

GLOBAL POLIO ERADICATION INITIATIVE (GPEI) STATUS REPORT; 3RD QUARTER 2012

24 OCTOBER 2012

World Health Organization

Geneva, Switzerland

Rotary International

Evanston, Illinois USA

Centers for Disease Control and Prevention

Atlanta, Georgia USA

UNICEF

New York, New York USA



EXECUTIVE SUMMARY

This first joint report of the Global Polio Eradication Initiative's Spearheading Partners submitted to the IMB focuses principally on 2012-2013 Emergency Action Plan goals and programme performance measures in the remaining focal areas, or "sanctuaries", where wild poliovirus (WPV) continues to circulate.

Afghanistan: Cases have been fewer in Afghanistan this year (21 cases as of 11 October 2012) than the same time period in 2011 (37 cases). Most cases continue to occur around Kandahar and Helmand provinces. Cases outside of this southern "sanctuary" generally are imported from the Federally Administered Tribal Areas (FATA) and Khyber Pakhtunkhwa (KP), Pakistan. The Afghan Emergency Action Plan, implemented at a slow pace, includes promising methods for reaching inaccessible children.

Pakistan: After substantial changes to its program, Pakistan has seen a large decrease in case numbers this year (43 cases) compared to the same time period in 2011 (111). Case numbers have increased only in KP. Despite these encouraging developments, Pakistan continues to face some daunting challenges, including inaccessibility, most notably in North and South Waziristan, and recent violence against polio workers in Karachi and Quetta. Pakistan's extensive environmental surveillance network continues to detect WPV around the country, including in cities where no polio cases have recently been detected.

Nigeria: The number of WPV cases (both WPV1 and WPV3) has increased this year (97) compared with the same time period last year (37). Cases of cVDPV2 have decreased. All GPEI partners have been working with the Nigerian government to scale up immunization efforts and to enhance capacity and accountability. Although many of the measures are just being implemented, early data suggest an improvement in immunization performance. Insecurity remains a challenge in the north of the country.

Chad: Chad has interrupted WPV transmission previously and appears to be on its way to doing so again. There have been 5 cases of WPV in Chad this year, the most recent of which was >4 months ago, compared to 114 in the same time period in 2011. With mediocre performance indicators in Chad and with WPV cases up ~3-fold in neighboring Nigeria, Chad remains at risk for WPV transmission.

Angola: The most recent WPV cases following re-established transmission and importation had onset on 27 March 2011 and 7 July 2011, respectively. AFP surveillance has improved but remains suboptimal.

Democratic Republic of Congo (DRC): DRC has not had a WPV case since December 2011 and cVDPV2 transmission appears to have been interrupted early this year. However, confidence that transmission has in fact been interrupted is tempered by variable surveillance quality, insecurity, particularly in North and South Kivu, and the history of undetected WPV transmission for nearly 1 year in 2009.

cVDPV: Among six outbreaks in 2012, one of the most worrisome is an outbreak in Kenya and Somalia.

Conclusions:

- WPV has occurred in only 4 countries in 2012, with the number of cases reduced 2/3 from 2011.
- Afghanistan has scaled up its activities slowly; the decrease in case counts this year may be in part a consequence of the decrease in circulation of WPV in Quetta, Pakistan.
- Pakistan continues to make major progress, except in FATA/KP. Insecurity and inaccessibility continue to be major challenges in FATA and KP.
- Although surveillance concerns remain, WPV3 has not been isolated from AFP cases in Pakistan since April 2012 and environmental samples since October 2010.
- Nigeria greatly scaled-up activities; their impact on WPV transmission is not yet evident. cVDPV2 transmission has diminished but is not interrupted.
- The 3 countries with re-established transmission either have not detected cases this year (Angola and DRC) or appear to be on the way to interrupting transmission (Chad); however, all have some surveillance limitations.

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ACRONYMS AND ABBREVIATIONS

AFP	acute flaccid paralysis
aVDPV	ambiguous vaccine-derived poliovirus
bOPV	bivalent (types 1 and 3) oral poliovirus vaccine
CDC	U.S. Centers for Disease Control and Prevention
cVDPV	circulating vaccine-derived poliovirus
EAP	emergency action plan
GPEI	Global Polio Eradication Initiative
IM	independent monitoring
LGA	local government area
LQAS	lot quality assurance sampling
mOPV	monovalent oral poliovirus vaccine, either type 1 (mOPV1) or type 3 (mOPV3)
MPI	major process indicator
MS	market survey (independent monitoring)
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
UC	union council
VDPV	vaccine-derived poliovirus
WHO	World Health Organization
WPV	wild poliovirus

GPEI Partner Status Report: 3rd Quarter (October) 2012 Status

INTRODUCTION

This first Global Polio Eradication Initiative Partner Report on the progress of polio eradication brings together input, analysis, and interpretation from the World Health Organization, Rotary International, CDC, and the United Nations Children's Fund. This report focuses on data from poliovirus sanctuaries in the three remaining polio-endemic countries (Nigeria, Pakistan, and Afghanistan), the challenges and opportunities within them, and progress toward Emergency Action Plan goals. It also addresses the three countries with historically re-established polio transmission (Angola, the Democratic Republic of the Congo, and Chad) with a focus on surveillance, and countries with circulating vaccine-derived poliovirus (cVDPV) outbreaks. The wild poliovirus data presented here represent cases confirmed as of 11 October 2012. Data from AFP surveillance includes cases with onsets from 19 September 2011 through 18 September 2012.

GPEI MILESTONES, 2010 - 2012

Reported as of 11 October 2012

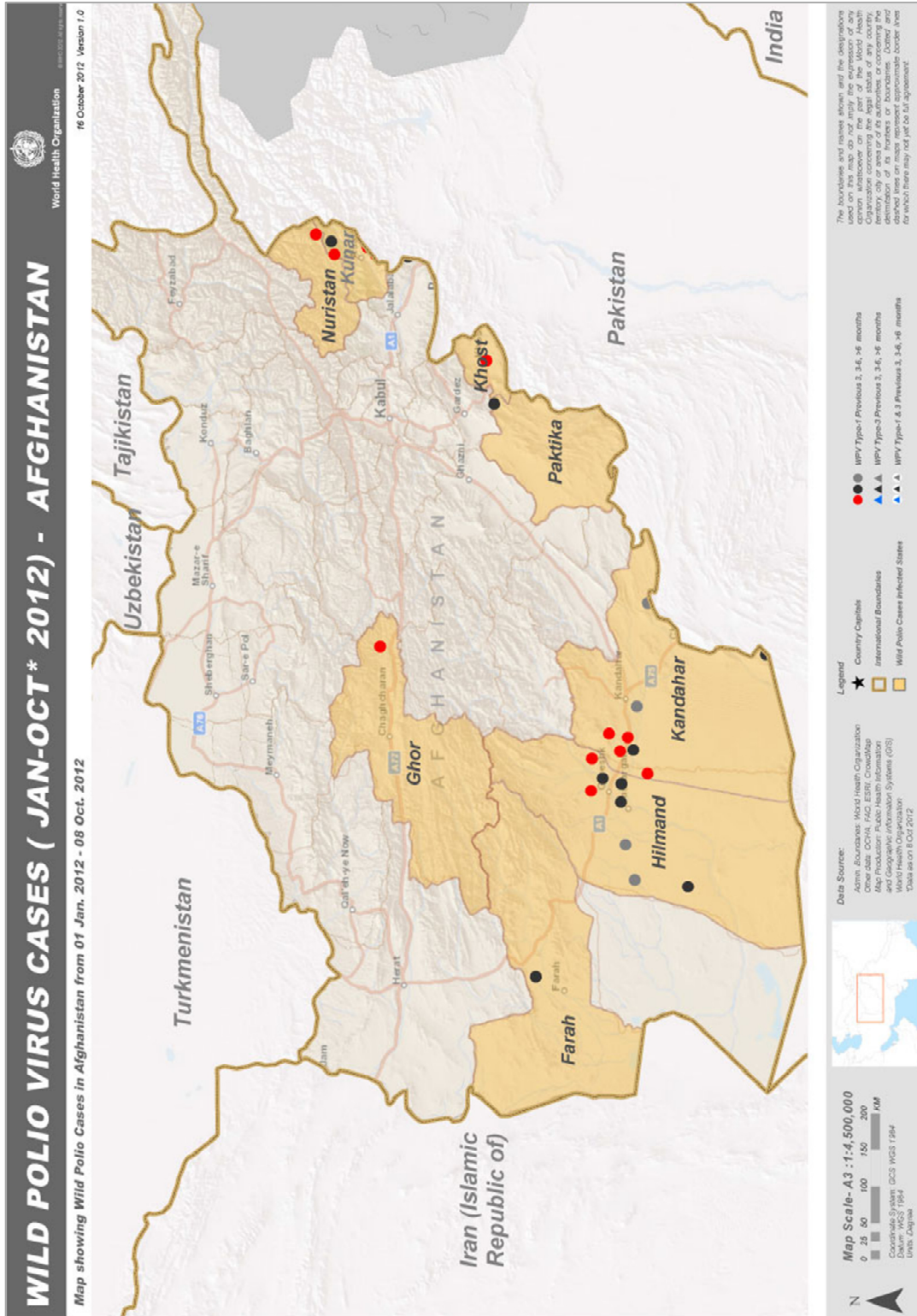
Milestone	Measurement	Baseline	Status October 2012	Comments																																															
Cessation of new outbreaks within six months of confirmation of index case	Number of new outbreak events in 2011-12 persisting >6 months from confirmation of index case	2011: 9 outbreak events in 8 countries (Central African Republic, China, Côte d'Ivoire, Gabon, Guinea, Kenya, Mali, Niger)	Cessation of 9 2011 outbreak events within six months of confirmation of index case 2012: no outbreak events	<table border="1"> <thead> <tr> <th>Year</th> <th>Country</th> <th>Most recent case</th> <th>Duration in months from confirmation of index case to most recent case</th> <th>Status of outbreak event*</th> </tr> </thead> <tbody> <tr> <td>2012</td> <td colspan="4">No outbreak events to date</td> </tr> <tr> <td rowspan="8">2011</td> <td>Niger (event 1)</td> <td>22 Dec</td> <td>4</td> <td>Over</td> </tr> <tr> <td>CAR</td> <td>8 Dec</td> <td>2</td> <td>Over</td> </tr> <tr> <td>China</td> <td>9 Oct</td> <td>1.4</td> <td>Over</td> </tr> <tr> <td>Guinea</td> <td>3 Aug</td> <td>2</td> <td>Over</td> </tr> <tr> <td>Kenya</td> <td>30 Jul</td> <td>0</td> <td>Over</td> </tr> <tr> <td>Côte d'Ivoire</td> <td>24 Jul</td> <td>3</td> <td>Over</td> </tr> <tr> <td>Mali</td> <td>10 Jun</td> <td>2</td> <td>Over</td> </tr> <tr> <td>Niger (event 2)</td> <td>19 Jan</td> <td>0</td> <td>Over</td> </tr> <tr> <td>Gabon</td> <td>15 Jan</td> <td>0</td> <td>Over</td> </tr> </tbody> </table> <p>* Outbreak events without WPV for >6 months are considered "over" as an operational event.</p>	Year	Country	Most recent case	Duration in months from confirmation of index case to most recent case	Status of outbreak event*	2012	No outbreak events to date				2011	Niger (event 1)	22 Dec	4	Over	CAR	8 Dec	2	Over	China	9 Oct	1.4	Over	Guinea	3 Aug	2	Over	Kenya	30 Jul	0	Over	Côte d'Ivoire	24 Jul	3	Over	Mali	10 Jun	2	Over	Niger (event 2)	19 Jan	0	Over	Gabon	15 Jan	0	Over
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By end-2010, cessation of all 're-established' poliovirus transmission	Number of countries with 're-established' transmission reporting genetically-related WPV after 31 Dec 2010	2010: 4 countries with 're-established' transmission (Angola, Chad, Democratic Republic of Congo, Republic of South Sudan)	2 countries with continued 're-established' WPV transmission (Chad, DRC)	<table border="1"> <thead> <tr> <th rowspan="2">Country</th> <th colspan="2">Countries with re-established transmission</th> </tr> <tr> <th>Date most recent case</th> <th>Months since most recent case</th> </tr> </thead> <tbody> <tr> <td>Chad</td> <td>14 Jun 2012</td> <td>4</td> </tr> <tr> <td>DRC</td> <td>20 Dec 2011</td> <td>10</td> </tr> </tbody> </table>	Country	Countries with re-established transmission		Date most recent case	Months since most recent case	Chad	14 Jun 2012	4	DRC	20 Dec 2011	10																																				
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By 2011, cessation of polio transmission in at least 2/4 endemic countries	Number of polio endemic countries	2010: 4 endemic countries (Afghanistan, India, Nigeria, Pakistan)	3 endemic countries (Afghanistan, Nigeria, Pakistan)	<table border="1"> <thead> <tr> <th rowspan="2">Country</th> <th colspan="2">Number of WPV cases</th> </tr> <tr> <th>Jan-Oct 2011</th> <th>Jan-Oct 2012</th> </tr> </thead> <tbody> <tr> <td>Afghanistan</td> <td>37</td> <td>21 (-43%)</td> </tr> <tr> <td>Nigeria</td> <td>34</td> <td>97 (+185%)</td> </tr> <tr> <td>Pakistan</td> <td>111</td> <td>43 (-61%)</td> </tr> </tbody> </table>	Country	Number of WPV cases		Jan-Oct 2011	Jan-Oct 2012	Afghanistan	37	21 (-43%)	Nigeria	34	97 (+185%)	Pakistan	111	43 (-61%)																																	
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Source: WHO

