CDC ASSESSMENT OF RISKS TO THE GLOBAL POLIO ERADICATION INITIATIVE (GPEI) STRATEGIC PLAN 2010-2012

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Atlanta, Georgia USA

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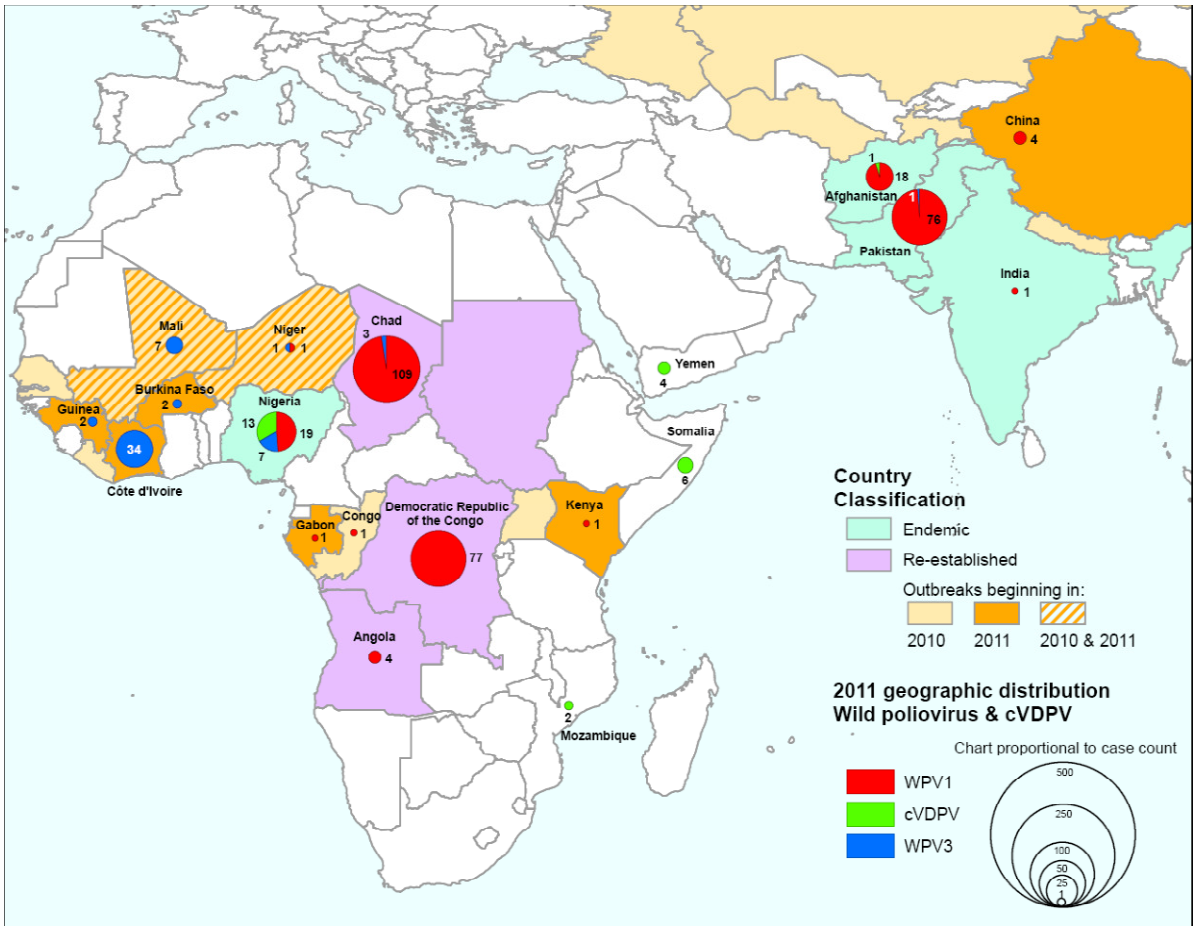
2011 Third Quarter Report

Wild poliovirus (WPV) cases and circulating vaccine-derived polioviruses (cVDPV), onset during January–August 2011 (data as of 7 September 2011)



In addition to quarterly assessment of risks to the global polio eradication initiative since September 2010, beginning in 2011, CDC reports quarterly on the Strategic Plan Major Process Indicators (MPIs) of the Global Polio Eradication Initiative (GPEI) Strategic Plan for 2010–2012. Previous reports and the CDC assessments of risk to the GPEI are available at *http://www.polioeradication.org/Dataandmonitoring/Polioeradicationtargets/Riskassessments.aspx*.

This 3rd quarter 2011 CDC Assessment of Risks to the GPEI Strategic Plan 2010-2012 evaluates indicators based on the criteria in the 2011 MPIs applied over the previous 12 months. For each of the countries affected by polio, in addition to the assessment of risk of failure to detect and interrupt wild poliovirus (WPV) transmission, this report will also briefly indicate the outcome of the 2010 MPIs and progress toward 2011 MPIs by the use of symbols.

The symbol key for each country's outcome for the 2010 MPI, or progress toward 2011 MPI is:

- Fully achieved in 2010, or achieved thus far in 2011
- Not achieved, or not yet achieved in 2011
- No data to assess

NOTE

1. This risk assessment evaluates immunization performance in part using routine immunization coverage with three doses of poliovirus vaccine by one year of age (Pol3). With the issuance 22 July 2011 of 2010 World Health Organization-UNICEF estimates (available at *http://apps.who.int/immunization_monitoring/en/globalsummary/timeseries/tswucoveragepol3.htm*), Pol3 coverage for 2010 has changed substantially (more than +/- 5% or sufficiently to change performance classification for this assessment) for several countries from the previous report, which used 2009 data issued July 2010. The following describes the changes in coverage from the 2009 estimates to those for 2010.

	2009	2010
Afghanistan **decreased** 17 percentage points	83%	66%
Angola **increased** 19 percentage points	73%	92%
Burkina Faso **increased** 10 percentage points	84%	94%
Chad **increased** 27 percentage points	36%	63%
Ethiopia **increased** 10 percentage points	76%	86%
Kenya **increased** 12 percentage points	71%	83%
Niger **increased** 4 percentage points	71%	75%
Nigeria **increased** 25 percentage points	54%	79%
Senegal **decreased** 13 percentage points	83%	70%
Sierra Leone **increased** 15 percentage points	74%	89%
Somalia **increased** 21 percentage points	28%	49%
Sudan (before South Sudan independence) **increased** 6 percentage points	84%	90%
Togo **increased** 3 percentage points	89%	92%
Yemen **increased** 23 percentage points	65%	88%

2. The Major Process Indicators for Nigeria and the Democratic Republic of the Congo (DRC) have been revised/augmented by consensus of CDC, the World Health Organization and the Ministries of Health:

Nigeria

Current: By end-2011, >80% of children with ≥ 3 doses of OPV (per NPAFP data) in each of the 12 high-risk states (including the 8 persistent transmission states)

Additional: By end-2011, <10% missed children in at least 90% of the Local Government Areas (LGAs) during at least 4 SIAs in each of the 12 high-risk states (including the 8 persistent transmission states). (By end-2012, in at least 8 SIAs).

DRC

Prior: By end-2011, Democratic Republic of the Congo: <10% missed children in each SIA in Orientale, North & South Kivu.

Revised: By end-2011, <10% missed children during at least 4 SIAs in Bandundu, Bas-Congo, Katanga, Kinshasa, North Kivu, Orientale, and South Kivu. (By end-2012, in at least 8 SIAs).

EXECUTIVE SUMMARY

CDC quarterly assesses the risks of failure to detect and interrupt wild polio virus (WPV) transmission in affected countries and progress toward achieving 2011 Major Process Indicators (MPIs) using data collected over the previous 12 months. This report represents a provisional cross-section of information ending in the 3rd quarter 2011. Surveillance data include onset of paralysis 8 September 2010 – 7 September 2011; laboratory results as of 7 September 2011 are complete for cases with onset before early-August 2011.

Endemic countries		Date of last WPV	Current Quarter Risk Assessment			2nd Qrt. Report
			Immunization performance (strong, intermediate, weak)	Surveillance performance (strong, intermediate, weak)	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
1	Afghanistan	15-Aug-11	Weak	Intermediate	High	High
2	India	13-Jan-11	Strong	Intermediate	Low	Low
3	Nigeria	20-Jul-11	Intermediate	Intermediate	Moderate	Moderate
4	Pakistan	17-Aug-11	Weak	Intermediate	High	High

Endemic countries: In India, the latest observed WPV type 3 (WPV3) case had onset 22 October 2010 and the latest WPV type 1 (WPV1) case had onset 13 January 2011. The results of the most recent MPI seroprevalence studies are not yet available; reported supplementary immunization activity (SIA) coverage remains high. India has very high rates of non-polio acute flaccid paralysis (NPAFP) sub-nationally; however, because some states have suboptimal indicators, surveillance performance is intermediate. India is considered at low risk of failure to detect and interrupt WPV transmission by the end of 2011. The potential for undetected low-level transmission and importation remains. In Nigeria, more WPV cases have been detected during this period of 2011 than in the same period in 2010 and several foci of transmission remain. Nigeria remains at moderate risk of failure to detect and interrupt WPV transmission by the end of 2011. In Afghanistan, access problems remain and limit progress. WPV1 transmission is extensive in Pakistan in 2011. Both Afghanistan and Pakistan remain at high risk of failure to detect and interrupt WPV transmission by the end of 2011.

