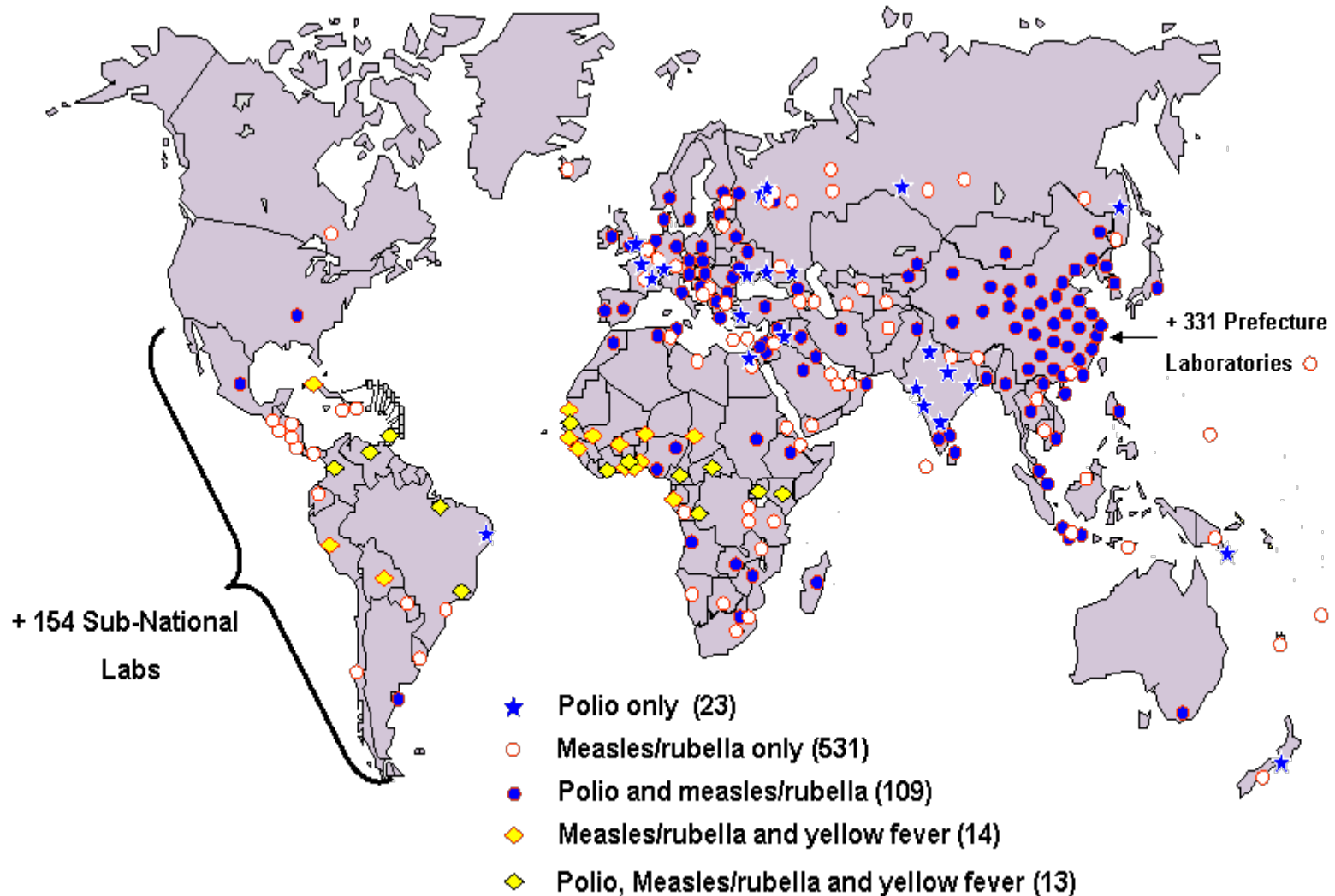
Other vaccine introductions with CDC support, 2011-2015:

- HPV
- influenza
- Japanese encephalitis
- Meningococcal pneumococcal
- rabies
- rotavirus
- typhoid

Global VPD LabNet Activities

- Biosafety
- Outbreak investigations
- Technical innovation
 - New laboratory methods
 - New reagents
 - New analytical tools
 - Point-of-care
- Biological surveillance
 - New agents
- New interventions
 - Impact of antimicrobials on disease burden
 - New or updated vaccines
- Applied research
- Network building
 - Technology transfer
 - Intensive training
 - Proficiency testing
 - Quality assurance
 - Consultation
 - Accreditation
 - Reference resources
 - Parallel testing
 - Troubleshooting
- Integration with Programs
 - Communication to Programs of significance of laboratory findings

Building on the Polio Laboratory & Surveillance Network (>700 labs)



Other VPD Laboratory Networks with CDC Support

- **Global Rotavirus Laboratory Network**
 - 88 sentinel hospital labs, 18 national labs, nine regional reference labs, and one global reference lab
- **Global Influenza Surveillance and Response System**
 - 142 National Influenza Centers in 112 countries, four regulatory labs, six global reference labs
- **Global Invasive Bacterial-VPD Laboratory Network**
 - 191 sentinel sites in 57 countries, 10 regional reference labs, and 3 global reference labs

Number and Percentage of Member States with Vaccination Recommended in Immunization Schedule during Second Year of Life — 2013

TABLE 2. Number and percentage of member states with vaccination recommended in immunization schedule during the second year of life, by vaccine and World Health Organization (WHO) region — worldwide, 2013

WHO region	Total no. of member states	No. of member states (%)					≥1 health care visit during second year
		MCV2	DT-containing vaccine	Polio	PCV	Other vaccines	
Total (worldwide)	194	57 (29)	105 (54)	78 (40)	14 (7)	40 (21)	159 (82)
African	47	11 (23)	10 (21)	10 (21)	0	0	24 (51)
Americas	35	4 (11)	31 (89)	28 (80)	3 (9)	11 (31)	34 (97)
Eastern Mediterranean	21	15 (71)	16 (76)	15 (71)	3 (14)	5 (24)	20 (95)
European	53	8 (15)	36 (68)	20 (38)	4 (8)	18 (34)	49 (92)
South-East Asia	11	6 (55)	4 (36)	2 (18)	0	1 (9)	9 (82)
Western Pacific	27	13 (48)	8 (30)	3 (11)	4 (15)	5 (19)	23 (85)