ENDEMIC COUNTRIES

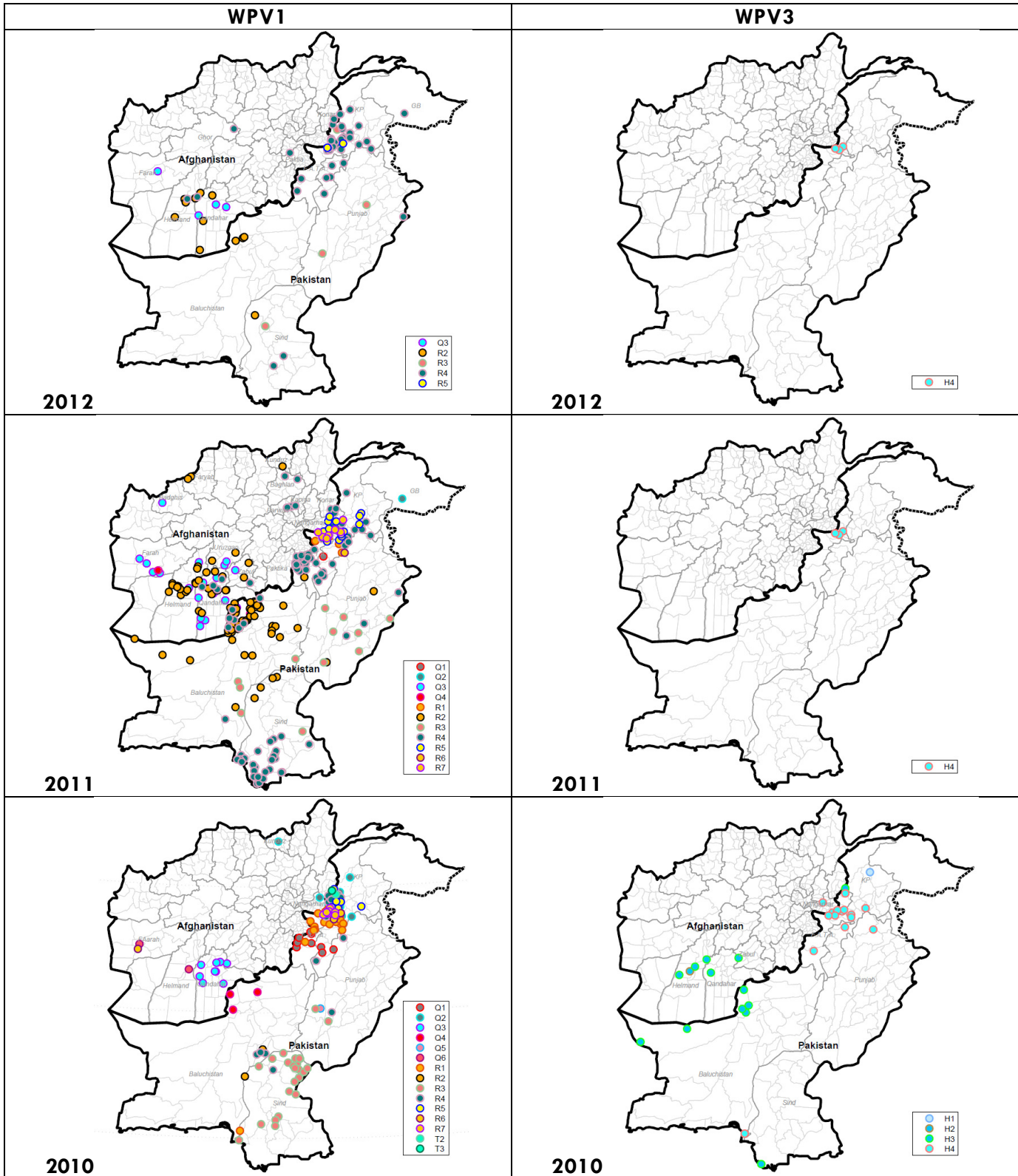
AFGHANISTAN

NATIONAL POLIO OVERVIEW



Virology

Wild poliovirus type 1 (WPV1) and type 3 (WPV3) by genetic cluster, Afghanistan & Pakistan, 2010–2012 to date*



* Isolates within a cluster share >95% VP1 (major capsid protein) nucleotide sequence identity. Data as of October 11.

Cases have been fewer in Afghanistan this year (21 cases as of 11 October 2012) than the same time period in 2011 (37 cases). Most cases continue to occur around Kandahar and Helmand provinces. Cases outside of this southern “sanctuary” generally are imported from the Federally Administered Tribal Areas (FATA) and Khyber Pakhtunkhwa (KP), Pakistan. Type 1 wild polioviruses (WPV1s) from three genetic clusters were isolated during 2012. Two clusters in southern Afghanistan represent local transmission as well as cross-border transmission from sanctuaries in Pakistan. Viruses were transmitted from the Quetta sanctuary in Baluchistan, Pakistan, to Kandahar, Afghanistan. Viruses from the Karachi sanctuary detected in environmental and AFP cases in late 2011 were transmitted to Helmand, and there was cross-border transmission from KP, Pakistan, to northeastern Afghanistan. The third cluster represents indigenous transmission in southern Afghanistan in Kandahar and Farah Provinces. One isolate had less than expected genetic linkage to other viruses from Afghanistan, which indicates that surveillance may have gaps at the sub-national level.

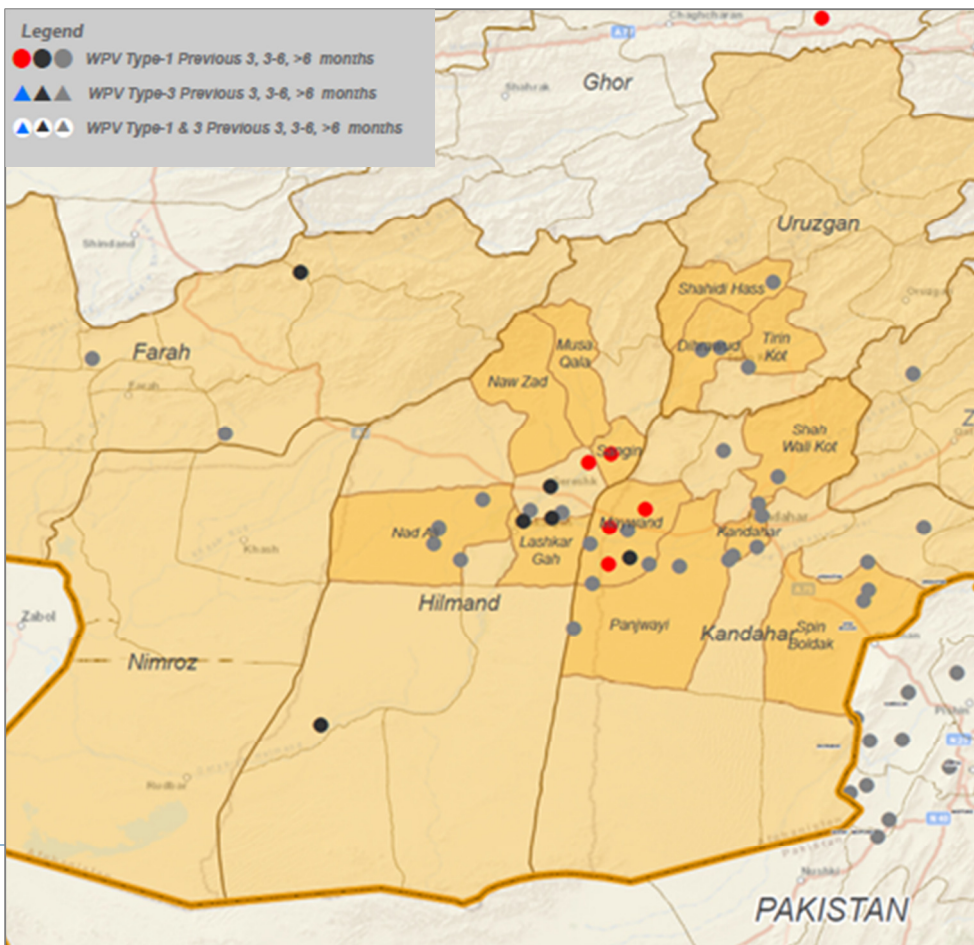
No wild polioviruses type 3 (WPV3) case has been detected in Afghanistan since April 2010.

1. Transmission across the border to Afghanistan occurs from three Pakistan sanctuaries
2. The majority of virus transmission in the country is local virus circulation in southern Afghanistan.
3. No WPV3 has been detected in Afghanistan since April 2010.

POLIOVIRUS SANCTUARIES

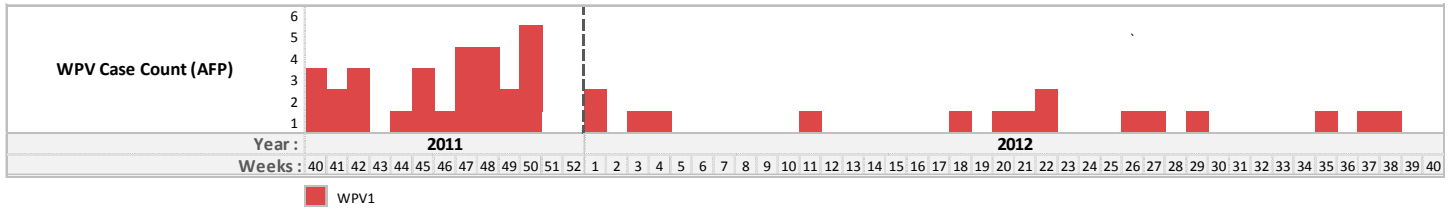
SOUTHWEST SANCTUARY

WPV cases October 2011 to September 2012



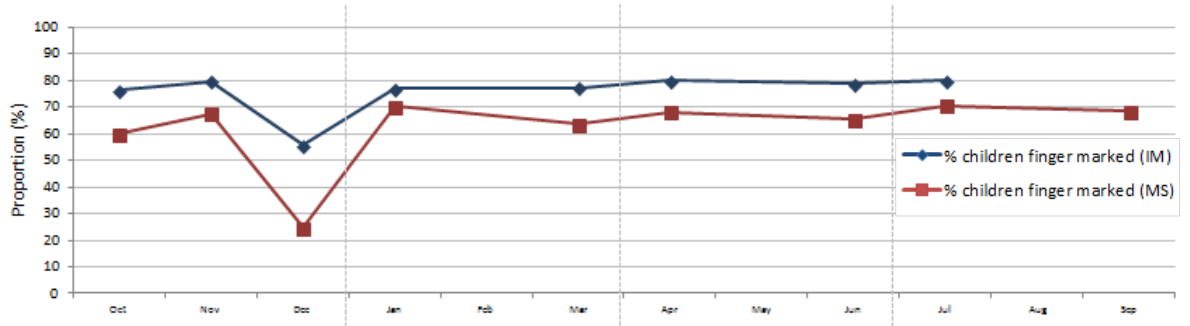
Afghanistan has one virus sanctuary. At the time of this report this sanctuary is defined as 13 of the high-risk districts in the south west. These districts were designated as high-risk because of endemic circulation, declining SIA quality in 2011, and disproportionately high percentage of young children with NPAFP who had never received OPV.