Re-established countries		Date of last WPV	Current Quarter Risk Assessment			2nd Qrt. Report
			Immunization performance (strong, intermediate, weak)	Surveillance performance (strong, intermediate, weak)	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
1	Angola	27-Mar-11	Weak	Intermediate	High	High
2	Chad	31-Jul-11	Weak	Intermediate	High	High
3	Democratic Republic of Congo	30-Jul-11	Intermediate	Weak	High	High
4	Sudan	27-Jun-09	Intermediate	Intermediate	Moderate	Moderate

Re-established transmission countries: South Sudan and Sudan have reported no WPV cases since June 2009. However, the detection of WPV1 by environmental sampling in Aswan, Egypt in December 2010 that is related to WPV isolated in Sudan in 2009 provides evidence of undetected ongoing transmission. Partially meeting the MPI for SIAs, the risk of failure in South Sudan (and Sudan) remains moderate. In Angola and the Democratic Republic of the Congo (DRC), aggregate SIA monitoring data appear to show improvements over time, but for the majority of monitored districts in Angola and the majority of MPI provinces in DRC, the

proportion of missed children has not met the applied MPI criterion. There have not been substantial improvements in SIA coverage in Chad. Surveillance performance has serious limitations in DRC and is suboptimal in Angola and Chad. The latest observed WPV case in Angola was in March. WPV1 transmission is extensive in DRC and Chad in 2011 and WPV3 transmission in Chad has been detected through March. The risks of failing to detect and interrupt WPV transmission by the end of 2011 remain high in each of these three countries; progress has been observed in Angola and DRC.

Importation / importation-belt countries (virus within the last 12 months)			Serotype	Date of last WPV	Current Quarter Risk Assessment			2nd Qrt. Report
					Immunization performance (Strong, Intermediate, Weak)	Surveillance performance (Strong, Intermediate, Weak)	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
Countries with virus last 12 months	1	Kenya	P1	30-Jul-11	Weak	Intermediate	High	High
	2	Guinea	P3	27-Jul-11	Strong	Weak	Moderate	High
	3	Côte d'Ivoire	P3	24-Jul-11	Strong	Weak	Moderate	High
	4	China	P1	19-Jul-11				
	5	Niger [2]	P1	09-Jul-11	Strong	Weak	Moderate	Low
	6	Mali	P3	23-Jun-11	Strong	Intermediate	Moderate[1]	High
	7	Burkina Faso	P3	15-Jun-11	Strong	Intermediate	Low	Low
	8	Congo	P1	22-Jan-11	Intermediate	Weak	High	High
	9	Gabon	P1	15-Jan-11	Weak	Weak	High	High
	10	Uganda	P1	15-Nov-10	Weak	Weak	High	High
	11	Russian Federation	P1	25-Sep-10	Intermediate	Weak	High	High
	12	Liberia	P1	08-Sep-10	Strong	Intermediate	Low	Low
	13	Nepal	P1	30-Aug-10	Strong	Strong	Low	Low

[1] Evidence of WPV circulation within last 3 months and ≥3 months had elapsed from outbreak laboratory confirmation to the most recent case (refer to methods section).

[2] Last WPV3 from the 2010 importation was 19-Jan-11.

Importation countries: A new WPV1 importation from Nigeria occurred in Niger; the risk of failure to detect and interrupt WPV transmission within 6 months of outbreak confirmation is moderate. A new WPV1 case in Kenya represents continued circulation from Uganda 2010 transmission, and the risk of failure is high. A new WPV1 outbreak has been confirmed in a high-risk area of Xinjiang province of China. The investigation remains underway and outbreak response SIAs started in early September; the risk of failure of timely interruption cannot currently be assessed. Outbreaks starting in 2010 are no longer considered active although surveillance performance has been suboptimal for many countries, most notably in Uganda. Although WPV3 case numbers have climbed in Côte d'Ivoire, the risk of failure to detect and interrupt WPV transmission within 6 months of outbreak confirmation is now moderate in Côte d'Ivoire, Guinea and Mali; the risk of failure is low in Burkina Faso. Because immunization performance is suboptimal in Congo and Gabon, and surveillance performance is weak, the risk of failure remains high in both, although there are no WPV1 cases detected since January.

Conclusions: Major changes from the 2nd *Quarter 2011 CDC Assessment of Risks to the GPEI* and notable findings include: 1) continued low risk of failure in India; 2) continuation of circulation of Uganda 2010 WPV1 with a new importation outbreak in Kenya; 3) a potentially explosive outbreak in a high-risk area of China; and 4) approaching control of the WPV3 outbreaks in West Africa. While there are many challenges, Chad and Pakistan continue to represent the greatest threats to interrupting global WPV transmission by the end of 2012.

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ACRONYMS AND ABBREVIATIONS

AFP	acute flaccid paralysis
bOPV	bivalent (types 1 and 3) oral poliovirus vaccine
CDC	U.S. Centers for Disease Control and Prevention
cVDPV	circulating vaccine-derived poliovirus
GPEI	Global Polio Eradication Initiative
IM	independent monitoring
IMB	Independent Monitoring Board
mOPV	monovalent oral poliovirus vaccine, either type 1 (mOPV1) or type 3 (mOPV3)
MPI	major process indicator
NPAFP	non-polio acute flaccid paralysis
OPV	oral poliovirus vaccine
Pol3	coverage with three doses of OPV by 1 year of age
SIA	supplementary immunization activity
tOPV	trivalent oral poliovirus vaccine
UNICEF	United Nations Children's Fund
VDPV	vaccine-derived poliovirus
WHO	World Health Organization
WPV	wild poliovirus

CDC Assessment of Risks to GPEI

INTRODUCTION

The U.S. Centers for Disease Control and Prevention (CDC) prepares quarterly reports on the assessment of the risk of failure to detect and interrupt wild polio virus (WPV) transmission in affected countries during 2010-2012 that are submitted to the Interagency Coordinating Group (ICG) of major polio eradication partners and to the Independent Monitoring Board (IMB). Based on the available data collected over the preceding 12 months, each report represents a provisional cross-section of information for that quarter. The current CDC risk assessment is based on available data from 8 September 2010 through 7 September 2011and laboratory information as of 7 September 2011. Surveillance data can be considered complete up through early-August 2011. The analysis is of countries included in the Global Polio Eradication Initiative (GPEI) Strategic Plan for 2010–2012, and countries with outbreaks since 2010. Beginning in 2011, CDC reports quarterly on the Strategic Plan Major Process Indicators (MPIs). The *3rd Quarter 2011, Progress Report of the GPEI Major Process Indicators for 2011* was also issued on 20 September. Detailed presentation of information for each country is provided in a "country profiles" supplement; the methods and data sources to assess surveillance and immunization performance have been described in prior reports and are also provided in a supplement.[1] Assessments consider immunization performance individually against types 1 and 3 WPV for all African countries with importations and in the "importation belt".

Overall risk assessment

The overall assessment of a country's risk of failure to detect and interrupt WPV transmission (HIGH, MODERATE, or LOW) was based primarily upon the immunization performance assessment with emphasis on the MPI with consideration of the surveillance performance assessment as illustrated in the table below.

	IMMUNIZATION PERFORMANCE		
SURVEILLANCE PERFORMANCE	**WEAK**	**INTERMEDIATE**	**STRONG**
WEAK	HIGH	HIGH	MODERATE
INTERMEDIATE	HIGH*	MODERATE	LOW**
STRONG	HIGH*	MODERATE	LOW**

*If a country was initially assessed as having a HIGH risk of failure to detect and interrupt WPV transmission but its surveillance performance was assessed as STRONG or INTERMEDIATE and there was no evidence of WPV circulation in >12 months (>6 months if importation country/"importation belt"), overall risk was revised to MODERATE.

If an **endemic or re-established transmission country was initially assessed as having STRONG immunization performance and STRONG or INTERMEDIATE surveillance performance but there was evidence of WPV circulation within the last 6 months in ≥3 states/provinces, its overall risk was revised to MODERATE. If an **importation country** had STRONG immunization performance and STRONG or INTERMEDIATE surveillance performance but there was evidence of WPV circulation within the last 3 months and ≥3 months had elapsed from outbreak laboratory confirmation to the most recent case, its overall risk was revised to MODERATE.

[1] Both updated supplements are available at *http://www.polioeradication.org/Dataandmonitoring/Polioeradicationtargets/Riskassessments.aspx*.