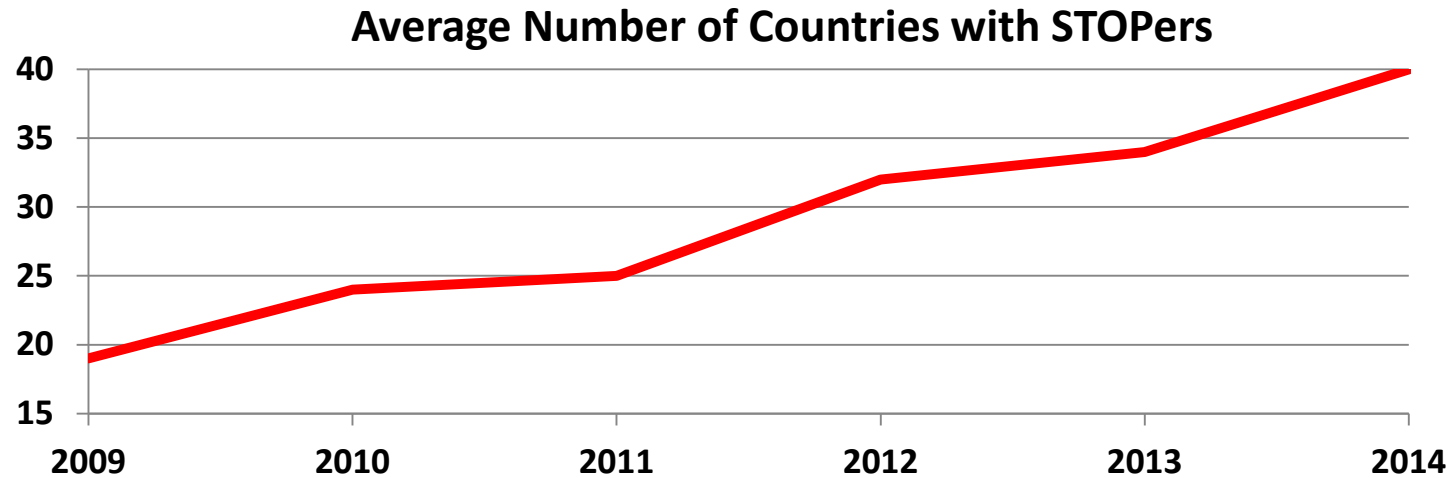
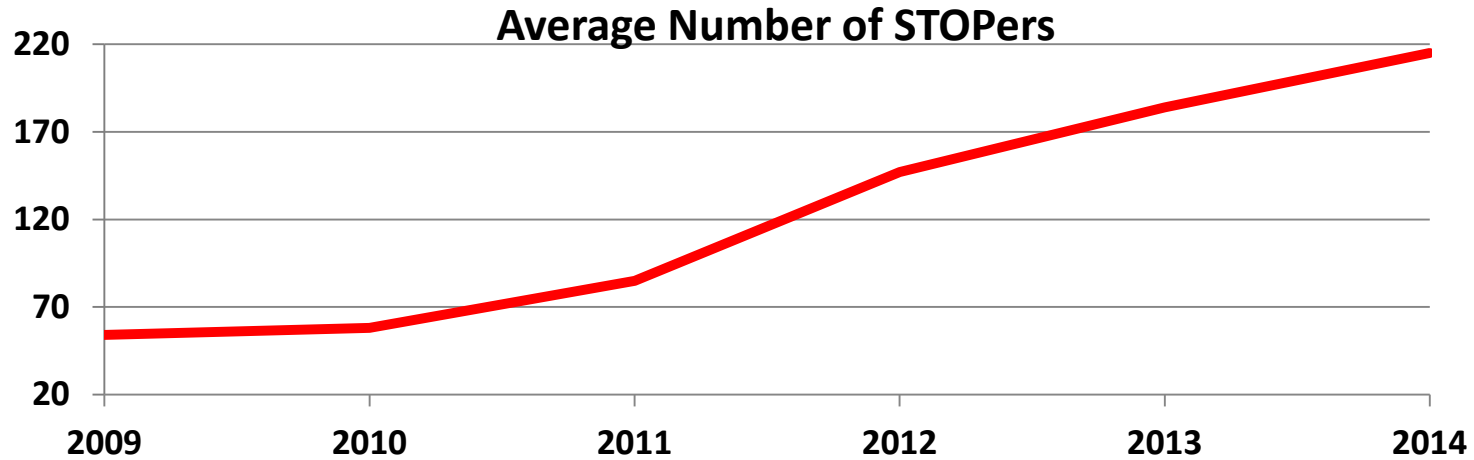
Abbreviations: MCV1 = first dose of measles-containing vaccine; MCV2 = second dose of measles-containing vaccine; DT = diphtheria-tetanus; PCV = pneumococcal conjugate vaccine.

Source: CDC. Global routine vaccination coverage, 2013. MMWR Morb Mortal Wkly Rep 2013;63:1055–8.