WPV cases by week of onset, south-west Afghanistan*



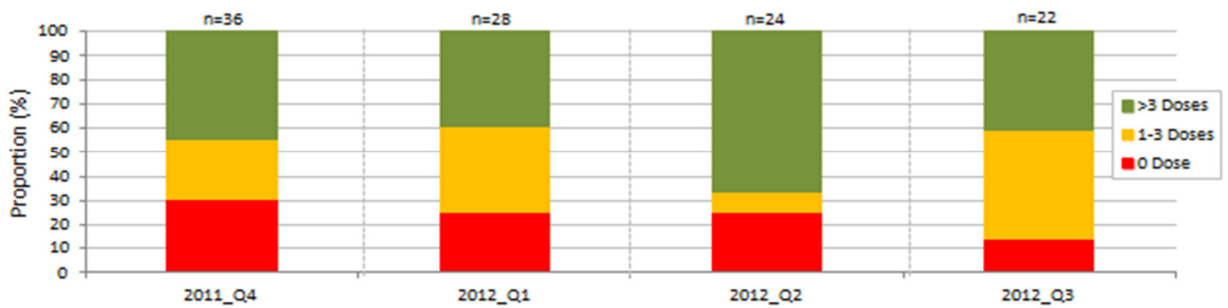
* South-west Afghanistan includes Farah, Helmand, Kandahar, Uruzgan, Zabul and Nimroz provinces

SIA independent monitoring (IM) and Market Survey (MS) results, 13 high-risk districts



Results in access-compromised districts are "adjusted" for inaccessibility by adding the number of children inaccessible for immunization to the number of 'missed children'

Proportion of non-polio AFP cases 6-35 months, by OPV status, 13 high-risk districts



Percent of children missed* and the reasons missed, 13 high-risk districts

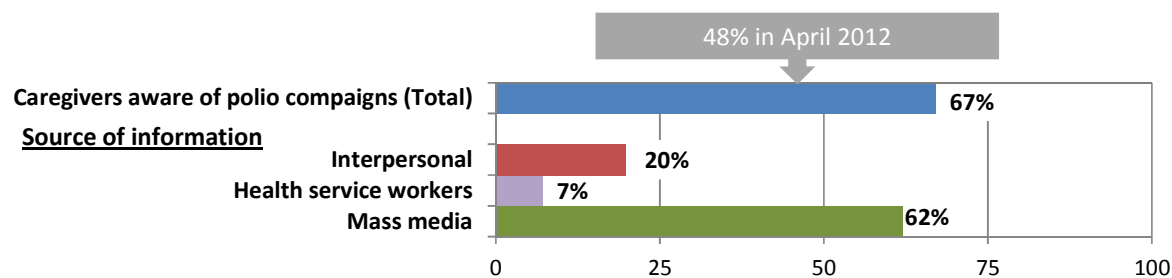
June 2012 SIA, house-to-house independent monitoring



* Results for children missed in accessible areas

Percentage of caregivers aware of polio campaigns and source of information

June 2012 SIA, house-to-house independent monitoring in the 13 high-risk districts



PERFORMANCE INDICATORS

GPEI STRATEGIC PLAN 2010-2012 INDICATORS

end-2012: >90% of children with >3 doses of OPV in all provinces of the country.

Province	Total number of NPAFP cases (6-35 month old children)	Percent with >3 doses OPV	Achieved 3rd Qrt.
1 Badakhshan	15	100.0	Yes
2 Badghis	18	83.3	No
3 Baghlan	30	93.3	Yes
4 Balkh	41	97.6	Yes
5 Bamyán	14	100.0	Yes
6 Farah	24	75.0	No
7 Faryab	43	95.3	Yes
8 Ghazni	12	91.7	Yes
9 Ghor	18	94.4	Yes
10 Hilmand	35	37.1	No
11 Hirat	72	98.6	Yes
12 Jawzjan	15	86.7	No
13 Kabul	52	100.0	Yes
14 Kandahar	81	56.8	No
15 Kapisa	10	100.0	Yes
16 Khost	12	83.3	No
17 Kunar	15	93.3	Yes
18 Kunduz	38	94.7	Yes
19 Laghman	16	100.0	Yes
20 Logar	15	100.0	Yes
21 Nangarhar	42	97.6	Yes
22 Nimroz	7	71.4	No
23 Nuristan	3	100.0	Yes
24 Paktika	8	87.5	No
25 Paktya	14	85.7	No
26 Parwan	11	100.0	Yes
27 Samangan	6	100.0	Yes
28 Sari Pul	14	85.7	No
29 Takhar	27	96.3	Yes
30 Uruzgan	27	51.9	No
31 Wardak	17	100.0	Yes
32 Zabul	12	66.7	No

- 12 of 32 provinces did not achieve target this quarter. Of these 12 provinces,
 - 5 had achieved target in the 1st quarter of 2012.
 - 7 had not achieved the target in the 1st quarter of 2012.
- 20 of 32 provinces achieved the target this quarter. Of these 20 provinces,
 - all had achieved the target in the 1st quarter of 2012.

Data source: non-polio AFP, children 6-35 months, 19-Sep-2011 to 18-Sep-2012

GPEI GLOBAL EMERGENCY ACTION PLAN 2012-2013 INDICATORS

AREA	ACHIEVEMENT / TARGET	DATE (2012)	RESULTS	STATUS
SIAs, Surveillance, Communication & Social Mobilization	Coverage of >90% in high risk districts in at least 4 of the 8 planned SIAs (national and sub-national).	Not stated	Indicator not met for any of the five campaigns in 2012 (only have data for 11 of the 13 high risk districts -- no data for Spinboldak or Dehrawod). "Coverage" per campaign ranged from 77-83%.	Not yet met
	Less than 5% of children are inaccessible in each high risk district.	Not stated	<i>Do not have the data.</i>	
	Polio awareness to increase local engagement, address community concerns and create demand increased to 90% (baseline 50%).	End of 2012	<i>Current status: Campaign awareness increased from 48% to 67% between March and July.</i>	Too soon to assess
	Zero dose AFP cases reduced by 50%.	Not stated	The proportion of 0-dose cases (aged 6-23 months) in 2011 was roughly 8.0% compared to 5.5% in 2012 (as of Oct 16).	Not yet met
	Among all unvaccinated children <10% missed due to "no team visit, sleeping or sick."	Not stated	Do not have the data from 2012; from the last 3 campaigns in 2011, indicator NOT met (average % missed due to those reasons was 24%) -- however the way the data are set-up, missed for sleeping or sick are combined with missing for guest or newborn, so we may be overestimating the % missed for the reasons listed in the indicator.	Not yet met

CONCLUSION

SUMMARY

In Afghanistan, data continue to support that there is only one WPV1 endemic transmission zone, centered around Helmand and Kandahar; in addition there is cross-border transmission from Pakistan within the sanctuary. Routine and supplementary immunization coverage is consistently the lowest in the country in this area. In other parts of the country, WPV cases occur at a lower rate and with strains of virus that suggest importation from the FATA/KP sanctuaries in Pakistan. Of emerging concern is an area across the border from FATA/KP where there have been several cases with viruses related to viruses circulating in KP.

The number of WPV cases in Afghanistan decreased in 2012 from the number in 2011 (21 for 1 January through 11 October 2012, versus 37 for the same time period in 2011). Some of this decline may be attributable to the decline in cases in Pakistan in the Quetta sanctuary.

WPV3 has not been detected in Afghanistan in more than 2.5 years. Nonetheless, WPV3 may continue to circulate in FATA in Pakistan.

The scale-up of immunization activities in Afghanistan has occurred slowly, the Afghan national emergency action plan having been officially launched late in the year. Afghanistan is currently implementing some innovative approaches, most notably the permanent polio teams and district emergency management teams in high-risk, priority districts. Still, third quarter NPAFP data, which in some districts are based on a small number of AFP cases, suggest immunization coverage may be falling, with 12 provinces failing to meet the indicator of >90% of children with a history of >3 doses of OPV.

Cross-border coordination of SIA implementation with Pakistan has increased in the past 6 months. This coordination is particularly important in addressing the increase in WPV1 importation from KP and the potential for importation of cVDPV2s from Quetta. This coordination will also be important in preventing exportation of WPV from Afghanistan to Pakistan.

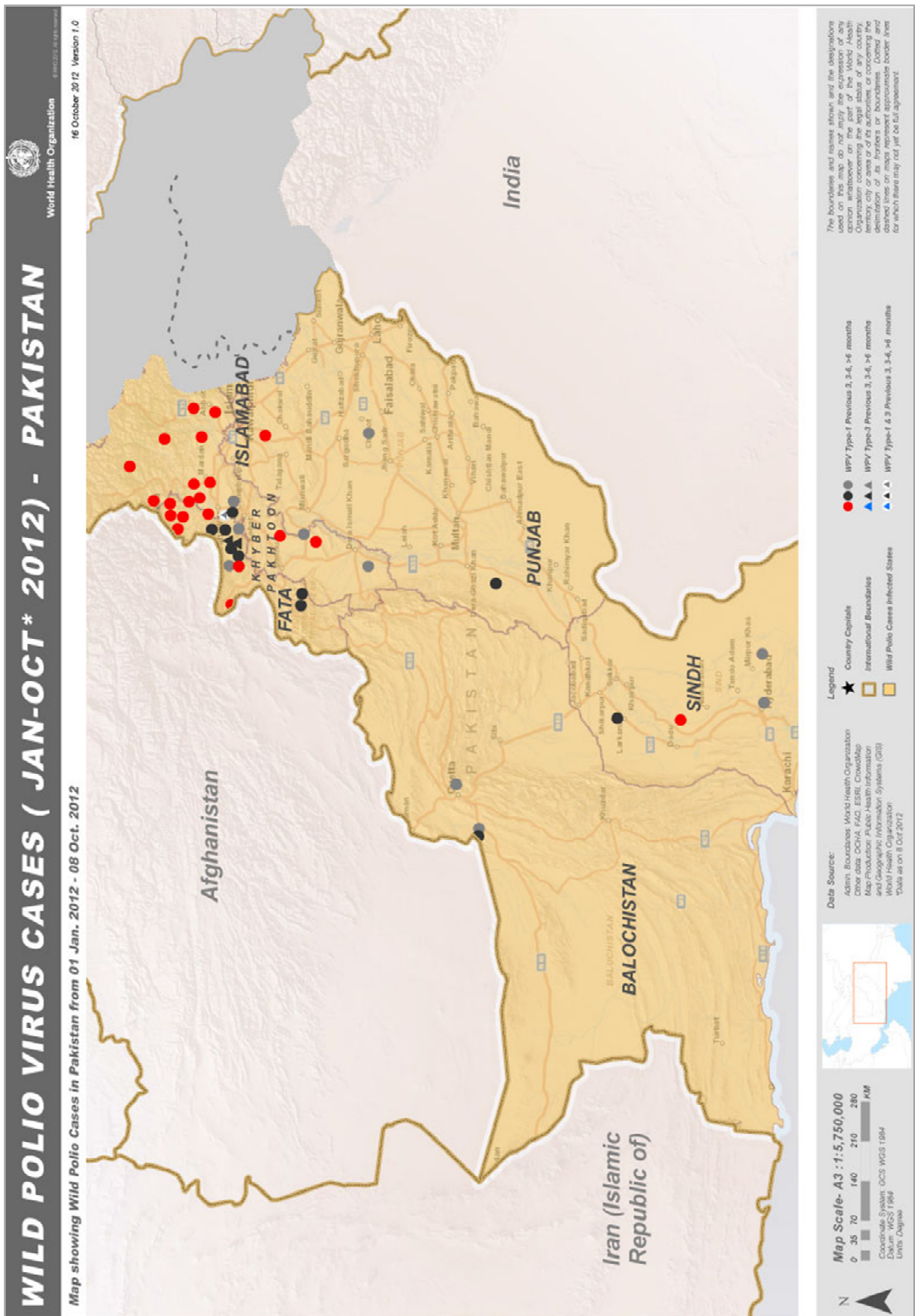
Overall high AFP detection and specimen collection per province, and the low frequency of genetic linkages being less than expected (only one so far in 2012) suggest that there are limited surveillance gaps.

CONCLUSIONS

- **Epidemiology:** WPV cases have decreased modestly since last year. Some of this may be attributable to progress in controlling WPV in Pakistan. Virologic data continue to indicate sustained, endemic transmission in the south of Afghanistan.
- **Immunization:** No substantial improvements this year, and possibly a worsening of rates in the south.
- **Surveillance:** Data suggest limited gaps.
- **Social Mobilization and Communication:** Campaign awareness has increased substantially in the last quarter. No substantial improvement in the proportion of children missed due to newborn, sick and sleeping.