RISK ASSESSMENT

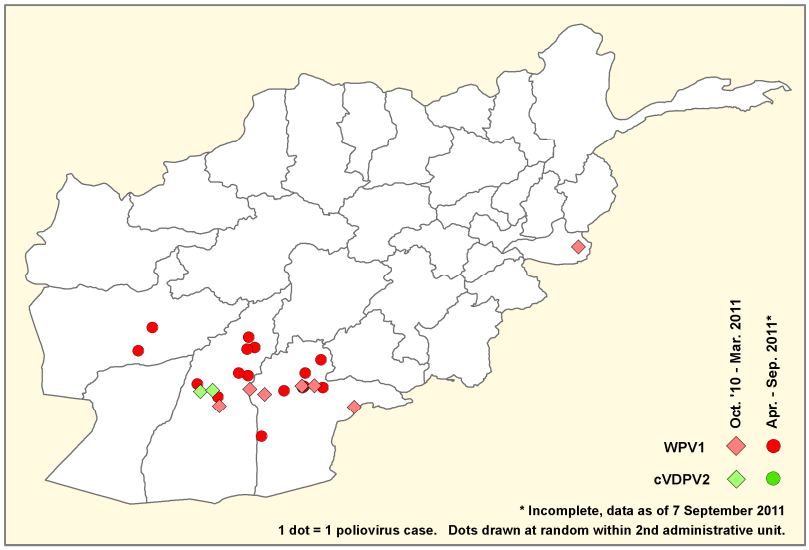
Endemic Countries

AFGHANISTAN

Immunization				Surveillance			
12-month immunization indicator*	National		Immunization Performance	Percent of states / provinces with:		Virology	Surveillance Performance
% missed children in SIAs	POL3	0-dose		NPAFPR >= 2**	Adeq. Stools >= 80%**		
Weak	66	3.2	Weak	100	100	Some	Intermediate

* 12-month immunization indicator: Based upon Afghanistan's 2011 MPI for immunization but using data from SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and the Methods Supplement.

** based on the upper 90% confidence limit



Afghanistan has a high risk of failure to detect and interrupt WPV transmission by the end of 2011. Onset of the latest WPV3 case was 11 April 2010 following predominant use of bOPV in SIAs since December 2009. WPV1 and cVDPV2 transmission has continued into 2011. Because there continue to be impediments to access in some border areas and the conflict-affected Southern Region, immunization performance remains weak. Although the sub-national NPAFP detection indicator is meeting the target in all states and the specimen collection within acceptable limits, surveillance performance is assessed to be intermediate because of virologic evidence of some missed chains of transmission. Most WPV1 cases represent sustained independent transmission of lineages unique to Afghanistan, but cross-border transmission with Pakistan continues. The risk of failure for Afghanistan remains interrelated with that for Pakistan.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
High	High

GPEI MPI	end-2010	<10% missed children during at least 4 SIAs in each of the 13 conflict-affected districts with persistent transmission in the Southern region
	end-2011	<10% missed children during at least 6 SIAs in each of the 13 conflict-affected districts with persistent transmission in the Southern region

INDIA

Immunization						Surveillance			
12-month immunization indicator *			National		Immunization Performance	Percent of states / provinces		Virology	Surveillance Performance
% missed children in SIAs in Bihar/UP	% missed children in SIAs in West Bengal	Overall 12-month immunization indicator	POL3	0-dose		NPAFPR >= 2**	Adeq. Stools >= 80%**		
Strong	**Strong**	**Strong**	**70**	**0.3**	**Strong**	**97.1**	**93.9**	**Little**	**Intermediate**

* 12-month immunization indicator: Since data were not yet available to assess India's 2011 MPI for immunization, based upon the two most recent SIAs conducted in Bihar, Uttar Pradesh (UP), and West Bengal. Additional details in Methods Supplement.

** based on the upper 90% confidence limit

The latest confirmed WPV1 case occurred on 13 January 2011 in West Bengal and the latest confirmed WPV3 case on 22 October 2010 in Jharkhand, marking >8 and >10 historical months, respectively, without detected cases. India continues to have a low risk of failure to detect and interrupt WPV transmission by the end of 2011.

Immunization performance remains strong. In 2010, poliovirus type 1 seropositivity was high in the tested populations in western Uttar Pradesh and central Bihar; results for 2011 will not be available until late in the year. Data indicate continued high SIA coverage in the general targeted population in Uttar Pradesh and Bihar (≤2% missed children) and the most recently affected state (West Bengal, <7% missed children, including <8% in the areas around the 2011 case). Data also indicate ongoing improvements in reaching mobile and remote populations in SIAs (consistently missing only <9% of children in directed monitoring in each area and <3% in most areas; a notable exception was one SIA with 12% missed children in Gujarat, although all others missed <9% on monitoring). Ensuring interruption of WPV transmission depends on simultaneously maintaining very high population immunity and continuing to improve coverage in specific migrant sub-populations. Surveillance performance overall is assessed as intermediate (noting, however, the very high NPAFP rates in most states). The criterion for ≥80% adequate specimen collection in each state was not met in some states (including Delhi, although within acceptable limits); however, indicators in Bihar, Uttar Pradesh, West Bengal and Jharkhand are currently strong. Environmental sampling has been valuable in supplementing AFP surveillance in both Delhi and Mumbai; waste water specimen collection has been extended into Patna and will be soon extended into Kolkata. WPV-negative specimens from all sites since November 2010 reinforce the WPV-negative results from AFP surveillance. There remains a threat of low-level persistent transmission in areas or sub-population groups and a risk of importation of WPV.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
Low	**Low**

GPEI MPI	end-2010	>95% population immunity to type 1 polio in the persistent transmission areas of western Uttar Pradesh and central Bihar
	end-2011	>95% population immunity to type 1 and type 3 polio in the persistent transmission areas of western Uttar Pradesh and central Bihar

NIGERIA

Immunization						Surveillance			
12-month immunization indicator			National		Immunization Performance	Percent of states / provinces with:		Virology	Surveillance Performance
% children with ≥3 OPV doses*	State: % missed children in SIAs**	Overall 12-month immunization indicator	POL3	0-dose		NPAFPR >= 2***	Adeq. Stools >= 80%***		
Intermediate	**Intermediate**	**Intermediate**	**79**	**2.4**	**Intermediate**	**100**	**100**	**Some†**	**Intermediate**

* ≥3 dose immunization indicator: Based upon Nigeria's 2011 MPI for immunization (≥3 OPV doses) and using OPV dose information within NPAFP surveillance data from the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

**12-month state immunization indicator: Based upon Nigeria's new 2011 MPI for immunization (% missed children in SIAs) but using available data from SIAs conducted during the previous 12 months (8 Sept 2010 - 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

*** based on the upper 90% confidence limit

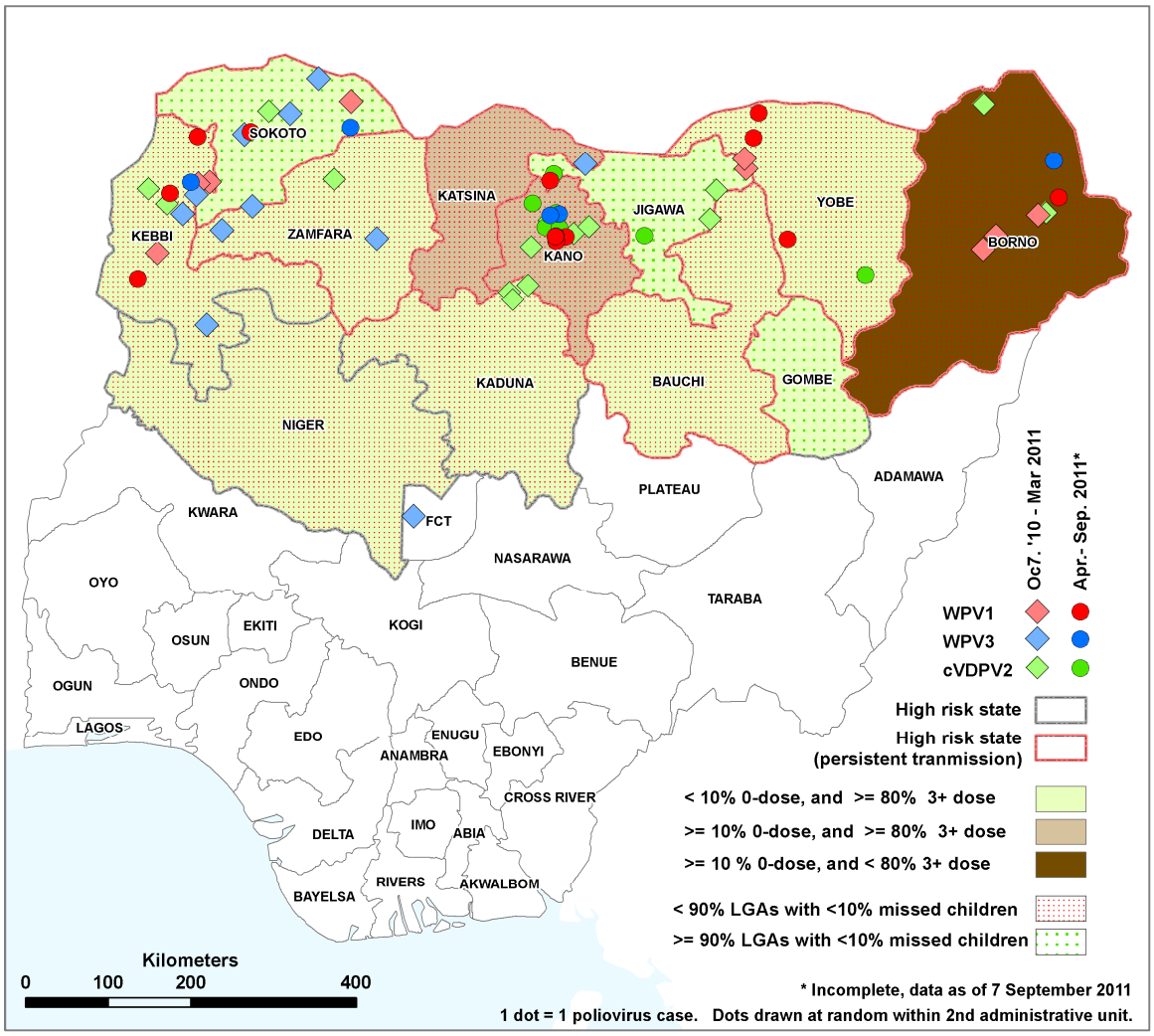
† significantly higher proportion of viruses without close genetic linkage in 2010 and 2011