Benefits of Strengthening 2nd Year of Life Platform for Vaccination

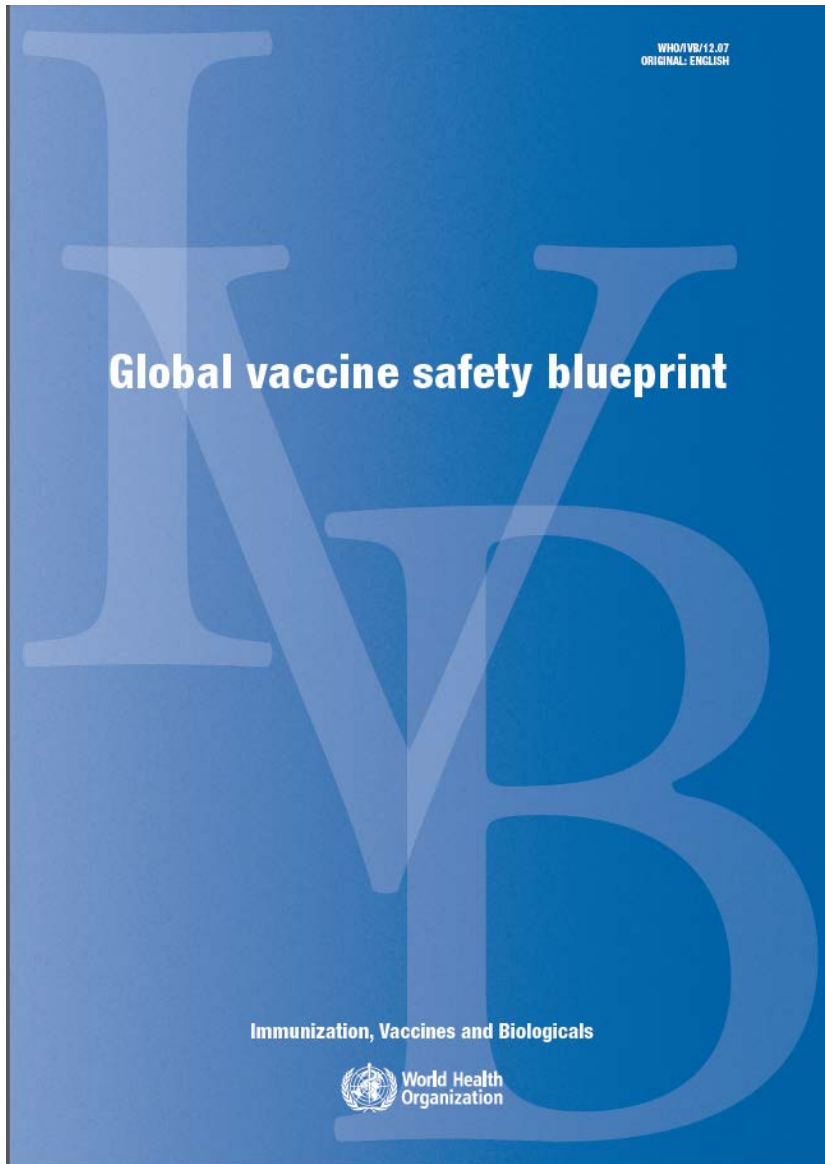
- Stronger platform
 - Booster doses: DTP, polio
 - Second dose of MCV
 - Primary doses: PCV in 2 + 1 schedule
 - Future RI vaccines: Dengue, malaria, cholera
- Opportunity to catch up on vaccines missed during 1st year
 - Increase overall coverage
- Opportunity to integrate with other health interventions
 - Vitamin A supplementation
 - Deworming
 - Nutrition
 - Growth monitoring

Expansion of STOP Program, 2009-2014



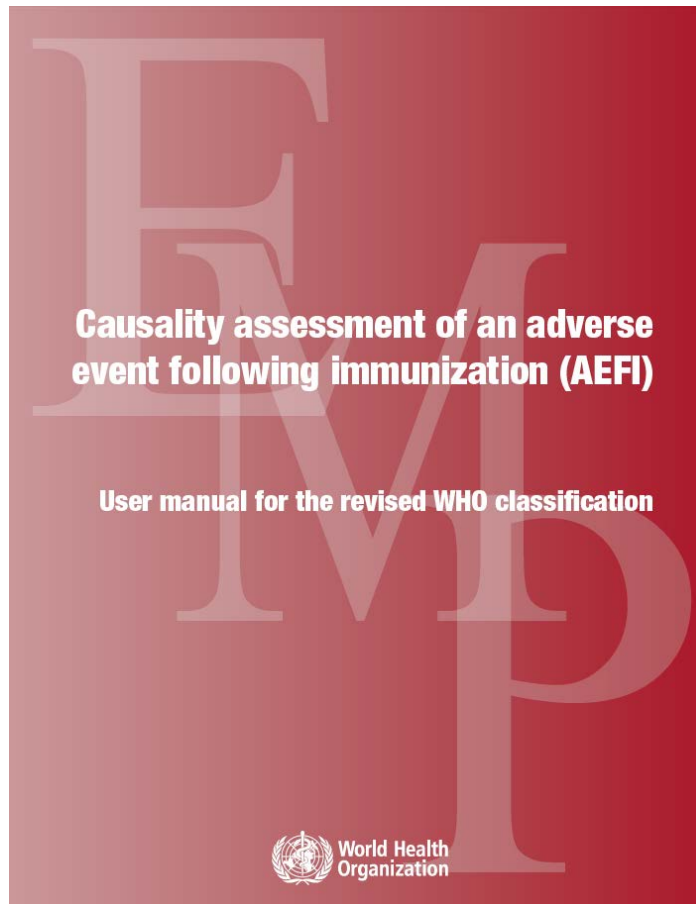
Enhancing Global Capacity for Vaccine Safety Monitoring and Post-Marketing Surveillance