PAKISTAN

NATIONAL POLIO OVERVIEW



2012 environmental surveillance sampling sites



In September 2012, environmental surveillance sampling was being reported for 23 sites throughout the country, including several in 3 of the 4 poliovirus sanctuaries (see figure). Results for all 23 sites are shown in this report's annex.

Virology

Pakistan has seen a large decrease in case numbers this year (43 cases) compared to the same time period in 2011 (111). Four genetic clusters of WPV1 were represented in specimens from AFP cases and environmental sampling in 2012 (See map on page 3). More than half of the viruses from AFP cases were from a single cluster with multiple chains of transmission scattered in four provinces. In all instances, there was evidence of prolonged local transmission. In the case of the Quetta sanctuary in Baluchistan and the FATA and KP sanctuaries, cross-border transmission into Afghanistan also occurred. Viral genetic diversity was highest in KP indicating high levels of virus circulation. WPV1 had been isolated from Quetta environmental sites

during most months in 2011 and through February 2012. Since then, all environmental specimens from Quetta have tested negative for WPV. The most recent AFP case (June 2012) from Baluchistan was genetically linked most closely to 2011 Quetta virus. Although no WPV1 from AFP cases was detected in 2012 in the high-risk towns of Karachi (Gadap, Baldia, and Gulshen Iqbal), WPV1 has been isolated from environmental samples from Karachi sites during much of 2012, including eight of 11 weeks during the high season.

WPV3 virus circulation in Pakistan has declined dramatically from 2010 to the present. WPV3 was detected in three AFP cases in early 2012 in a small region in FATA, where the cluster was endemic in 2010. These three viruses represent two chains of transmission of a single cluster. No WPV3 viruses have been detected in environmental specimens since October 2010.

Environmental surveillance provides evidence of prolonged WPV transmission in Punjab and northern Sindh from 2011 into 2012 where no or few AFP cases with WPV have been identified. The potential for surveillance gaps exists at the sub-national level, as evidenced by several chains of transmission that were detected only from environmental surveillance and a significant proportion of WPV3 isolates with much less genetic linkage than expected during 2012. Nevertheless, the percentage of WPV1 isolates with much less genetic linkage than expected has declined substantially, from 21% in 2009 and 56% in the first half of 2010 to 4% in 2012.

1. WPV1 circulation decreased in 2012 compared to 2011, especially in the Quetta and Karachi sanctuaries.
2. Viral genetic diversity and levels of virus circulation were highest in KP in 2012.
3. WPV3 circulation in Pakistan has declined dramatically from 2010 to the present.
4. No WPV3 viruses have been detected in environmental specimens since October 2010.

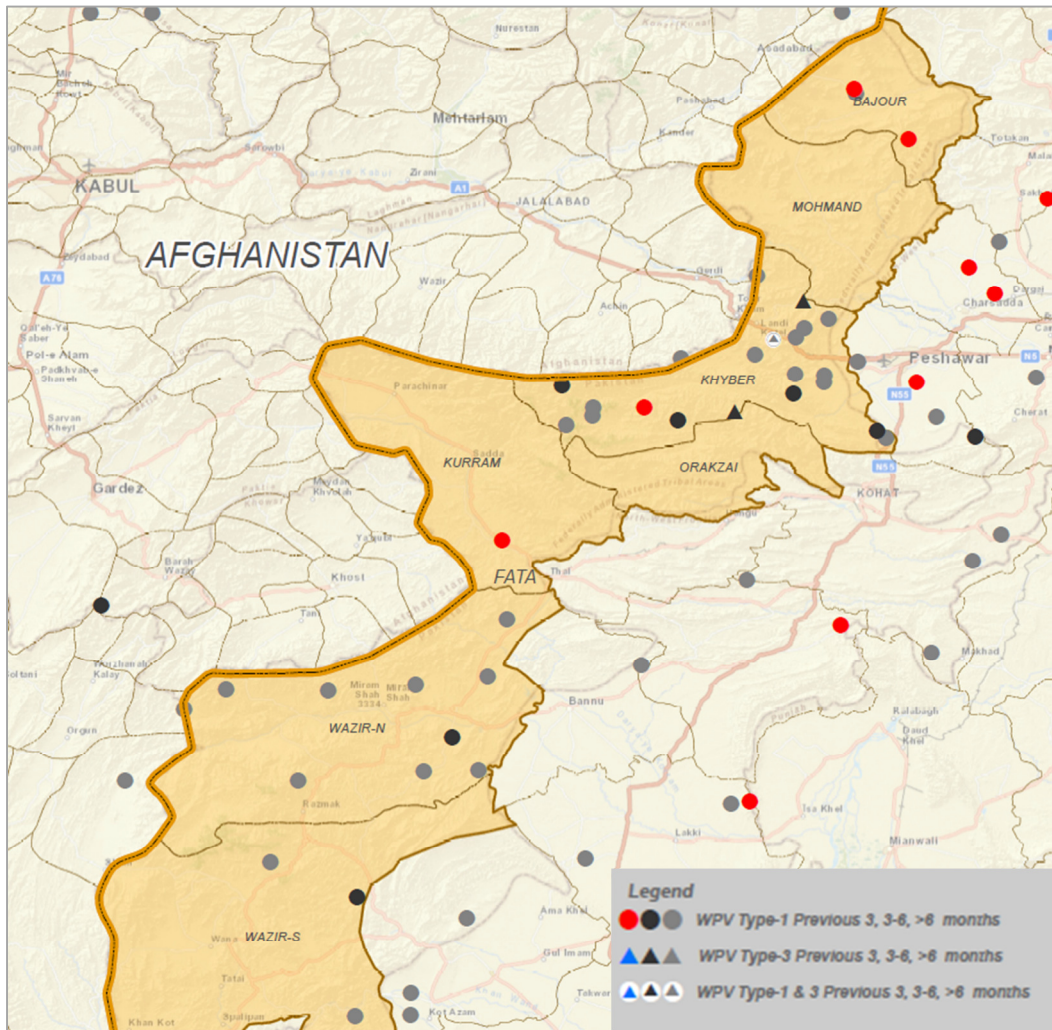
POLIOVIRUS SANCTUARIES

At the time of this report, Pakistan has four virus sanctuaries:

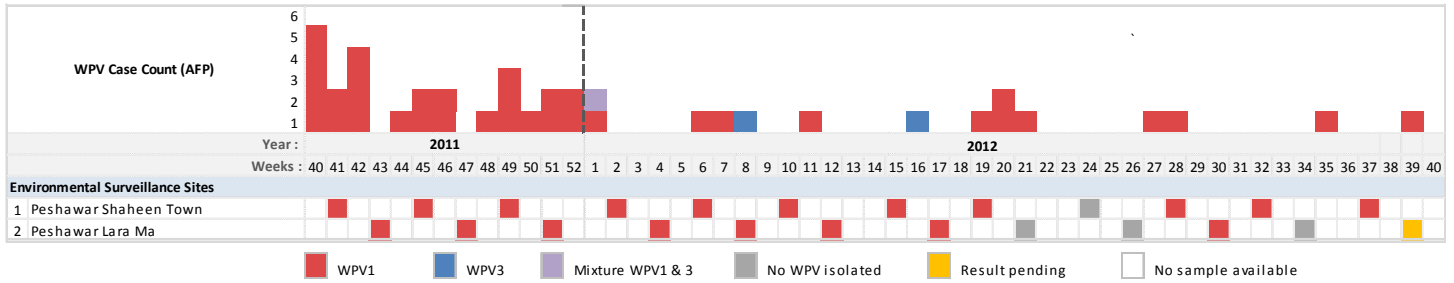
1. Federally Administered Tribal Areas (FATA)
2. Khyber- Pakhtunkhwa province (KP)
3. Karachi area, the three high-risk towns of Baldia, Gadap, and Gulshen Iqbal
4. Quetta area, the three high-risk districts of Quetta, Killa Abdullah, and Pishin

FATA POLIOVIRUS SANCTUARY

WPV cases October 2011 to September 2012

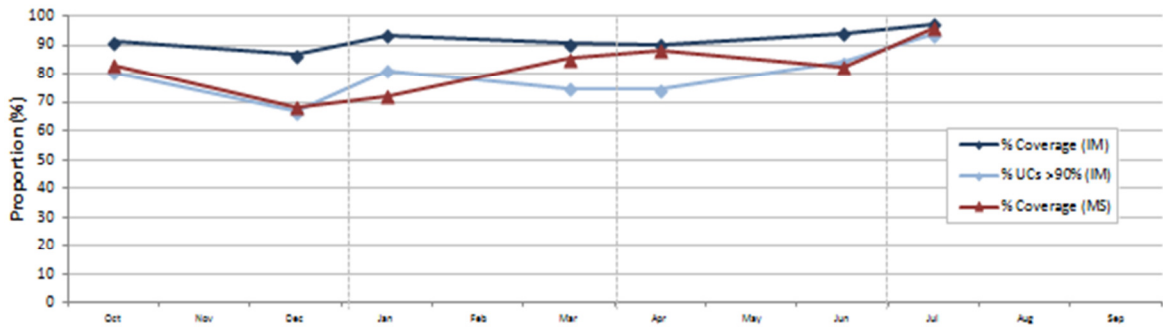


WPV cases by week of onset and environmental surveillance results, FATA sanctuary



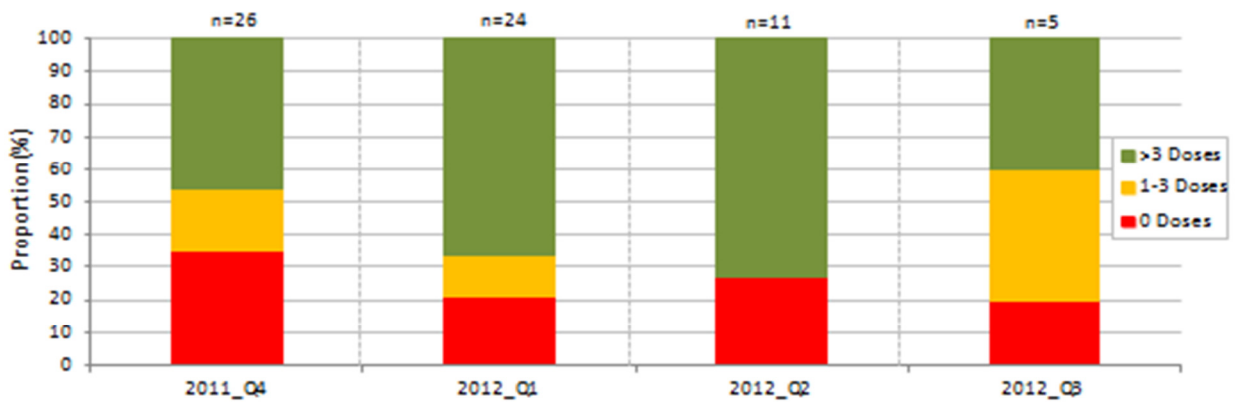
Note: both sites are located in neighboring Peshawar

Independent monitoring results (house-to-house + market surveys + % UCs > 90%) by SIA



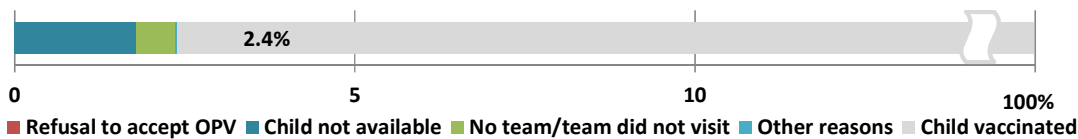
Note: while LQAS results are available in FATA, the surveys only take place in areas of known accessibility.