Nigeria has a moderate risk of failure to detect and interrupt WPV transmission by the end of 2011, with increases in both the number of identified WPV1 and WPV3 cases and the number of affected districts thus far during January–August 2011 (affecting 6 states) in comparison to the same period in 2010. Despite accelerated improvement in SIA implementation beginning in 2009, a high proportion of children remain susceptible in focal areas within the high-risk northern states where routine immunization and SIA coverage remain low and birth rates are high. By the applied MPI criteria and the supplemental indicators, immunization performance is intermediate over the previous 12 months. Despite multiple trivalent OPV SIA rounds since 2006, persistent cVDPV2 transmission in Kano and seven other states in 2010–2011 and additional VDPV emergence in 2011 indicate remaining challenges in reaching children. The ongoing efforts to provide programmatic support from all levels of government need to be further strengthened in order to further decrease population susceptibility. Although surveillance indicators are meeting targets at the state level, performance is intermediate. Gaps in AFP surveillance are indicated by an increasing proportion of WPV and VDPV isolates not having close linkages since early 2010. WPV3 isolated from 2010–2011 cases in the West Africa outbreaks are distantly related to WPV3 lineages circulating in the past in Northwest Nigeria, indicating undetected transmission within and/or outside of Nigeria before 2011. Surveillance gaps in Nigeria (missed chains of transmission) could be due to lapses in AFP detection below the state level or among population subgroups (e.g., migrants), or in case investigation. Recent rapid field reviews of surveillance performance have indicated many areas for improvement within the states evaluated.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
Moderate	**Moderate**

GPEI MPI	end-2010	<10% 0-dose children (per NPAFP data) in each of the 12 high-risk states (including the 8 persistent transmission states)
	end-2011	>80% of children with ≥3 doses of OPV (per NPAFP data) in each of the 12 high-risk states (including the 8 persistent transmission states)
	end-2011	<10% missed children in at least 90% of the Local Government Areas during at least 4 SIAs in each of the 12 high-risk states

Nigeria: Wild poliovirus (WPV) cases and circulating vaccine-derived polioviruses (cVDPV), onset during Oct. 2010 – Sep. 2011 and 12-month immunization indicators among non-polio AFP cases as of 8 September 2011



The Major Process Indicator for Nigeria has augmented by consensus of CDC, the World Health Organization and the Ministry of Health:

<u>Current</u>: By end-2011, >80% of children with ≥ 3 doses of OPV (per NPAFP data) in each of the 12 high-risk states (including the 8 persistent transmission states)

<u>Additional</u>: By end-2011, <10% missed children in at least 90% of the Local Government Areas (LGAs) during at least 4 SIAs in each of the 12 high-risk states (including the 8 persistent transmission states). (By end-2012, in at least 8 SIAs).

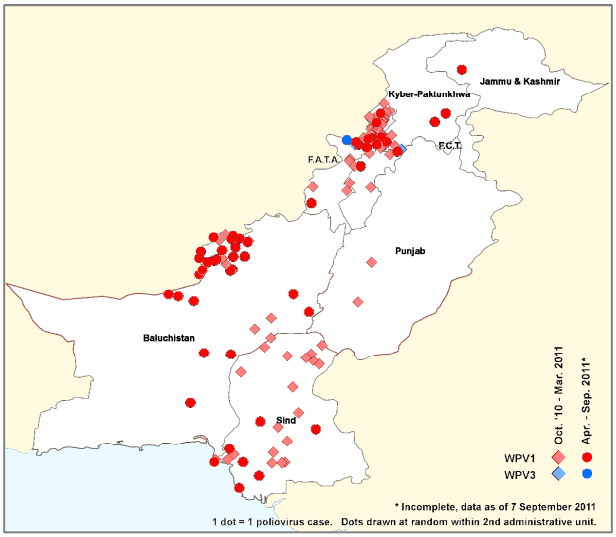
PAKISTAN

Immunization						Surveillance			
12-month immunization indicator			National		Immunization Performance	Percent of states / provinces with:		Virology	Surveillance Performance
District: % missed children in SIAs*	% children with > 6 OPV doses**	Overall 12-month immunization indicator	POL3	0-dose		NPAFPR >= 2***	Adeq. Stools >= 80%***		
Weak	Weak	Weak	88	2.3	Weak	100	100	Some	Intermediate

* 12-month district immunization indicator: Based upon Pakistan's 2011 MPI for immunization (% missed children in SIAs) but using SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

** >6 dose immunization indicator: Based upon Pakistan's 2011 MPI for immunization (>6 OPV dose) but using OPV dose information within NPAFP surveillance data from the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

*** based on the upper 90% confidence limit



Pakistan has a high risk of failure to detect and interrupt WPV transmission by the end of 2011. After a WPV3 case on 18 November 2010, the only subsequent WPV3 case detected since had onset 9 June 2011, suggesting that WPV3 transmission could be interrupted in the near future; limited surveillance would nonetheless hamper interpretation. However, circulation of WPV1 in January–September 2011 has increased compared to the same period in 2010. Assessment of SIA monitoring during the last 12 months met the MPI criteria in Peshawar, Khyber Pakhtunkhwa (KP), but not elsewhere in KP or in FATA and the Quetta area of Balochistan. Dose history in children with NPAFP in Sindh and Punjab also did not meet the MPI criteria. Therefore immunization performance remains weak. Outside the house monitoring data have not been reported for secure areas in Punjab, Singh and Balochistan. Surveillance indicators meet standards at national and state levels; however, performance is assessed to be intermediate because of virologic evidence of chains of transmission missed by AFP surveillance, including analysis of isolates from environmental surveillance. Despite the absence of recent WPV cases detected in Punjab, environmental surveillance continues to detect WPV1 transmission. The risks of missing children in sub-populations during SIAs and through surveillance are high. Emergency response plans are being implemented to address the serious weaknesses in immunization and surveillance performance in Pakistan, but have yet to be fully implemented down to the District and Union Council levels. The extensive circulation of WPV1, suboptimal surveillance and the lack of evident progress in SIA implementation indicate that Pakistan poses a high risk to the success of the GPEI to interrupt all WPV transmission by end-2012.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
High	High

GPEI MPI	end-2010	<15% missed children during at least 8 SIAs in every district of the Quetta area and the persistent transmission districts and agencies of NWFP and FATA
	end-2010	<10% missed children during at least 4 SIAs in every town of Karachi
	end-2011	<10% missed children during at least 8 SIAs in the Quetta area and in the persistent transmission districts and agencies of NWFP and FATA
	end-2011	>90% of children with >6 doses of OPV in Sindh and Punjab

Re-Established Transmission Countries

ANGOLA

Immunization						Surveillance			
12-month immunization indicator			National		Immunization Performance	Percent of states / provinces with:		Virology	Surveillance Performance
District: % missed children in SIAs*	Province: % missed children in SIAs**	Overall 12-month immunization indicator	POL3	0-dose		NPAFPR >= 2***	Adeq. Stools >= 80%***		
Weak	**Intermediate**	**Weak**	**92**	**13.7**	**Weak**	**100**	**88.9**	**Some**	**Intermediate**

* 12-month district immunization indicator: Based upon Angola's 2011 MPI for immunization but using data from SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

**12-month provincial immunization indicator: Based upon SIAs conducted in all provinces in Angola except the provinces of Luanda, Benguela, and Kwanza Sul (MPI provinces) during the previous 12 months (8 Sept 2010 – 7 Sept 2011). The provinces of Luanda, Benguela, and Kwanza Sul were omitted given their consideration in the 12-month district immunization indicator. Additional details in Methods Supplement.