Global Vaccine Safety Blueprint

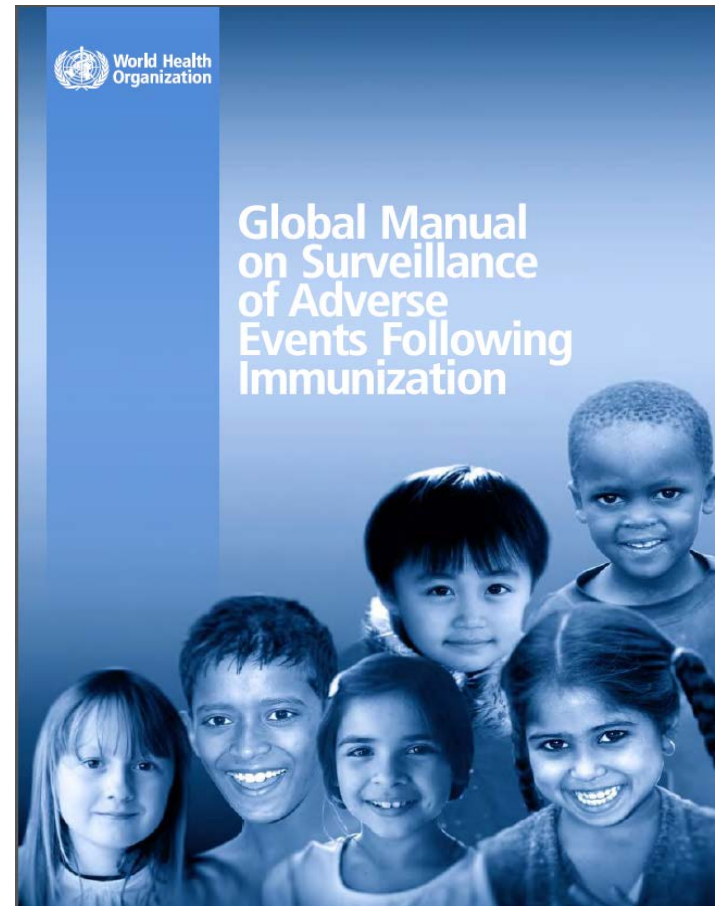


- Assist low and middle income countries to develop capacity for vaccine safety assessment and response
- Establish a global vaccine safety support structure
 - Global Vaccine Safety Initiative created to provide a network to implement the Blueprint

Guidance Documents for Adverse Events Following Immunization



- A guide to a systematic, standardized causality assessment process for serious AEFI



- Provides guidance on setting-up AEFI surveillance systems with standardized methodologies and tools

Strengthening Capacity for Vaccine Decision Making

Analysis of 2012 JRF data on NITAG indicators by WHO region

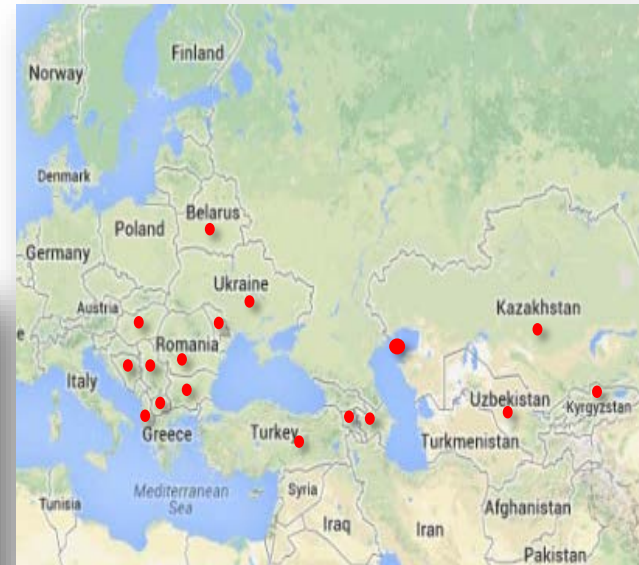
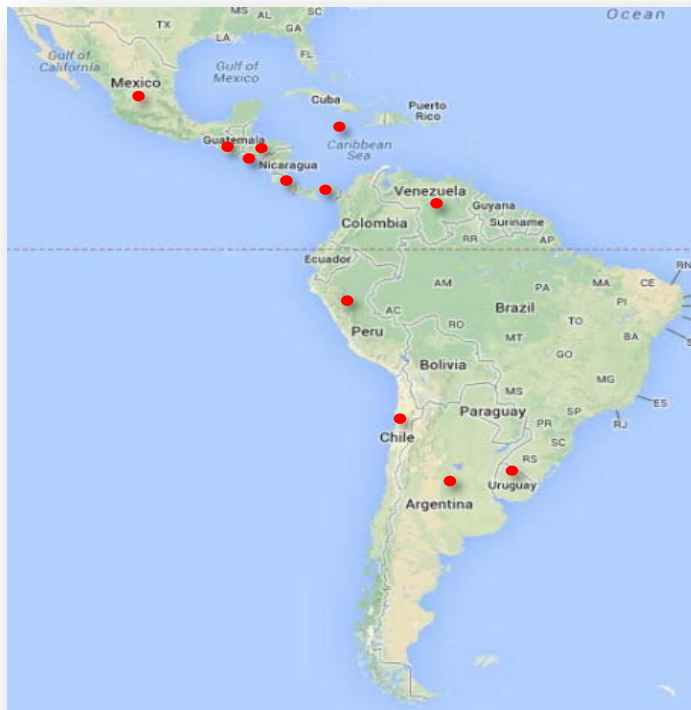
Only 63/191 (33%)
countries have a
well-functioning
NITAG

	Overall	AFRO	AMRO	EMRO	EURO	SEARO	WPRO
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
WHO Member States	194	46	35	22	53	11	27
Number responding	191 (98)	46 (100)	35 (100)	22 (100)	50 (94)	11 (100)	27 (100)
Existence of NITAG	116 (61)	13 (28)	19 (54)	21 (95)	38 (76)	10 (91)	15 (56)
Formal TORs*	104 (90)	12 (92)	15 (79)	20 (95)	35 (92)	10 (100)	12 (80)
Legislative or administrative basis*	99 (85)	10 (77)	15 (79)	19 (90)	35 (92)	9 (90)	11 (73)
5+ areas of expertise represented*	106 (91)	10 (77)	17 (89)	20 (95)	36 (95)	10 (100)	13 (87)
Met at least once in 2012*	103 (89)	12 (92)	16 (84)	18 (86)	38 (100)	8 (80)	11 (73)
Agenda distributed \geq 1 wk before meetings*	104 (90)	10 (77)	18 (95)	19 (90)	36 (95)	10 (100)	11 (73)
Required disclosure of conflict of interest*	76 (66)	6 (46)	13 (68)	15 (71)	24 (63)	7 (70)	11 (73)
Meets all six criteria*	63 (54)	3 (23)	13 (68)	13 (62)	22 (58)	5 (50)	7 (47)

*among countries reporting existence of a NITAG

CDC Support for National Technical Advisory Groups

- Development of training materials and facilitation of workshops for NITAG members
- Support attendance of NITAG members at SAGE or regional TAGs



CDC NITAG training activities in
EURO and PAHO countries,
2011-2015
in collaboration with WHO,
SIVAC, the Sabin Vaccine
Institute and ACIP

Strengthening National Capacity for Immunization Advocacy and Policy Making

Work with national pediatric societies to:

- provide workshops to train in-country immunization champions to promote and support targeted immunization priorities:
 - strengthening immunization systems,
 - implementing the Polio Endgame
 - achieving measles and rubella elimination
 - vaccine introduction
- develop appropriate immunization policies and recommendations by National Immunization Technical Advisory Groups