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, FATA sanctuary



Percent of children missed* and the reasons missed, FATA sanctuary

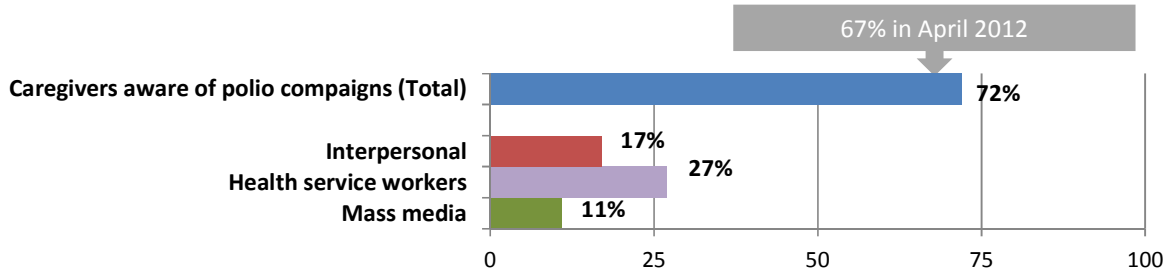
July 2012 SIA, house-to-house independent monitoring



* Results are for children missed in accessible areas on IM survey

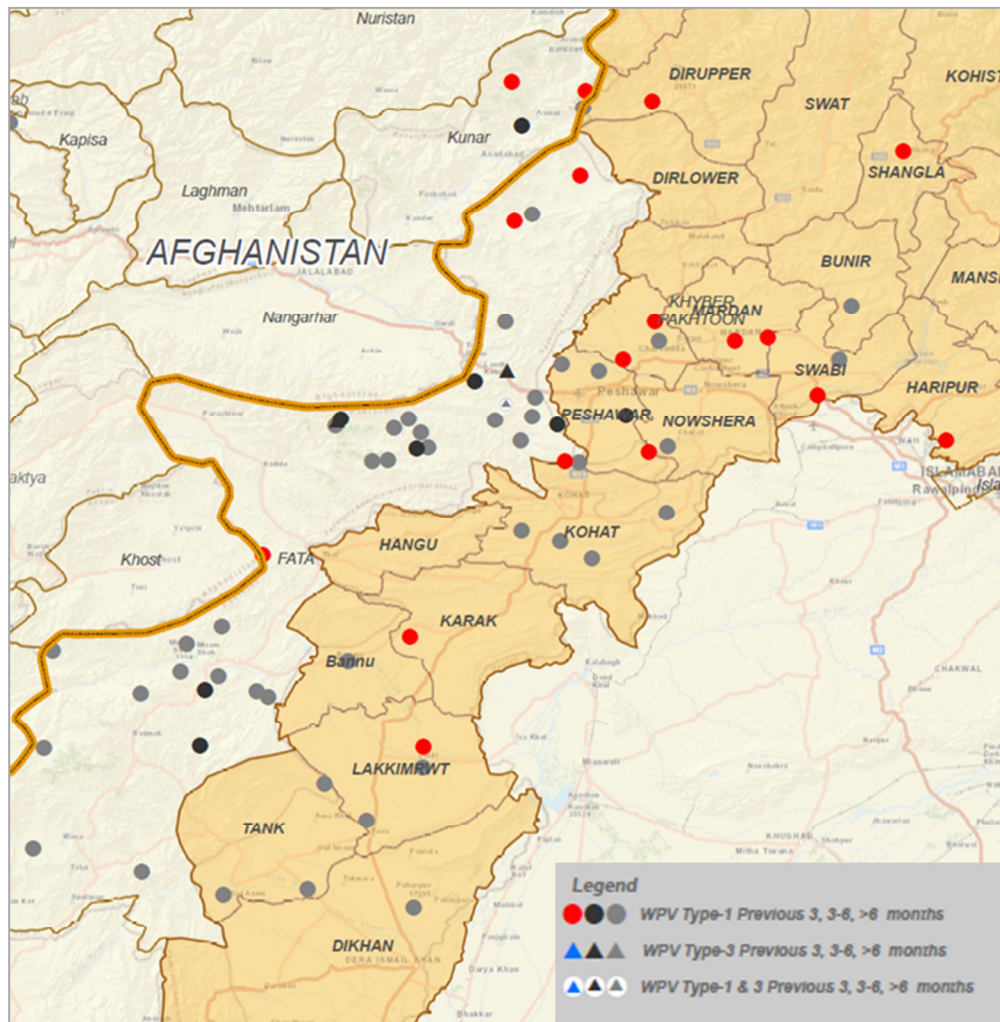
Percentage of caregivers aware of polio campaigns and source of information

July 2012 SIA, house-to-house independent monitoring in FATA

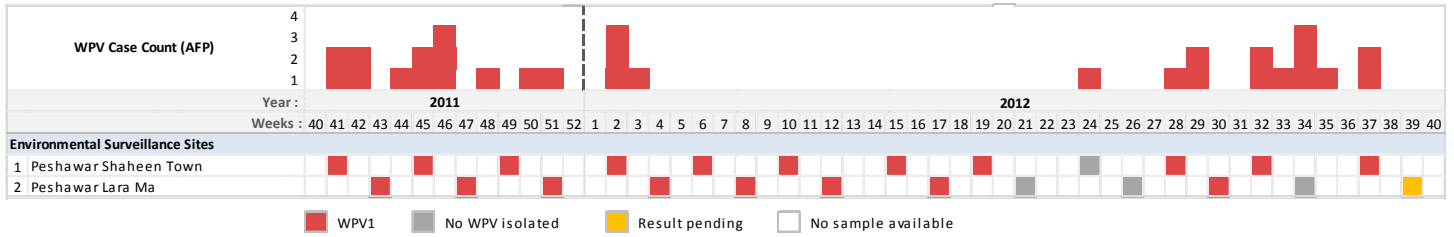


KHYBER- PAKHTUNKHWA SANCTUARY

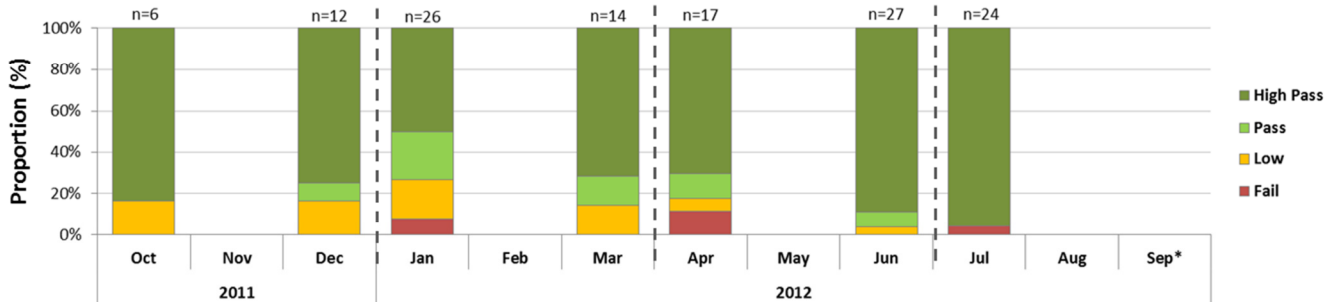
WPV cases October 2011 to September 2012



WPV cases by week of onset and environmental surveillance results, KP sanctuary

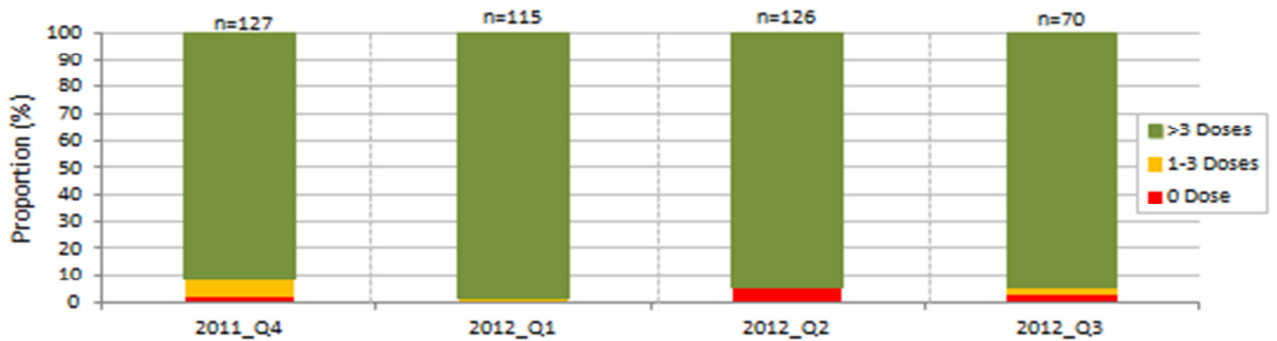


Proportion of Union Councils with LQAS survey results* by SIA, KP sanctuary



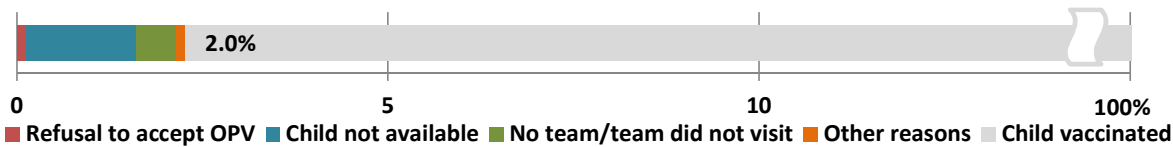
*using criteria that overestimate SIA quality (see Annex, page 11)

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, KP sanctuary



Percent of children missed * and the reasons missed, KP sanctuary

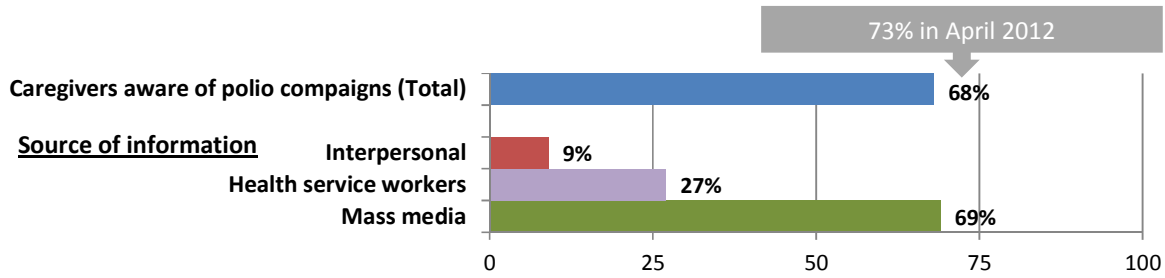
July 2012 SIA, house-to-house independent monitoring



* Results for children missed in accessible areas

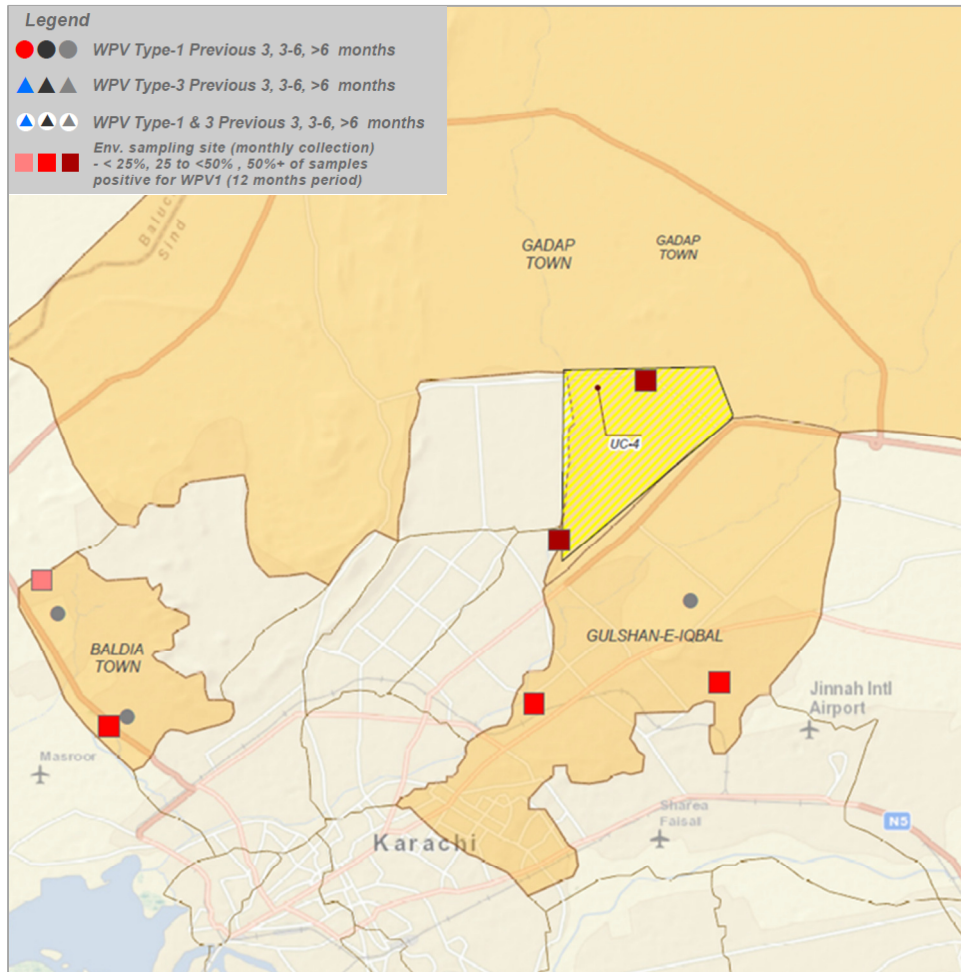
Percentage of caregivers aware of polio campaigns and source of information