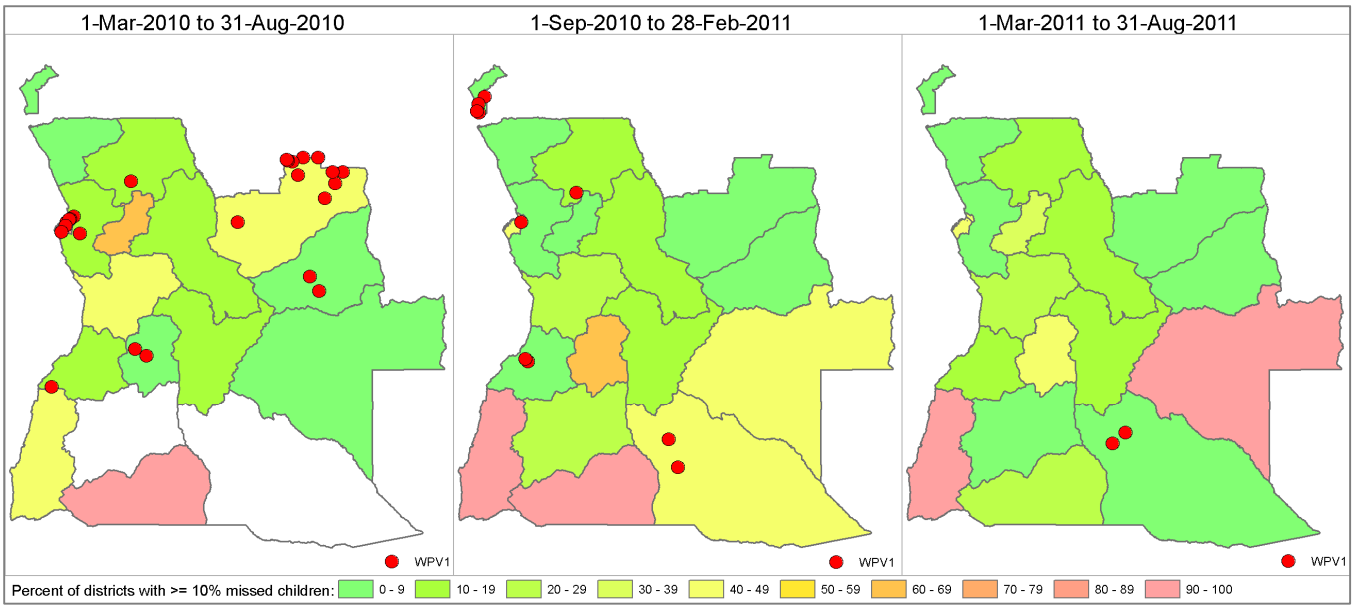
*** based on the upper 90% confidence limit

Angola failed to interrupt re-established transmission before end-2010 and has maintained a high risk of failure to detect and interrupt WPV transmission by the end of 2011. In Angola in 2011 as of the time of this report, there have been 4 confirmed cases of WPV1, all from one district in Kuando Kubango Province; the date of onset of the latest case was 27 March. This is in comparison to 2010 when there were 33 confirmed cases of WPV1 from nine different provinces. The Strategic Plan MPI addresses districts in the provinces of Luanda, Benguela and Kwanza Sul, which were foci of transmission in 2009–2010. In 2010 and 2011 other provinces within the country had WPV circulation; thus, risk assessments in 2011 include analysis of SIA monitoring data from all provinces where available. SIA monitoring data aggregated at the provincial level indicate apparent overall improvement in recent SIA implementation; however, for most monitored districts, the proportion of missed children was above the 10% MPI criterion for some of the SIAs. Overall immunization performance is assessed as weak. Five SIAs (4 on the national level) in the last 12 months used type 3-containing OPV, mitigating the risk of WPV3 transmission if introduced. A high proportion of NPAFP cases (8.9%) are lacking vaccine dose history, limiting the quality of NPAFP dose data. The high 0-dose (13.7%) and low 4+ (30.1%) proportions among children with NPAFP are inconsistent with the reported Pol3 of 92%. Surveillance performance is intermediate; although the sub-national NPAFP rates would suggest strong surveillance, there are some limitations in specimen collection. The virologic data indicate that some surveillance gaps exist which could be due to lapses in AFP detection below the province level or among population subgroups (e.g., migrants), or in case investigation.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
High	High

GPEI MPI	end-2010	<10% missed children in all districts of Luanda, Benguela, and Kwanza Sul during each SIA
	end-2011	<10% missed children in all districts of Luanda, Benguela, and Kwanza Sul during each SIA

Angola: Wild poliovirus type 1 (WPV1) cases with onset 1 March 2010 – 31 August 2011 and results of independent monitoring for Supplemental Immunization Activities (SIAs) conducted during 1 March 2010 – 31 August 2011 by six month periods*



*For each six-month period for each district in the country where data were available, independent monitoring data from all SIAs conducted were pooled, and the total number of missed children was divided by the total number of children observed to obtain an overall percentage of missed children for the district for the period. Then for each province in the country, the percentage of districts with ≥10% missed children was calculated. Color coding was assigned to ranges of percentages as indicated in the map above. For the period 1 March – 31 August 2010, data were available from 3 National Immunization Days (NIDs) and 4 Sub-national Immunization Days (SNIDs), for the period 1 September 2010 – 28 February 2011, data were available from 2 NIDs and 1 SNID, and for the period of 1 March – 31 August 2011, data were available for 3 NIDs and 1 SNID. Not all districts were monitored in a given SIA, and different districts could have been monitored in different SIAs. To be included in the analysis, a district had to have monitoring data for at least one SIA during the six-month period. Provinces with white color coding had no monitoring data for analysis. WPV1 cases are mapped at the district level.

For Angola for the previous consecutive 6-month intervals, the national pooled percent of districts with >=10% missed children was 36.2% for the period 1 March – 31 August 2010, 29.5% for the period 1 September 2010 – 28 February 2011, and 24.0% for the period of 1 March – 31 August 2011 suggesting an overall trend towards fewer missed children during SIAs. When analyzed at the provincial-level, there is not a consistent trend.

CHAD

Immunization						Surveillance			
12-month immunization indicator			National		Immunization Performance	Percent of states / provinces with:		Virology	Surveillance Performance
District: % missed children in SIAs*	Province: % missed children in SIAs**	Overall 12-month immunization indicator	POL3	0-dose		NPAFPR >= 2***	Adeq. Stools >= 80%***		
Weak	**Weak**	**Weak**	**63**	**13.3**	**Weak**	**100**	**94.4**	**Some**	**Intermediate**

* 12-month district immunization indicator: Based upon Chad's 2011 MPI for immunization but using data from SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2010 and 2011 and Methods Supplement.

**12-month provincial immunization indicator: Based upon SIAs conducted in all provinces in Chad except the provinces in N'Djamena and in the southern and eastern WPV transmission zones (MPI provinces) during the previous 12 months (8 Sept 2010 – 7 Sept 2011). The provinces in N'Djamena and in the southern and eastern WPV transmission zones were omitted given their consideration in the 12-month district immunization indicator. Additional details in Methods Supplement.

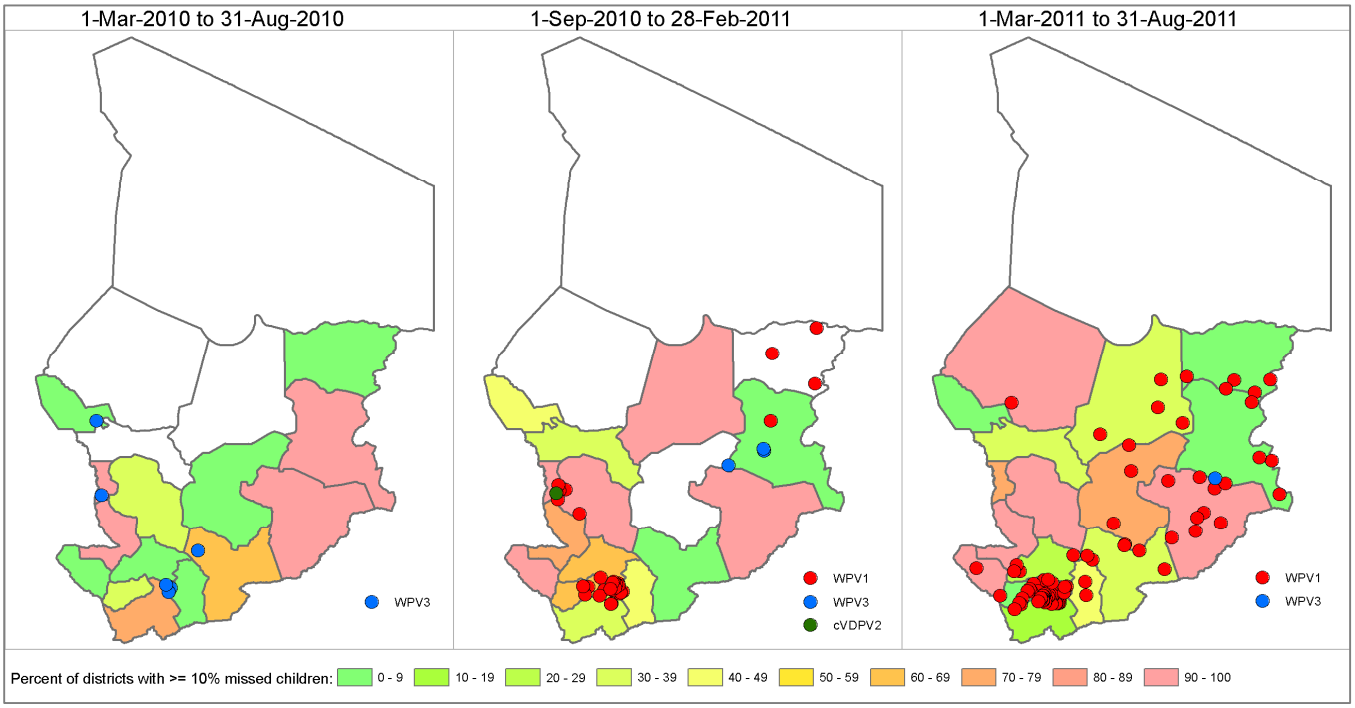
*** based on the upper 90% confidence limit