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™



Evolution of Global Immunization Environment from CDC Perspective since 2011

- New Center for Global Health established in 2010
- Launching of Global Health Security Agenda in 2014
- Transition from WHO/UNICEF Global Immunization Vision and Strategy, 2006-2015 to Global Vaccine Action Plan, 2011-2020
- Polio legacy planning

CDC GLOBAL HEALTH STRATEGY

2012 - 2015

VISION

A world where
people live
healthier, safer
and longer lives

MISSION

Protect and
improve health
globally through
science, policy,
partnership and
evidence-based
public health
action

Center for Global Health
Office of the Director



Goals

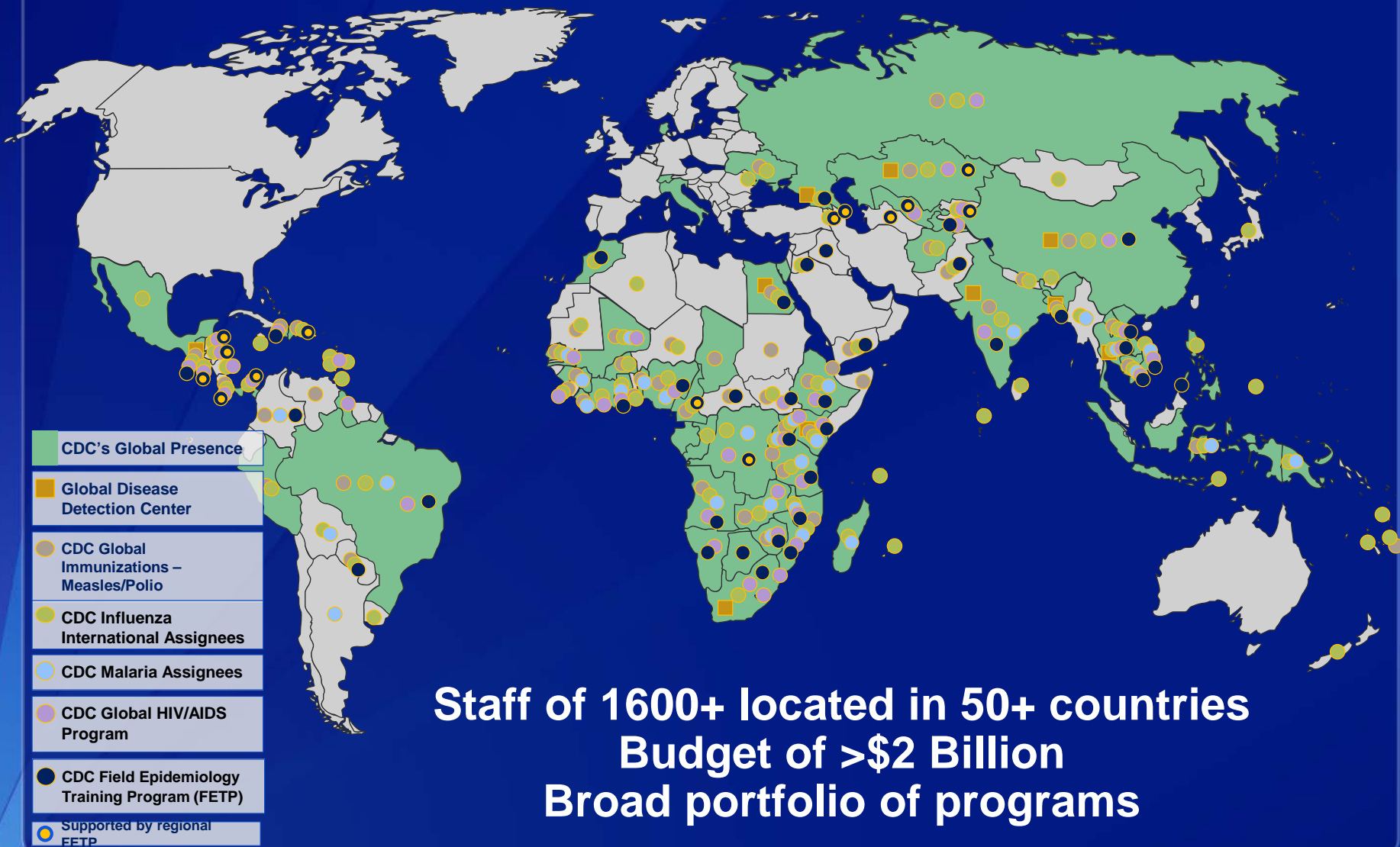
Health Impact: improve the health and well-being of people around the world

Health Security: improve capabilities to prepare for and respond to infectious disease, other emerging public health threats, and public health emergencies

Health Capacity: build country public health capacity

Organizational Capacity: maximize potential of CDC's global programs to achieve impact

CDC's Global Presence



CDC's Global Health Partnerships

Bilateral Organizations

Ministries of Health



U.S. Government

Department of State
USAID
Department of Defense
Peace Corps
USDA
HHS
NIH



Local Partners

Health in the public sector
NGOs
Faith-based organizations
Private health sector

Multilateral Organizations

WHO
Global Fund
UNICEF
World Bank



Global Non-Government Organizations

CARE
Carter Center
PATH
Task Force for Global Health
Red Cross
Rotary International
IPA



Philanthropic Agencies

Gates Foundation
UN Foundation
Bloomberg Philanthropies



Others

AAP
Association of Public Health
Laboratories
Drug manufacturers
Academic institutions
Blood banks