July 2012 SIA, house-to-house independent monitoring in KP



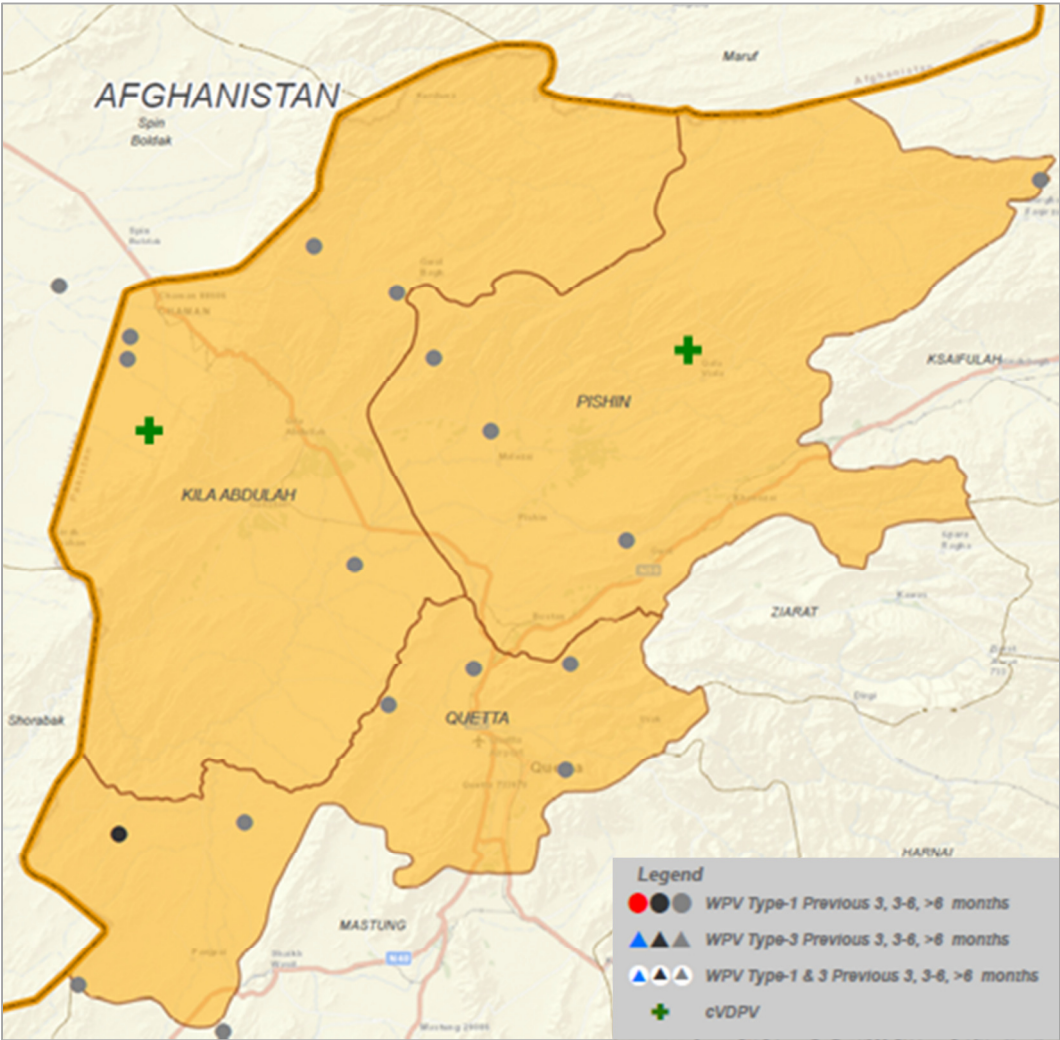
KARACHI POLIOVIRUS SANCTUARY

WPV cases and environmental surveillance results October 2011 to September 2012

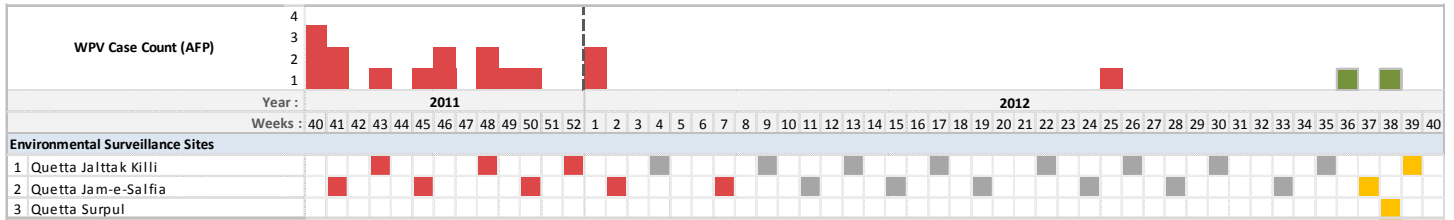


QUETTA POLIOVIRUS SANCTUARY

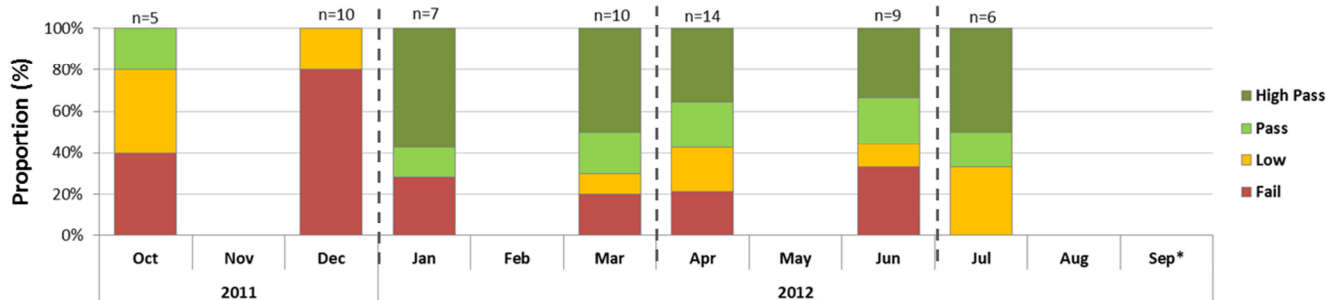
WPV and cVDPV2 cases October 2011 to September 2012



WPV cases by week of onset and environmental surveillance results, Quetta sanctuary

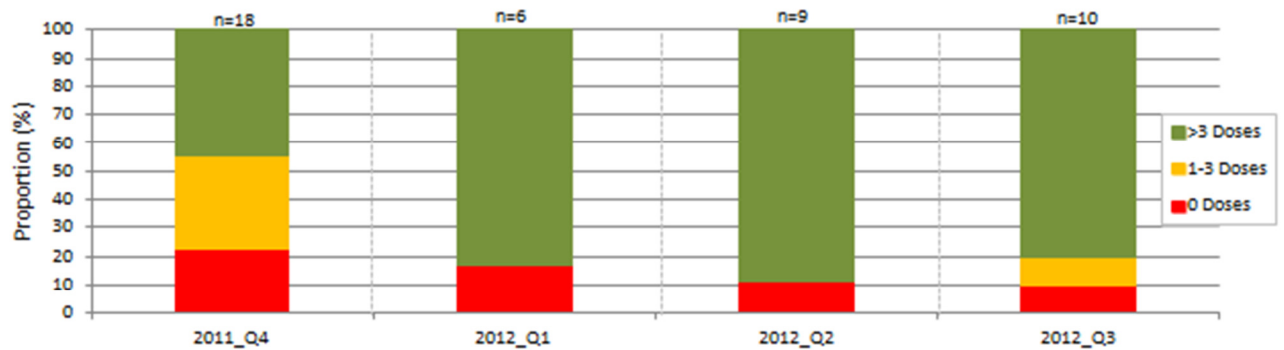


Proportion of Union Councils with LQAS survey results* by SIA, Quetta sanctuary



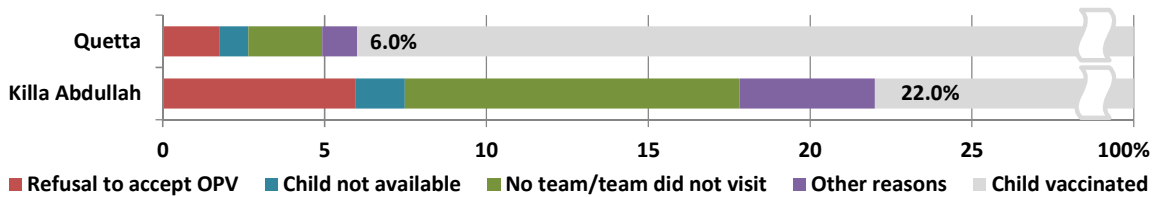
*using criteria that overestimate SIA quality (see Annex, page 11)

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, Quetta sanctuary



Percent of children missed and the reasons missed, Quetta sanctuary*

July 2012 SIA, house-to-house independent monitoring



* data unavailable for Pishin district (third district in sanctuary)

PERFORMANCE INDICATORS

GPEI STRATEGIC PLAN 2010-2012 INDICATORS

end-2012: <10% missed children during each SIA in all districts

Province	District / agency	Percent of children missed in each round: *				
		Round 1	Round 2	Round 3	Round 4	Round 5
		30-Jan-12	12-Mar-12	Apr-12	Jun-12	Jul-12
Balochistan	BARKHAN	10	11	6		
	CHAGHAI	15		9		10
	DBUGTI	3		10		8
	HARNAI	18	25	8		13
	KABDULAH	25				39
	KECH			19		25
	KHARAN	10		4		2
	KHUZDAR	38	11	18	6	
	KOHLU			10		7
	MASTUNG	6	13	9	4	
	PISHIN	15	16			
	QUETTA	8	9		8	10
	SHARANI	9		9		10
	WASHUK	24		0		0
ZHOB	10		8		8	
ZIARAT			16			
FATA	F.R KOHAT	26	17	14	8	10
	F.R LAKKI	4	7	7	8	5
	F.R PESHAWAR	3		0	20	4
	KHYBER	12	9	6	5	2
	KURRAM	19	8	6	5	5
	WAZIR-N	7	12	19	21	
	WAZIR-S		58	56		
GB	GILGIT	2		5		10
Islam.	CDA	15	13		7	4
	ICT	13	9		6	2
KP	ABOTABAD	11		6		1
	BATAGRAM			12		3
	KOHAT	3	9	10		1
	KOHISTAN			11		2
	TORGHAR	11		14		
Sindh	KHIGULBERG	22	2	2	2	

* Results in access-compromised districts are "adjusted" by adding the number of children inaccessible for immunization to the number of 'missed children'.

- Out of 164 districts, 31 (20%) districts had one or more rounds with $\geq 10\%$ missed children (shown).
- 127 (77%) districts had no rounds with IM $\geq 10\%$.
- 5 (3%) districts had no data.

end-2012: >90% of children with >six doses of OPV sustained in all provinces

Province	Total number of NPAFP cases (6-35 month old children)	Percent with >6 doses OPV	Achieved 3rd Qtr.
AJK	14	100.0	Yes
Balochistan	103	57.3	No
FANA	8	25.0	No
FATA	67	46.3	No
Islamabad	7	100.0	Yes
KP	406	89.2	No
Punjab	1048	92.4	Yes
Sindh	484	89.5	No

- 5 of the 8 provinces have not achieved the target this quarter.
- This is an improvement over Qtr. 1 where only one province (Islamabad) achieved the target.