Chad has a high risk of failure to detect and interrupt WPV transmission by the end of 2011. The Strategic Plan MPI addresses greater N'Djamena and the districts of the southern and eastern transmission zone, which have been the main (but not only) areas of transmission in 2010–2011. The risk assessment included SIA monitoring data from these and all other provinces where available. Aggregated SIA monitoring data suggest no further improvement over time. In the majority of monitored districts, the proportion of missed children has not met the applied MPI criterion, and therefore overall immunization performance remains weak. Although the latest WPV3 case had onset 14 May, continued re-established transmission of WPV3 in eastern provinces remains a high risk. Extensive WPV1 transmission after 2010 importation into 2011and the occurrence of an imported cVDPV2 in 2010 from Nigeria indicate high susceptibility due to ongoing weaknesses in routine and SIA immunization coverage. All SIAs since September 2010 have used bOPV, with partial use of tOPV and mOPV1. Surveillance performance is intermediate. Chad poses a high risk to the success of the GPEI to interrupt all WPV transmission by end-2012 because of the extensive circulation of WPV1 and continue circulation of WPV3, suboptimal surveillance and lack of progress in SIA implementation quality.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
High	**High**

GPEI MPI	end-2010	<10% missed children in greater N'Djamena and in the southern and eastern WPV transmission zones during each SIA in the second half of 2010
	end-2011	<10% missed children in greater N'Djamena and in the southern and eastern WPV transmission zones during each SIA

Chad: Wild poliovirus type 1 (WPV1), wild poliovirus type 2 (WPV2) and circulating vaccine derived poliovirus type 2 (cVDPV2) cases with onset 1 March 2010 – 31 August 2011 and results of independent monitoring for Supplemental Immunization Activities (SIAs) conducted during 1 March 2010 – 31 August 2011 by six month periods*



*For each six-month period for each district in the country where data were available, independent monitoring data from all SIAs conducted were pooled, and the total number of missed children was divided by the total number of children observed to obtain an overall percentage of missed children for the district for the period. Then for each province in the country, the percentage of districts with ≥10% missed children was calculated. Color coding was assigned to ranges of percentages as indicated in the map above. For the period 1 March – 31 August 2010, data were available from 3 National Immunization Days (NIDs) and 3 Sub-national Immunization Days (SNIDs), for the period 1 September 2010 – 28 February 2011, data were available from 2 NIDs and 5 SNIDs, and for the period of 1 March – 31 August 2011, data were available for 3 NIDs and 2 SNIDs. Not all districts were monitored in a given SIA, and different districts could have been monitored in different SIAs. To be included in the analysis, a district had to have monitoring data for at least one SIA during the six-month period. Provinces with white color coding had no monitoring data for analysis. WPV and cVDPV2 cases are mapped at the district level.

For Chad for the previous consecutive 6-month intervals, the national pooled percent of districts with >=10% missed children was 47.1% for the period 1 March – 31 August 2010, 60.5% for the period 1 September 2010 – 28 February 2011, and 53.6% for the period of 1 March – 31 August 2011 suggesting no trend towards fewer missed children during SIAs. When analyzed at the provincial-level, there is not a consistent trend.

DEMOCRATIC REPUBLIC OF THE CONGO

Immunization				Surveillance			
12-month immunization indicator *	National		**Immunization Performance**	Percent of states / provinces with:		Virology	**Surveillance Performance**
% missed children in SIAs	POL3	0-dose		NPAFPR >= 2**	Adeq. Stools >= 80%**		
Intermediate	**72**	**7.8**	**Intermediate**	**100**	**36.4**	**Little**	**Weak**

* 12-month immunization indicator: Based upon DRC's revised 2011 MPI for immunization but using data from SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

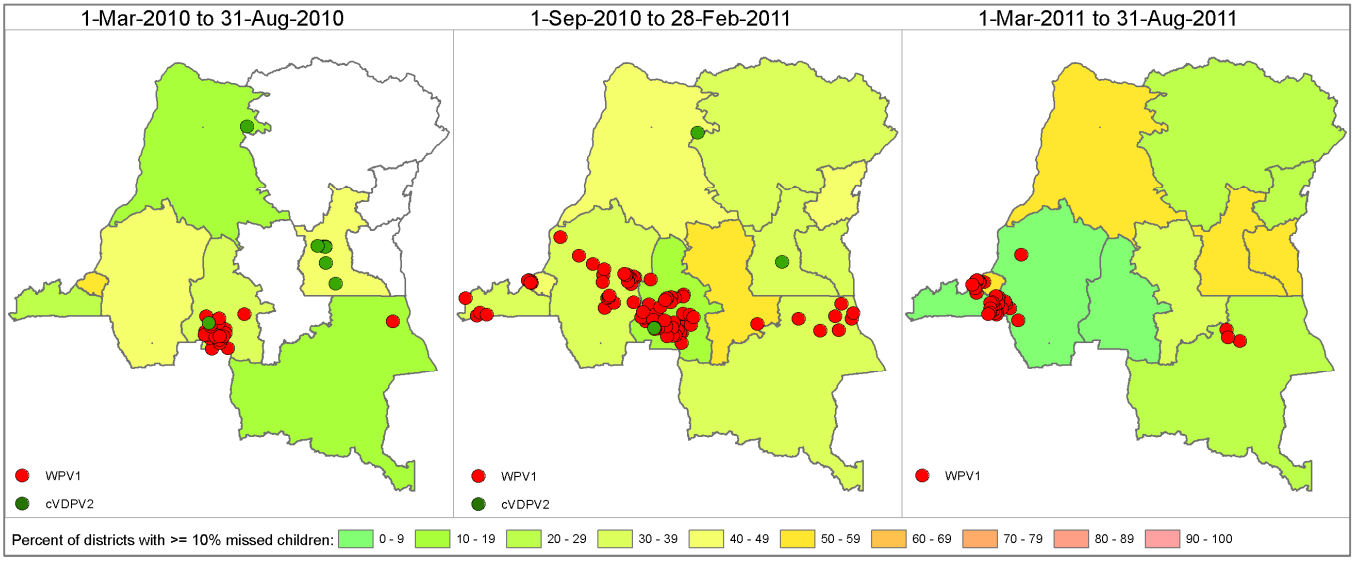
** based on the upper 90% confidence limit

DRC has a high risk of failure to detect and interrupt WPV transmission by the end of 2011. Re-established transmission of WPV1 in the east following introduction in 2006 from Angola has persisted in Katanga province into 2011. 2010–2011 WPV1 cases in the other provinces represent spread after importations from Angola and the Republic of the Congo in 2010. The provinces with confirmed WPV1 cases within the last 6 months are Bandundu, Bas-Congo, Katanga, and Kinshasa which are now added to the MPI. cVDPV2 cases were confirmed during 2010; none have been identified thus far in 2011. In addition to numerous subnational SIAs during the current 12-month period, primarily using mOPV1, there were two national SIAs in the 2nd quarter of 2011, using first bOPV and then tOPV. In four of the seven MPI provinces, province-level IM data indicated <10% missed children in both NIDs. In subsequent subnational SIAs in four MPI provinces, IM data indicated <10% missed children at the provincial level with the exception of one round in Kinshasa (20.3% missed children). For the current 12-month period, the proportion of children with NPAFP with 0-dose histories has again decreased in this quarter; however, a high proportion of NPAFP cases (12.6%) are lacking vaccine dose history, limiting the quality of 0-dose data. Immunization performance is intermediate in this assessment. Surveillance performance is weak; although sub-national NPAFP rates meet standards, there is poor collection of adequate specimens. Caution will be needed in interpreting the last date of WPV case onset as an indicator of the end of transmission in several provinces unless sub-national surveillance indicators improve.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
High	**High**

GPEI MPI	end-2010	>80% adequate specimens in all provinces
	end-2010	AFP rate >2 in all provinces
	end-2010	<10% missed children in each SIA in Orientale, North & South Kivu
	end-2011	>80% adequate specimens in all provinces
	end-2011	AFP rate >2 in all provinces
	end-2011	<10% missed children during at least 4 SIAs in Bandundu, Bas-Congo, Katanga, Kinshasa, North Kivu, Orientale, and South Kivu (amended Q3 2011)

Democratic Republic of the Congo: Wild poliovirus type 1 (WPV1) and circulating vaccine derived poliovirus type 2 (cVDPV2) cases with onset 1 March 2010 – 31 August 2011 and results of independent monitoring for Supplemental Immunization Activities (SIAs) conducted during 1 March 2010 – 31 August 2011 by six month periods*



*For each six-month period for each district in the country where data were available, independent monitoring data from all SIAs conducted were pooled, and the total number of missed children was divided by the total number of children observed to obtain an overall percentage of missed children for the district for the period. Then for each province in the country, the percentage of districts with ≥10% missed children was calculated. Color coding was assigned to ranges of percentages as indicated in the map above. For the period 1 March – 31 August 2010, data were available from 3 Sub-national Immunization Days (SNIDs), for the period 1 September 2010 – 28 February 2011, data were available from 6 SNIDs, and for the period of 1 March – 31 August 2011, data were available for 2 National Immunization Days (NIDs) and 5 SNIDs. Not all districts were monitored in a given SIA, and different districts could have been monitored in different SIAs. To be included in the analysis, a district had to have monitoring data for at least one SIA during the six-month period. Provinces with white color coding had no monitoring data for analysis. WPV and cVDPV2 cases are mapped at the district level.