11/2013

Global Health Security Agenda Launched



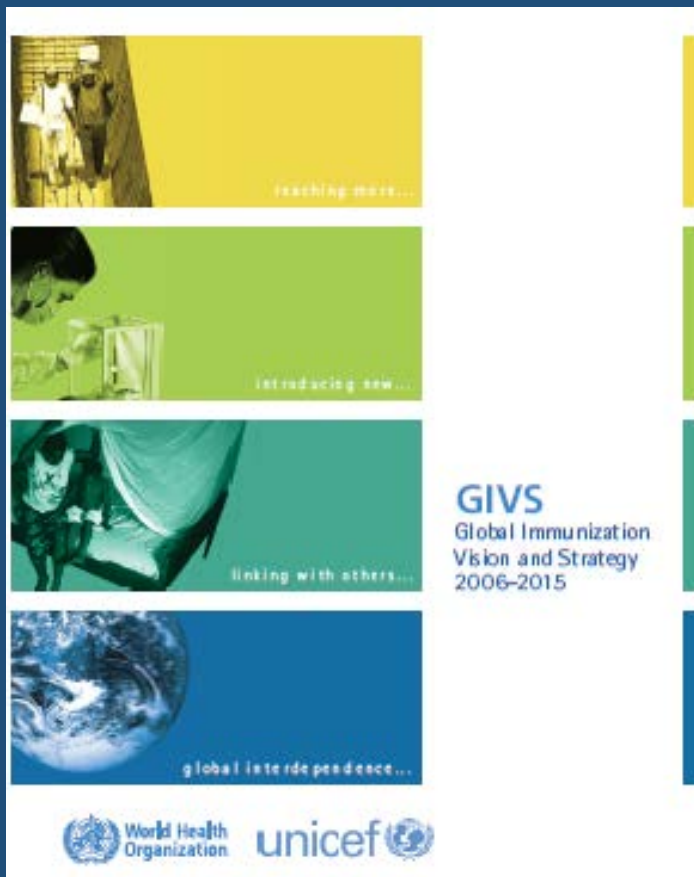
“This [the Global Health Security Agenda] is indeed a timely initiative. It raises the political profile of the threat from emerging and epidemic-prone diseases. And it energizes efforts to improve health security... in line with WHO International Health Regulations...”

--World Health Organization
Director General Margaret Chan
February 13, 2014

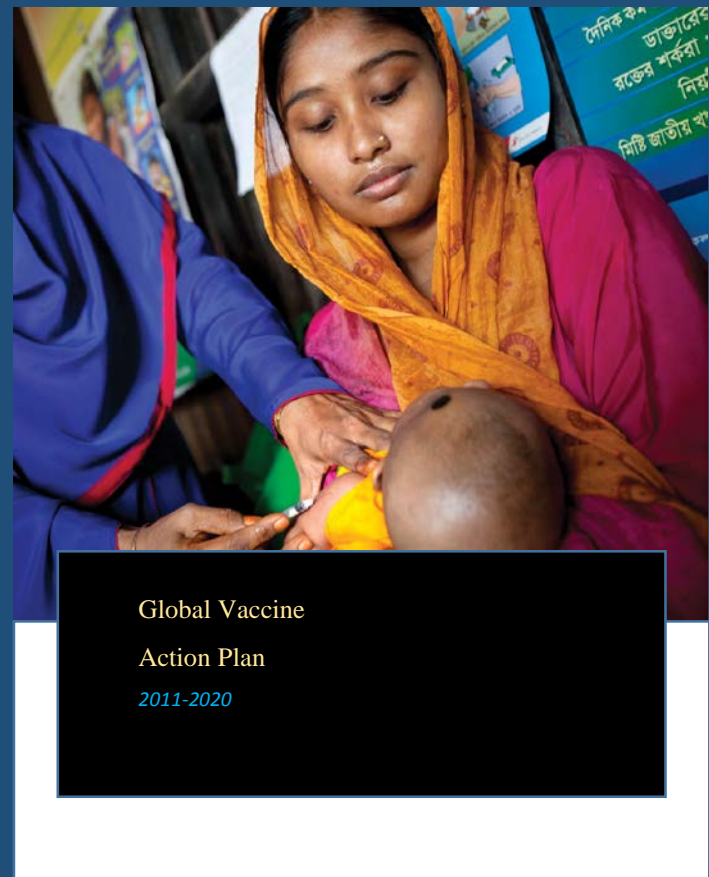
Global Health Security

Country Immunization Action Packages

- Achieve and maintain high vaccine coverage against measles and other epidemic-prone VPDs
- Strengthen capacity for early outbreak detection and effective immunization response activities for all epidemic-prone VPDs



Development led by WHO and UNICEF in consultation with immunization and development partners



Development led by BMGF, Gavi, UNICEF, US NIAID and WHO in consultation with health, development, and immunization experts and stakeholders

Monitoring and Evaluation/Accountability Framework with annual reporting of progress at each Regional Committee Meeting and at the World Health Assembly

Global Immunization Vision and Strategy, 2006-2015 And Global Vaccine Action Plan, 2011-2020

GIVS Goals and Strategic Areas	GVAP Goals and Strategic Objectives
Increase and sustain coverage	Meet vaccine coverage targets in every region, country, and community
Reduce measles mortality	Achieve a world free of <u>poliomyelitis</u> /Meet global and regional elimination targets (measles <u>and tetanus</u>)
Reduce childhood morbidity/mortality two-thirds compared to 2000	Exceed MDG 4 target for reducing child mortality
Introduce new vaccines/technologies	Develop/introduce new/improved vaccines/technologies
Ensure access to vaccines of assured quality/ sustainability of funding, human resources and supplies	Sustainable access to predictable funding, quality supply and innovative technologies
Strengthen health systems/Integrate immunization, other health interventions and surveillance in the health systems context	Strong immunization systems are an integral part of a well functioning health system
Protecting more people in a changing world	Benefits of immunization <u>equitably</u> extended to all people
	<u>All countries commit to immunization as a priority</u>
	<u>Individuals/communities understand value of vaccines and demand immunization as their right and responsibility</u>
Included as sub-strategy	<u>Country, regional and global research and development innovations maximize the benefit of immunization</u>

POLIO LEGACY:

PLANNING FOR A POLIO-FREE WORLD

POLIO GLOBAL
ERADICATION
INITIATIVE



THE GPEI WORKFORCE

(N=30,000+)