GPEI GLOBAL EMERGENCY ACTION PLAN 2012-2013 INDICATORS

AREA	ACHIEVEMENT / TARGET	DATE (2012)	RESULTS	STATUS
SIAs, Surveillance, Communication & Social Mobilization	Data on preparation and implementation indicators for SIAs available at district, province and national level.	End January	<i>Do not have the data.</i>	
	Enhanced partnership implementation of SIAs introduced in persistently under-performing areas.	End January	<i>Do not have the data.</i>	
	Launch of media campaign to mobilize wide-spread national and localized support for the eradication effort.	End January	Media campaign was launched in March 2012, reaching over 100 million people with messages each month.	Met (in March)
	Minimum 90% of all LQAS lots in key under-performing districts (Quetta, Killa Abdullah, Pishin in Baluchistan; Gulshan Iqbal, Gadap, and Baldia in Karachi; Thatta in Sindh) will be accepted at greater than 90% coverage.	End March	LQAS assesses SIA quality and is not a direct measure of coverage. The second highest LQAS threshold is testing quality at 90% coverage under 2012 criteria, so tracking trends at this threshold are a guide to progress toward the goal. In Jan 2012, 45% of lots from these districts were accepted at >90% under old criteria. In Mar 2012, 48% of lots from these districts were accepted at >90%.	Not met
	Poliovirus transmission interrupted in Punjab and northern Sindh.	End March	As late as September, WPV has been repeatedly isolated in environmental surveillance in northern Sindh and in Punjab with genetic linkages to WPV isolated in 2011, indicating ongoing transmission.	Not met
	Minimum 80% of all LQAS lots assessed nationally in every SIA accepted at greater than 95% coverage.	End March	In Jan 2012, 21% of all lots assessed were accepted at >95% using old criteria. In Mar 2012, 24% of all lots assessed were accepted at >95%.	Not met
	Poliovirus transmission interrupted in KP, all accessible areas in FATA, and southern Sindh (except Karachi).	End July	Transmission continues in all accessible areas as evidenced by environmental sampling.	Not met
	WPV3 transmission interrupted nationally.	End July	<i>Current status: Most recent case had onset 18 Apr 2012. 12 months observation after latest case needed for validation under quality surveillance.</i>	Too soon to assess
	Refusals in Khyber Pakhtunkhwa (KP), FATA and southern Sindh are <5% of missed children.	End July	Percent missed due to refusals in those areas equals 3.7%.	Met (Jul round)
	At least 85% of caregivers in key under-performing districts of Balochistan and Sindh believe that OPV is safe.	End July	Indicator met in Balochistan (January round: 93.7%) and in Sindh (January round: 90.7%). However, preliminary data from the August round in Balochistan suggest the percentage has decreased and that the indicator is no longer met (74.3%).	Met (Jan round)
	Poliovirus transmission interrupted in Karachi and in Quetta block.	End October		Too soon to assess
	Mechanisms in place to access > 90% of children in SIAs in FATA.	End October	<i>Do not have the data.</i>	
	Environmental and AFP surveillance demonstrate both genetic and geographical restriction of WPV1 in the high transmission season.	End October		Too soon to assess
	Refusals in Quetta Block and Karachi are <5% of missed children.	End October	<i>Current status: The proportion of missed children in this area due to refusal range, by SIA, from 0-100%. Average % missed due to refusal in these areas equals 20%.</i>	Too soon to assess
Cessation of all WPV transmission in Pakistan.	Not stated		Not yet met	

CONCLUSION

SUMMARY

Pakistan has made substantial progress in improving management and accountability of its polio program over the last two years. This is evidenced by the improvement in immunization indicators and reduction in cases of WPV in much of the country. Still, security and access problems continue to challenge the program.

Data suggest transmission has been substantially reduced in the Quetta sanctuary, with only one WPV case in June detected after cases in January. Furthermore, environmental surveillance, which had detected virus in Quetta throughout most of 2011, has found no WPV since February of this year. Nevertheless, the June WPV case isolate is most closely related to lineages last isolated from a case in December 2011. In the past, virologic data have suggested Baluchistan as the major source of imported viruses into the high transmission zone in southern Afghanistan. Therefore, interruption of transmission in Baluchistan may be particularly important for Afghanistan. The recent emergence of cVPDV in Baluchistan is being addressed with tOPV vaccination rounds.

Cases are also substantially decreased in Sindh province, particularly in the core transmission zone within Karachi, where there have been no cases in 2012. Nevertheless, environmental surveillance continues to detect WPV1 in Gadap (Karachi), Gulshun-e-Iqbal, and Baldia and in recently added sites in Hyderabad and Sukkur.

The number of cases in FATA has also decreased this year (17 cases so far, compared with 45 last year) despite ongoing security challenges there and a lack of access to children in North and South Waziristan.

KP is the only one of the four sanctuaries in which cases have increased this year (19 so far, compared with 13 last year). Many of these cases have been part of a surge that has occurred in the province since early July.

In the rest of the country, the number of cases remains low; however, environmental surveillance continues to be sporadically positive for WPV1. Virus from both sources of surveillance continues to suggest FATA/KP as the reservoir for transmission.

As of 11 October 2012, WPV3 has not been detected in Pakistan (or anywhere in Asia) in >6 months, but there have been long periods of silent WPV3 transmission in Pakistan in the recent past (e.g., the 5 month period from September 2011 to February 2012).

The quality of SIAs has clearly improved overall during the past year, as evidenced by trends in LQAS results. In addition, data from “independent monitoring” and NPAFP does history also suggest an improvement in coverage. However, LQAS surveys in Pakistan apply criteria that are insensitive to detect lower quality SIAs (i.e., overestimate SIA quality; see Annex page 11).

Inaccessibility, a chronic problem in Pakistan, worsened in July after bans on polio immunization were announced in North and South Waziristan. These were followed by violence against polio vaccinators in the town of Gadap Karachi during a subsequent round, and more recently against a polio vaccinator in Quetta. The polio program in Pakistan has been working with the government on measures to improve vaccinator safety in these areas.

In terms of surveillance, the virologic data suggest a substantial improvement in the sensitivity of surveillance. The rate of orphan virus detection; an indicator of surveillance quality, has substantially improved over the past 2 years.

In Pakistan, from March to July, refusals as a reason for missed children have declined in the last quarter, from 11% to 8% of missed children nationally. With most of the country vaccinated, national refusals account for less than 0.5% of all under-5 children. The proportion of polio cases due to refusal has also declined significantly in the last year,

from 26% in 2011 to 10% in the first nine months of 2012. The four 2012 cases linked to refusal are in KP and Baluchistan.

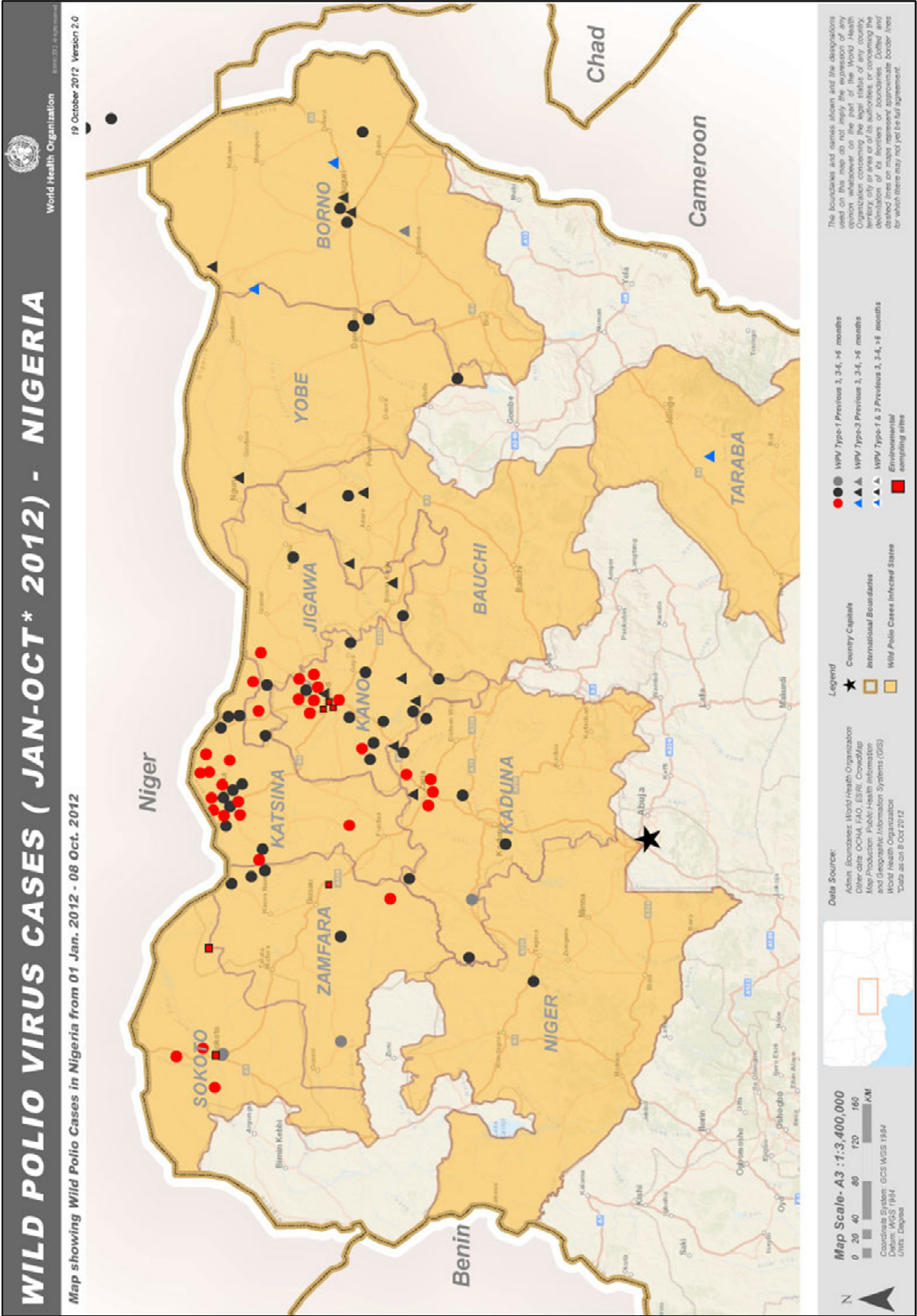
FATA, Karachi and the Quetta Block remain the strongholds of distrust of both the programme and the vaccine. In addition, lack of access in some areas of FATA and Karachi means that the real magnitude of this challenge in the most difficult areas is not fully understood.

CONCLUSIONS

- **Epidemiology:** Current data suggest that WPV transmission is low in one (Quetta) of the four sanctuaries. The same may also be true in Sindh. Case counts are decreased more modestly in FATA but have surged in KP recently. Elsewhere in the country, sporadic WPV cases and detection of WPV in environmental surveillance represent importation from FATA and KP followed by prolonged local transmission, in many cases lasting months, including over low season.
- **Immunization:** Data suggest substantial improvements over the past year but coverage is clearly inadequate in KP. In FATA, inaccessibility, particularly in North and South Waziristan, will lead to an increasingly large pool of unvaccinated children in these areas if not addressed.
- **Surveillance:** Where inaccessibility is not a problem, surveillance appears relatively strong, with high AFP rates and stool specimen adequacy. However, continued positive environmental samples in areas where polio cases are not detected through AFP surveillance suggests some limitations in current surveillance.
- **Communications and social mobilization:** Refusals in Quetta Block pose the largest social threat for continued virus transmission here. In 2011, over 40% of polio cases in Baluchistan occurred in families who refused their children OPV. In 2012, the volume of polio cases linked to refusal has significantly decreased to only 2, but this still represents 66% of total cases in the province (analyzed as of 3 October 2012).