For DRC for the previous consecutive 6-month intervals, the national pooled percent of districts with >=10% missed children was 42.7% for the period 1 March – 31 August 2010, 37.4% for the period 1 September 2010 – 28 February 2011, and 31.3% for the period of 1 March – 31 August 2011 suggesting an overall trend towards fewer missed children during SIAs. When analyzed at the provincial-level, there is not a consistent trend.

The Major Process Indicator for SIAs in DRC has been modified at the request of the IMB by consensus of CDC, the World Health Organization (WHO) and the Ministry of Health to reflect recently WPV-affected areas.

Prior: In each year, Democratic Republic of the Congo: <10% missed children in each SIA in Orientale, North & South Kivu.

Revised: By end-2011, <10% missed children during at least 4 SIAs in Bandundu, Bas-Congo, Katanga, Kinshasa, North Kivu, Orientale, and South Kivu. (By end-2012, in at least 8 SIAs)

SOUTH SUDAN and SUDAN

Immunization				Surveillance			
12-month immunization indicator *	National		**Immunization Performance**	Percent of states / provinces with:		Virology	**Surveillance Performance**
% missed children in SIAs	POL3	0-dose		NPAFPR >= 2**	Adeq. Stools >= 80%**		
Intermediate	**90**	**5.5**	**Intermediate**	**100**	**100**	**Some *** **	**Intermediate**

* 12-month immunization indicator: Based upon South Sudan's 2011 MPI for immunization but using data from SIAs conducted during the previous 12 months (8 Sept 2010 – 7 Sept 2011). Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2011 and Methods Supplement.

** based on the upper 90% confidence limit

*** no viruses isolated in the previous period; however, virus detected in environmental samples in Egypt related to previous circulation in Sudan

South Sudan became an independent country on 9 July 2011 and was previously designated as southern Sudan. Here, the country designation Sudan refers to the northern states of former Sudan. South Sudan is assessed to have a moderate risk of failure to detect and interrupt WPV transmission by the end of 2011. South Sudan has not met its MPI immunization criterion based on available SIA monitoring data for the previous 12 months and has intermediate immunization performance by this assessment. The resurgence in confirmed circulation of reestablished WPV transmission in 2008–2009 began and ended in South Sudan but also involved Sudan. The latest confirmed WPV case in both areas occurred in South Sudan in June 2009 and surveillance performance indicators for South Sudan have met standards for >12 months following that case. Surveillance performance indicators have also met standards in Sudan within acceptable limits. However, WPV1 was found by environmental surveillance in Aswan, Egypt in a December 2010 sample, with closest relationship to a 2009 Khartoum WPV1. This virologic evidence suggests re-established transmission has not been interrupted in former Sudan; surveillance performance is intermediate. There are areas with limited access due to remoteness and/or insecurity within South Sudan; it is possible that undetected transmission continues in these areas. Undetected circulation in under-immunized populations in Sudan is also possible. Ongoing transmission of WPV1 and WPV3 in the eastern provinces of Chad poses a large risk of importation into the Darfur areas of Sudan, with the potential for further transmission.

Current Quarter	2nd Qrt. Report
Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
Moderate	**Moderate**

GPE MPI	end-2010	>80% adequate specimen rates in all states
	end-2010	Non-polio AFP rate >2 in all states
	end-2010	<10% missed children in each state during each SIA
	end-2011	>80% adequate specimen rates in all states
	end-2011	AFP rate >2 in all states
	end-2011	<10% missed children in each state during each SIA

		Country (WPV within the last 12 months, after 22-Aug-2010)	Immunization							Surveillance				Current Quarter	2nd Qrt. Report
			12-month immunization indicator [1] Percent of missed children in type specific SIA				National		Immunization Performance	Percent of states / provinces with:		Virology [3]	Surveillance Performance	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
			Type1		Type3										
			most recent SIA	2nd most recent SIA	most recent SIA	2nd most recent SIA	POL3	0-dose		NPAFPR ≥ 2 [2]	Adeq. Stools ≥80% [2]				
Countries with virus last 12 months	1	Burkina Faso	6.5	6.4	6.5	6.4	94	3.3	Strong	84.6	84.6	Little	Intermediate	Low	Low
	2	China					99							currently unable to assess risk	
	3	Congo					90	15.2	Intermediate	80	45.4	Some	Weak	High	High
	4	Côte d'Ivoire	4.2	4.2	4.2	4.2	81	1.5	Strong	89.5	52.6	Some	Weak	Moderate	High
	5	Gabon	22.6	29.3			44	0	Weak	100	55.6	N/A	Weak	High	High
	6	Guinea	1.6	4	1.6	4	53	0	Strong	100	75	Little	Weak	Moderate	High
	7	Kenya	16.9	14.2			83	3.3	Weak	100	100	Some [4]	Intermediate	High	High
	8	Liberia	6.7	5.2	6.7	5.2	71	0	Strong	100	93.3	N/A	Intermediate	Low	Low
	9	Mali	6.8	6.1	7.8	6.1	73	1.5	Strong	87.5	100	Some	Intermediate	Moderate [5]	High
	10	Nepal	3.7	0.6	3.7	0.6	83	0	Strong	100	100	N/A	Strong	Low	Low
	11	Niger	3.3	3	3.3	3	75	2.3	Strong	87.5	75	Little	Weak	Moderate	Low
	12	Russian Federation					98	6.7	Intermediate	58.7	100	Little	Weak	High	High
	13	Uganda	5.4	6.4			55	7.4	Weak	75.4	92.3	Some [4]	Weak	High	High

		Country (last WPV > 12 months), before 22-Aug-2010	Immunization							Surveillance				Current Quarter	2nd Qrt. Report
			12-month immunization indicator [1] Percent of missed children in type specific SIA				National		Immunization Performance	Percent of states / provinces with:		Virology [3]	Surveillance Performance	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
			Type1		Type3										
			most recent SIA	2nd most recent SIA	most recent SIA	2nd most recent SIA	POL3	0-dose		NPAFPR ≥ 2 [2]	Adeq. Stools ≥80% [2]				
Countries without virus last 12 months	1	Benin	11.7	32.9	11.7	32.9	83	9.4	Weak	91.7	100	N/A	Intermediate	Moderate [6]	Moderate
	2	Burundi					94	0	Strong	70.6	93.8	N/A	Weak	Moderate	Moderate
	3	Cameroon	7.2	8.8	7.2	8.8	83	5.1	Strong	80	100	N/A	Intermediate	Low	Low
	4	Central African Republic	17.8	15.9	17.8	15.9	47	3.6	Weak	100	100	N/A	Strong	Moderate [6]	Moderate
	5	Eritrea					99	0	Strong	100	100	N/A	Strong	Low	Low
	6	Ethiopia	17	21.3	17	21.3	86	5.4	Weak	90	72.7	N/A	Weak	High	Moderate
	7	Gambia	5.4	12.4	5.4		96	0	Intermediate	100	100	N/A	Strong	Moderate	Moderate
	8	Ghana	7.3	3.2	7.3	3.2	94	0	Strong	70	100	N/A	Weak	Moderate	Low
	9	Guinea-Bissau	1.9	2.9	1.9	2.9	73	0	Strong	100	28.6	N/A	Weak	Moderate	Moderate
	10	Kazakhstan					98	0	Strong	69.2	92.9	N/A	Weak	Moderate	Low
	11	Mauritania	5.2	5.2	7.4	5.2	63	0	Strong	100	100	N/A	Strong	Low	Low
	13	Senegal	14.8	13.9	14	14.8	70	6.8	Intermediate	81.8	100	N/A	Intermediate	Moderate	Moderate
	14	Sierra Leone	9	9.7	9	9.7	89	0	Strong	100	100	N/A	Strong	Low	High
	15	Somalia					49	18.5	Weak	100	100	N/A	Strong	Moderate [6]	Moderate
	16	Tajikistan					95	0	Strong	0	100	N/A	Weak	Moderate	Moderate
	17	Togo	13	11.5	13	11.5	92	0	Intermediate	100	100	N/A	Strong	Moderate	Moderate
	18	Turkmenistan					96	0	Strong	60	100	N/A	Weak	Moderate	Low

[1] 12-month immunization indicator: Based upon the 2011 MPI for immunization for the "WPV importation belt" but using the two most recent SIAs conducted during the previous 12 months (SIAs conducted after 7-Sep-2010) and included countries outside of the "WPV importation belt" that had WPV outbreaks in 2009, 2010, or 2011. Additional details in the 3rd Quarter 2011 Progress Report of the GPEI Process Indicators for 2010 and 2011 and Methods Supplement.