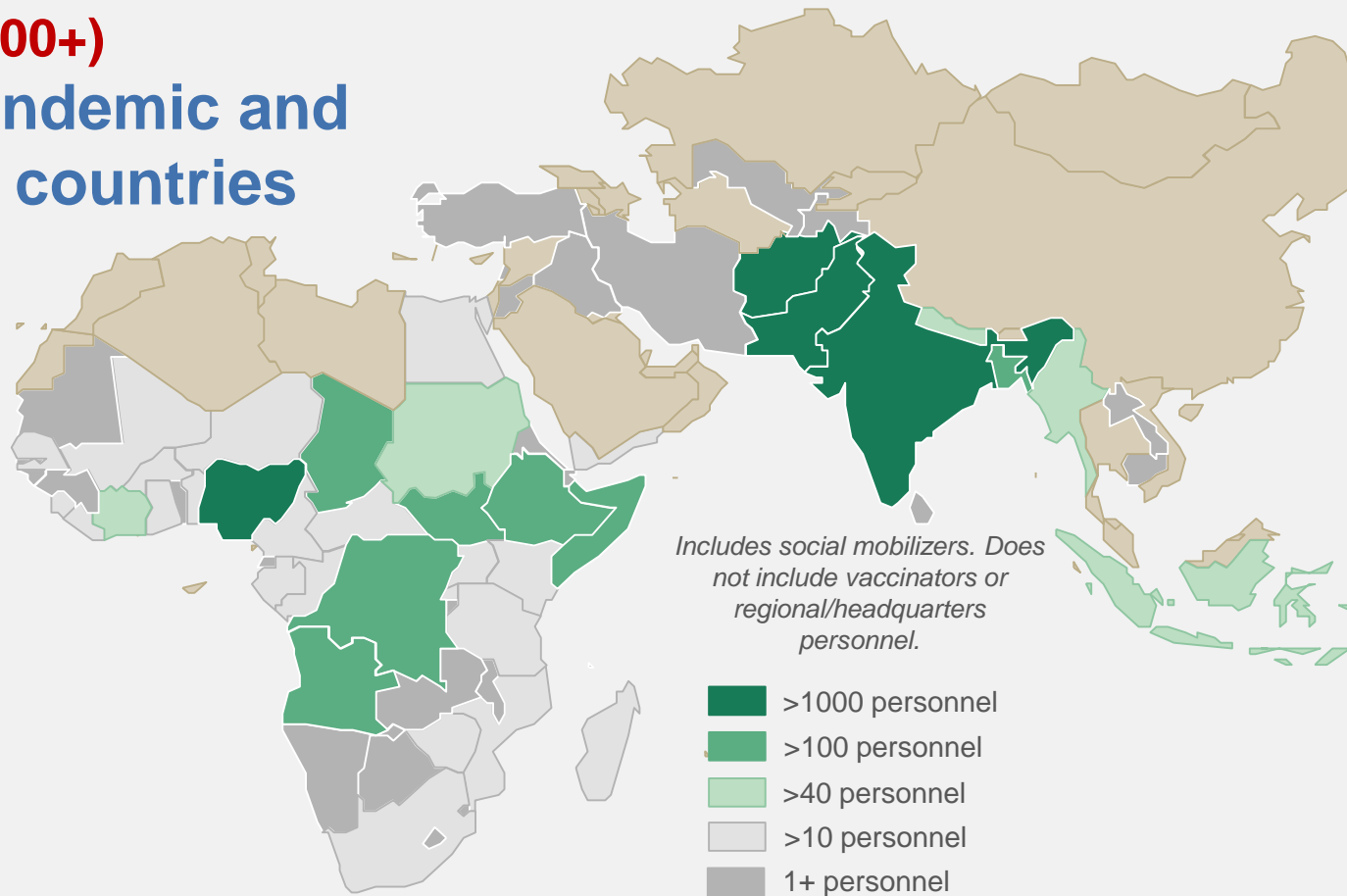
is focused in endemic and transitioning countries

Millions of vaccinators

Tens of thousands of local social mobilizers

Thousands of skilled technical staff

Hundreds of highly skilled technical managers/leaders



KEY COMPONENTS of TRANSITION PLANNING



Maintaining and mainstreaming polio functions

Ensure that those functions needed to maintain a polio free world after eradication (such as immunization, surveillance, communication and community engagement, preparedness and response, and containment) are mainstreamed into ongoing public health programs



Sharing lessons learned to improve child health

Ensure that the knowledge generated and lessons learned from polio eradication activities are shared with other health initiatives



Transition polio functions to improve child health

Where feasible, desirable, and appropriate, transition capabilities and processes to support other health priorities and ensure sustainability of the experience of the GPEI program



OTHER GLOBAL HEALTH AND DEVELOPMENT PROGRAMS CAN BENEFIT FROM THE ASSETS AND CAPABILITIES OF THE GPEI

TRAINED VOLUNTEERS, SOCIAL MOBILIZES, AND HEALTH WORKERS

UNPRECEDENTED ACCESS TO HOUSEHOLDS UNTOUCHED BY HEALTH SYSTEMS

MAPS AND MICROPLANS TO DELIVER HEALTH SERVICES TO CHRONICALLY NEGLECTED COMMUNITIES

STANDARDIZED, REAL-TIME GLOBAL SURVEILLANCE AND RESPONSE CAPACITY

CDC Global Immunization Strategic Framework, 2016-2020

Overarching Goal and Goal-Based Targets

Control, eliminate or eradicate VPDs to reduce death and disability globally

A world free of polio

Measles and rubella/CRS elimination

VPD control goals

Vaccine introduction

Vaccine development

Supporting Goals and Goal-Based Targets

Strengthen country ownership, partnership initiatives and policy development

Ensure equity and improve coverage and quality of immunization systems

Prevent, detect and respond to VPDs with strong surveillance and immunization information systems (IIS)

***Conduct and promote research and implementation science**

*Country ownership and commitment to immunization

High coverage and equitable immunization service delivery within the broader health system

High quality surveillance systems and proficient VPD laboratory networks to detect and respond to VPDs

Research and implementation science to increase the evidence base for achieving immunization goals

Strategic partnership initiatives to achieve global immunization goals

*Sufficient, skilled and competent workforce capacity to sustain and improve quality of national immunization systems

High-quality IIS to monitor and enhance immunization service delivery

*Regional and country capacity to conduct research and implementation science

*Development of global and regional evidence-based immunization policy

*Increased and sustained demand for vaccines

*High quality strategic information to enhance program performance, and for monitoring and evaluation

*Translation of research and implementation science into evidence-based policy and programs