[2] Based on the upper 90% confidence limit.

[3] Virologic evidence indicates "little" or "some" evidence of missed chains of transmission.

[4] In Kenya, a single WPV case has been reported to date during the previous 12 months, not directly related to 2009 Kenya WPV circulation; this 2011 WPV is related to 2010 Uganda circulation but with substantial genetic distance, indicating weaknesses in AFP surveillance in Kenya, Uganda or both.

[5] Evidence of WPV circulation within last 3 months and ≥3 months had elapsed from outbreak laboratory confirmation to the most recent case (refer to methods section).

[6] No evidence of WPV circulation in > 6 months (refer to methods section)

Type 3 specific criteria not applied to countries outside the African continent

Overall control of 2010–2011 WPV outbreaks appears to be on track, albeit with surveillance concerns and the occurrence of three new WPV1 importation outbreaks since last report in Niger, Kenya, and China; the latter two are of major significance.

Some countries with WPV outbreak cases occurring in the previous 12 months have substantial surveillance limitations, so caution is needed in interpreting the length of time since the latest identified WPV case. Nonetheless, all outbreaks in which the latest confirmed case was before early-February 2010 are no longer considered active.[2] Although the latest reported WPV1 cases in the Congo, Gabon, the Russian Federation and Uganda occurred >6 months ago, all are assessed as having a high risk of failure to detect and interrupt WPV transmission partly because surveillance performance is considered as weak by Strategic Plan criteria (intermediate for Russian Federation) and partly because immunization performance is weak or intermediate. With Uganda, type 3-specific immunization performance is assessed as weak. In addition to uncertainties about the accuracy of some independent monitoring data, some countries also have a high proportion of NPAFP cases with unknown dose history that may limit interpretation of 0-dose data.[3]

Substandard surveillance also limits confidence in the reports of no or few identified WPV3 cases in some West African countries; however, progress has been made in controlling these outbreaks. Guinea, with two independent importations in 2011, has weak surveillance performance and is assessed at moderate risk of failure to detect and interrupt WPV transmission within 6 months of confirmation; the reported independent monitoring data of SIA rounds in Guinea historically indicate implausibly low proportions of missed children. Mali, with independent WPV3 importations in 2010 and 2011, has a moderate risk of failure to detect and interrupt WPV transmission within 6 months of confirmation of the 2011 outbreak because of intermediate surveillance performance and cases, in three foci, have occurred >3 months since outbreak confirmation. Burkina Faso has a low risk of failure to detect and interrupt transmission, with intermediate surveillance performance. In Côte d'Ivoire, there was delay in response immunization after onset and identification of the first WPV3 case (because of civil unrest and insecurity) so that the first type 3-containing OPV round in >2 years was conducted in end-May. The country is now at moderate risk of failure to detect and interrupt transmission with 6 months of confirmation, with reportedly high immunization performance with type 3-containing OPV (bOPV) and weak surveillance performance; the latest confirmed WPV3 case with onset 24 July was just prior to the third SIA.

Niger has a moderate risk of failure following a new WPV1 importation, but faces the risk of repeated WPV importations from Nigeria or importation from Chad. WPV1 has been isolated from a case in Kenya with onset 30 July that is most closely related to Uganda 2010 WPV1. (Uganda 2010 WPV1 was most closely related to the Kenya 2009 outbreak WPV1 and therefore represents continued shared circulation of this WPV originating in Nigeria that previously circulated in Sudan). This case occurred in Nyanza province in a district that had not been included in 2010–2011 SIAs; it and a neighboring district had been identified as being at high risk on internal risk assessment. Kenya currently has assessed weak immunization performance (with a high proportion of NPAFP cases with unknown dose history) and intermediate surveillance performance, and therefore at high risk of failure to detect and interrupt WPV transmission within 6 months of confirmation. Local mOPV1 response mop-up is to commence 24 September and broader bOPV SIAs in the province and neighboring areas/countries on 22 October.

[2] Allowing >6 months without cases, allowing 30 days from onset for full laboratory data availability. Outbreaks are considered inactive by WHO if no confirmed case occurred after 13 March.
[3] This includes Burkina Faso (14.8%), Burundi (14.3%), Central African Republic (38.2%), Congo (21.2%), Côte d'Ivoire (21.9%), Ethiopia (10.4%), Kenya (15.7%), and Tajikistan (50%).

In China, despite annual risk mitigation SIAs in high-risk areas, an outbreak is currently underway in Xinjiang province with WPV1 imported from Pakistan. With four officially reported cases as of 7 September, five additional cases in Hotan prefecture have been confirmed by the date of this report, with onset through 1 September. The onset of the first case is 3 July; the outbreak was confirmed 26 August. Response tOPV immunization began 8 September for the entire province, with southern prefectures vaccinating children <15 years of age; persons aged 15-40 years in Hotan prefecture were targeted beginning 13 September due to confirmed cases in adults. With only a national Pol3 indicator and the investigation in process, there are not sufficient data to assess the risk of failure to detect and interrupt WPV transmission within 6 months of confirmation.

Active WPV outbreaks as of 7 September 2011 ordered by date of latest case from present.*

Countries with importations since mid-February 2011	Date of onset of first outbreak case	Date of laboratory confirmation of outbreak	Date of onset of latest WPV related to importation	Days after lab confirmation of outbreak until latest case	Earliest validation date for >6 months without cases
China (WPV1)	3-Jul-11	26-Aug-11	1-Sep-11	6	1-Mar-12
Kenya (WPV1)	30-Jul-11	26-Aug-11	30-Jul-11	(before)	30-Jan-12
Guinea (WPV3)	14-May-11	1-Jun-11	27-Jul-11	56	27-Jan-12
Côte d'Ivoire (WPV3)	27-Jan-11	31-Mar-11	24-Jul-11	115	24-Jan-12
Niger (WPV1)	9-Jul-11	24-Aug-11	9-Jul-11	(before)	9-Jan-12
Mali (WPV3 2011)	8-Feb-11	2-Mar-11	23-Jun-11**	113	23-Dec-11
Burkina Faso (WPV3)	2-May-11	24-Jul-11	15-Jun-11	(before)	15-Dec-11

* Note: The date of onset of the latest China case include 5 cases reported since 7 September
** Sequence data for most recent case actually pending

Circulating VDPV Outbreak Countries

During this quarter, two new cVDPV outbreaks were identified. In Yemen, four cases of cVDPV type 2 were identified with the onset of the first case on 8 April and onset of the latest case on 9 June. The outbreak was confirmed 18 August. With weak immunization performance in advance of monitored response immunization (and a notably high 0-dose in NPAFP cases), the risk of failure to detect and interrupt VDPV transmission is, by criteria applied to WPV, assessed to be moderate. In Mozambique, two cases of cVDPV type 1 were identified with the onset of the first case on 10 February and onset of the latest case on 2 June. The outbreak was confirmed 22 July. With weak immunization performance in advance of monitored response immunization and intermediate surveillance performance, the risk of failure to detect and interrupt VDPV transmission is, by criteria applied to WPV, assessed to be moderate.

	Country (with cVDPV within the last 12 months, without WPV circulation, and outside the "WPV importation belt")	Immunization								Surveillance				Current Quarter	2nd Qrt. Report
		12-month immunization indicator [1]						National		Immunization Performance	Percent of states / provinces with:		Virology [3]	Surveillance Performance	Overall risk of failure to detect and interrupt WPV transmission	Overall risk of failure to detect and interrupt WPV transmission
		Percent of missed children in type specific SIA									NPAFPR ≥ 2 [2]	Adeq. Stools ≥80% [2]				
		Type1		Type3				POL3	0-dose							
		most recent SIA	2nd most recent SIA	most recent SIA	2nd most recent SIA											
1	Mozambique							73	1.6	Weak	90	100	Some [4]	Intermediate	Moderate [5]	
2	Yemen							88	19.5	Weak	100	100	Little	Strong	Moderate [5]	

[1] 12-month immunization indicator: Based upon the 2011 MPI for immunization for the "WPV importation belt" but using the two most recent SIAs conducted during the previous 12 months (SIAs conducted after 7-Sep-2010) for countries with circulating vaccine derived poliovirus in the absence of wild poliovirus.

[2] Based on the upper 90% confidence limit.

[3] Virologic evidence indicates "little" or "some" evidence of missed chains of transmission.

[4] Information from cVDPV isolates

[5] No evidence of WPV circulation in > 6 months (refer to methods section)

Type 3 specific criteria not applied to countries outside the African continent