Vaccine safety and risk communication capacity

*Use of vaccines for outbreak response and humanitarian emergencies

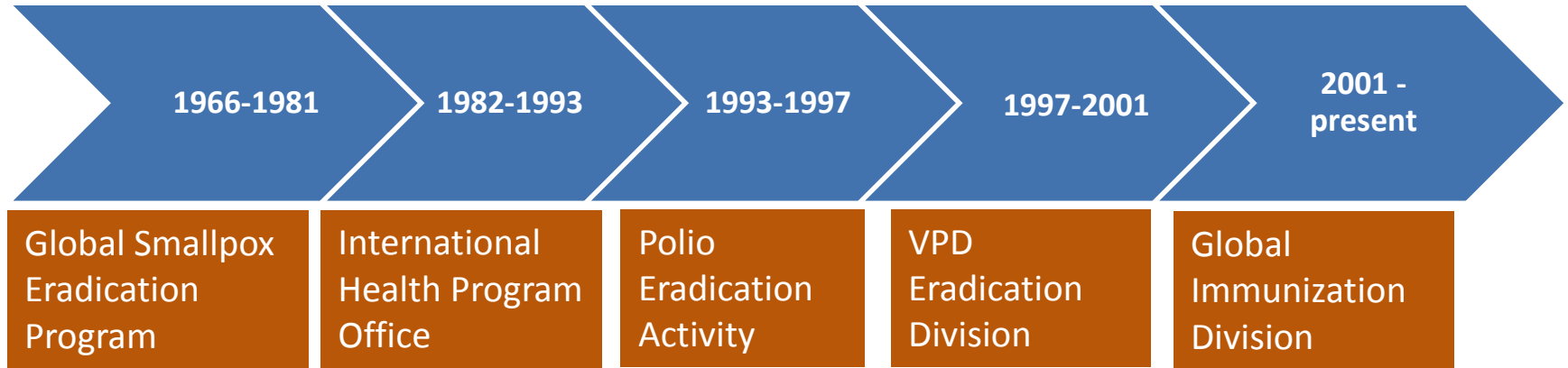
*New/expanded strategic areas

Existing strategic areas

Timeline

Activity	Timeframe
Final CDC review	September
Partner review	End September to Mid October
CDC and HHS Clearance	October to November
Dissemination/Rollout	December-January

Global Immunization at CDC, 1965-2015



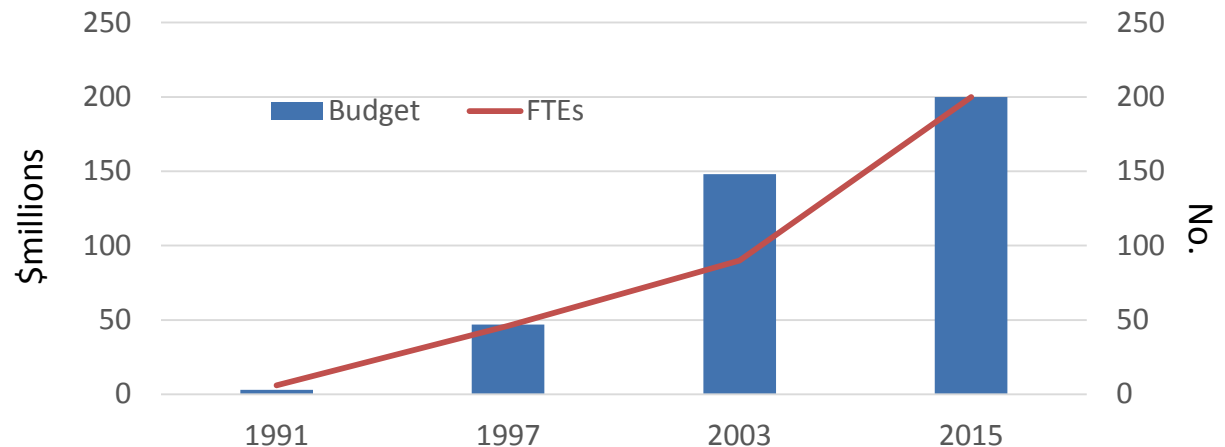
- 1965 - Lyndon Johnson pledges support for global smallpox eradication
- 1965 CDC begins TA to USAID-funded measles vaccination campaigns in W Africa
- 1966 - 19th WHA adopts budget for smallpox eradication

- 1982-1993 - CDC provides TA for USAID-funded Africa Combatting Childhood Communicable Diseases Project

- 1991 - first CDC funding to support global polio eradication

- 1999 - first CDC funding to support global measles and other VPDs

- 2012 - GID move from NCIRD to Center for Global Health



How NVAC Can Help

- Advocate for the importance of USG leadership in achieving global immunization goals

Polio still cripples thousands of children around the world. With your help, we can wipe this disease off the face of the earth forever.

Visit rotary.org/endpolio to help.

END POLIO NOW



ROTARY



We are **This Close** to Ending Polio.

Tom Frieden
Director of the CDC

Thank you!

TABLE 2. Number and percentage of member states with vaccination recommended in immunization schedule during the second year of life, by vaccine and World Health Organization (WHO) region — worldwide, 2013

WHO region	Total no. of member states	No. of member states (%)					≥1 health care visit during second year
		MCV2	DT-containing vaccine	Polio	PCV	Other vaccines	
Total (worldwide)	194	57 (29)	105 (54)	78 (40)	14 (7)	40 (21)	159 (82)
African	47	11 (23)	10 (21)	10 (21)	0	0	24 (51)
Americas	35	4 (11)	31 (89)	28 (80)	3 (9)	11 (31)	34 (97)
Eastern Mediterranean	21	15 (71)	16 (76)	15 (71)	3 (14)	5 (24)	20 (95)
European	53	8 (15)	36 (68)	20 (38)	4 (8)	18 (34)	49 (92)
South-East Asia	11	6 (55)	4 (36)	2 (18)	0	1 (9)	9 (82)
Western Pacific	27	13 (48)	8 (30)	3 (11)	4 (15)	5 (19)	23 (85)

Abbreviations: MCV1 = first dose of measles-containing vaccine; MCV2 = second dose of measles-containing vaccine; DT = diphtheria-tetanus; PCV = pneumococcal conjugate vaccine.