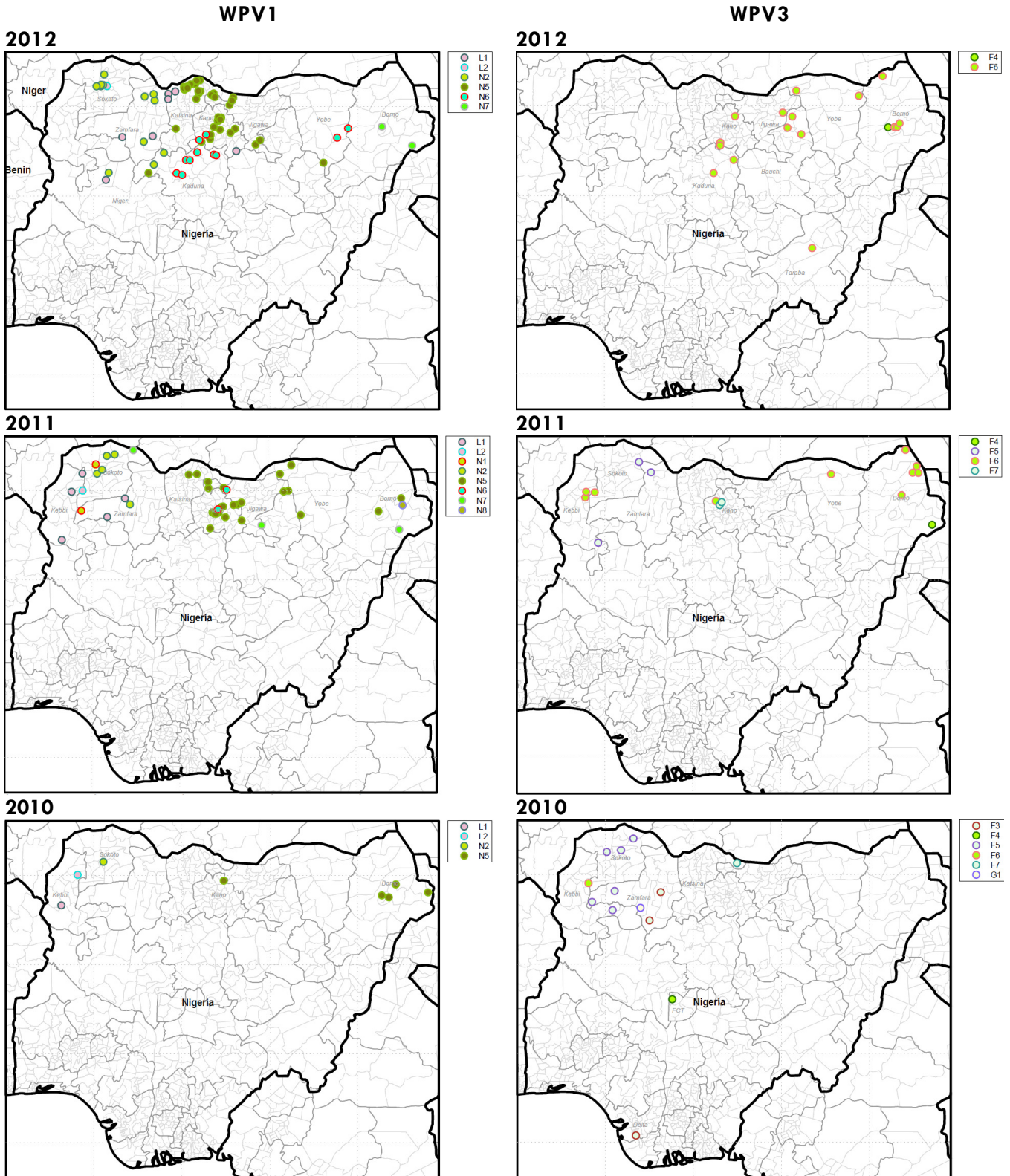
NIGERIA

NATIONAL POLIO OVERVIEW



Virology

Wild poliovirus type 1 (WPV1) and type 3 (WPV3) by genetic cluster, Nigeria, 2010–2012 to date*



* Isolates within a cluster share >95% VP1 (major capsid protein) nucleotide sequence identity. Data as of 11 October.

The number of WPV cases (both WPV1 and WPV3) has increased this year (97) compared with the same time period last year (37). The WPV1 virus in Nigeria in 2012 represents continued transmission from the very large surge in cases in 2008. After a substantial decline in the genetic diversity (reflected by the number of genetic clusters) of WPV1 strains from 21 clusters in 2009 to four clusters in 2010, the number of clusters increased to eight in 2011.

There are 3 virus sanctuaries in Nigeria: Northwest (Sokoto and Zamfara); North Central (Kano, Katsina, Jigawa, and Kaduna), and Northeast (Borno and Yobe). Each of the three sanctuaries harbors viruses from specific clusters and lineages, although there is transmission between adjacent sanctuaries. Longer range transmission also occurs. In 2012, viruses from three clusters have been detected in the Northwest sanctuary, viruses from four clusters were detected in the North Central sanctuary, and 3 clusters were represented in the Northeast sanctuary. The Northeast sanctuary had the lowest number of viruses but had many viruses with much less genetic linkage than expected with sensitive AFP surveillance, and the cluster spanned the Northwest and North Central sanctuaries during 2011–2012. A specific lineage from one cluster dominated in North Central (Katsina), whereas another lineage from that cluster was found primarily in the Northwest (Zamfara) in 2012 with genetic links back to Kebbi in 2010 and 2011. Genomic sequence analysis indicates surveillance gaps (much less genetic linkage than expected with sensitive AFP surveillance), including some chains of WPV transmission during 2012 not detected for more than a year.

The WPV3 viruses in Nigeria during 2012 represent continuation of a large, widespread surge in cases in 2009. The genetic diversity of the WPV3 virus chains of transmission in 2011 was reduced somewhat along with the number of cases; four genetic clusters in 2011 were detected compared to six in 2010. WPV3 lineages circulating in the Northwest sanctuary (Zamfara and Sokoto) in 2011 were not detected in 2012. The North Central sanctuary (Kano and Kaduna) harbored two lineages from one cluster, whereas the Northeast sanctuary (Borno and Yobe) had a separate lineage from the same cluster, with some spread to the North Central area. WPV type 3 (WPV3) was isolated from only one specimen of 25 (4%) collected in Kano environmental sites during 2012. The significant proportion of isolates with much less genetic linkage than expected during 2012, including the cVDPV2 isolates, suggests substantial surveillance gaps at the sub-national level.

1. All three poliovirus serotypes circulated in Nigeria in 2012.
2. After a substantial decline in the genetic diversity of WPV1 strains from 2009 to 2010, genetic diversity has increased thereafter.
3. Although WPV3 genetic diversity has declined since 2009, two of only three remaining clusters of WPV3 worldwide are found in Nigeria.

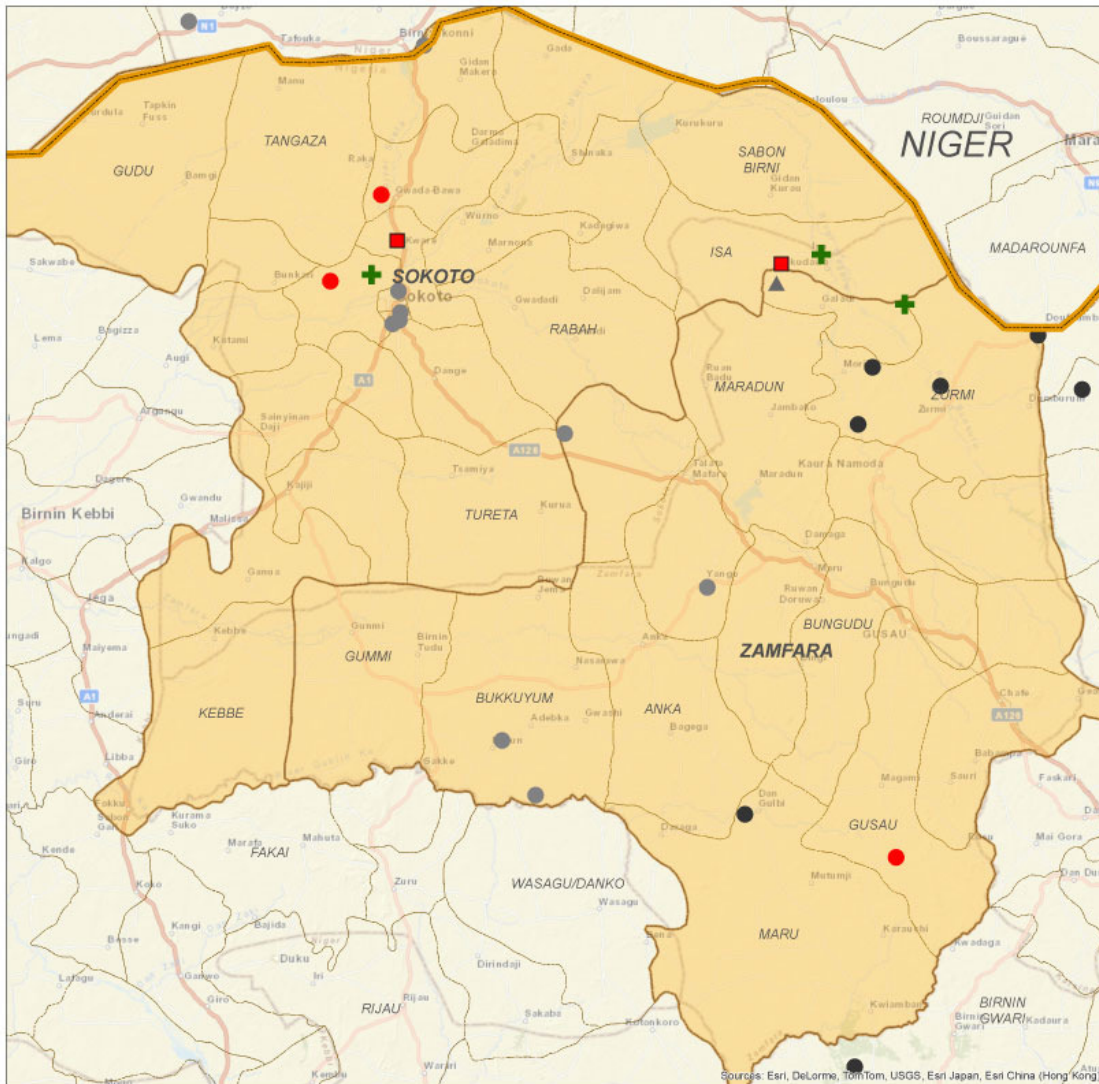
POLIOVIRUS SANCTUARIES

Nigeria has three virus sanctuaries, at the time of this report they are defined as:

1. Northwest (Sokoto and Zamfara)
2. North central (Kano, Katsina, Jigawa, and Kaduna)
3. Northeast (Borno and Yobe)

NORTHWEST SANCTUARY

WPV and cVDPV2 cases October 2011 to September 2012



Map Scale- A3 : 1 cm = 12 km

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

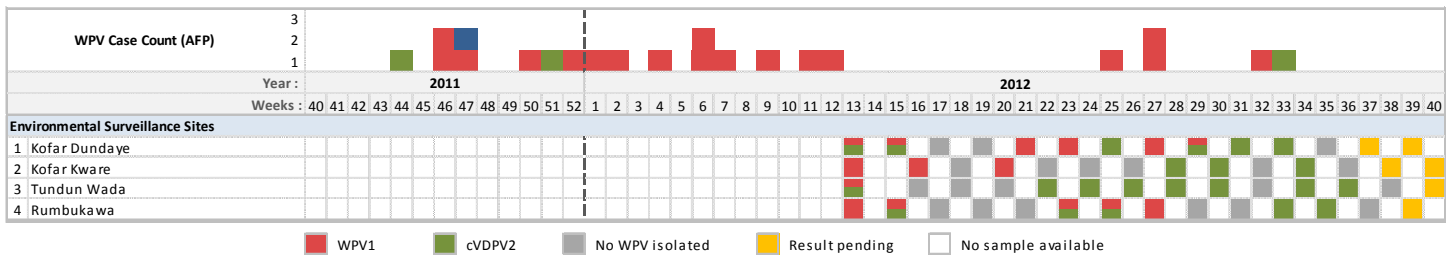
Data Source:
Admin: Boundaries: World Health Organization Base Map ESRI
Map Production: Public Health Information and Geographic Information Systems (GIS) World Health Organization
Data as on: 04 October 2012
* Few Districts of Nigeria

Legend

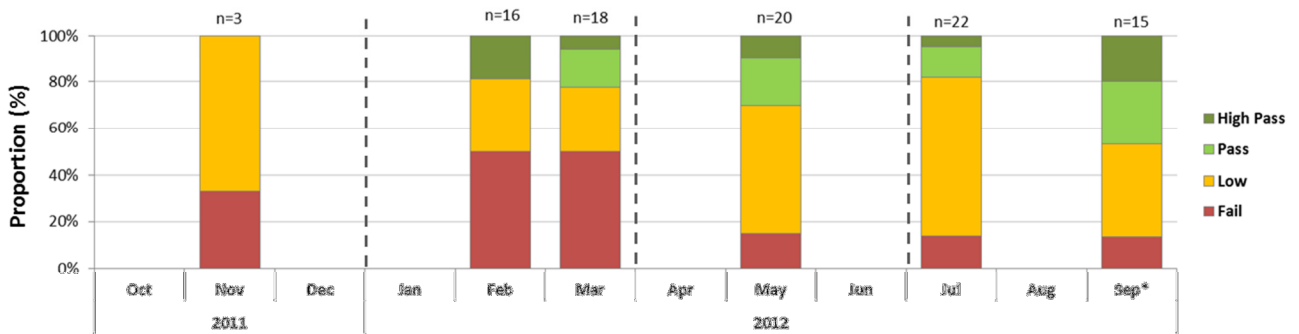
- WPV Type-1 Previous 3, 3-6, >6 months
- ▲ WPV Type-3 Previous 3, 3-6, >6 months
- ▲ WPV Type-1 & 3 Previous 3, 3-6, >6 months
- ⊕ cVDPV 2
- Environmental sampling sites

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

WPV cases by week of onset and environmental surveillance results, Northwest sanctuary

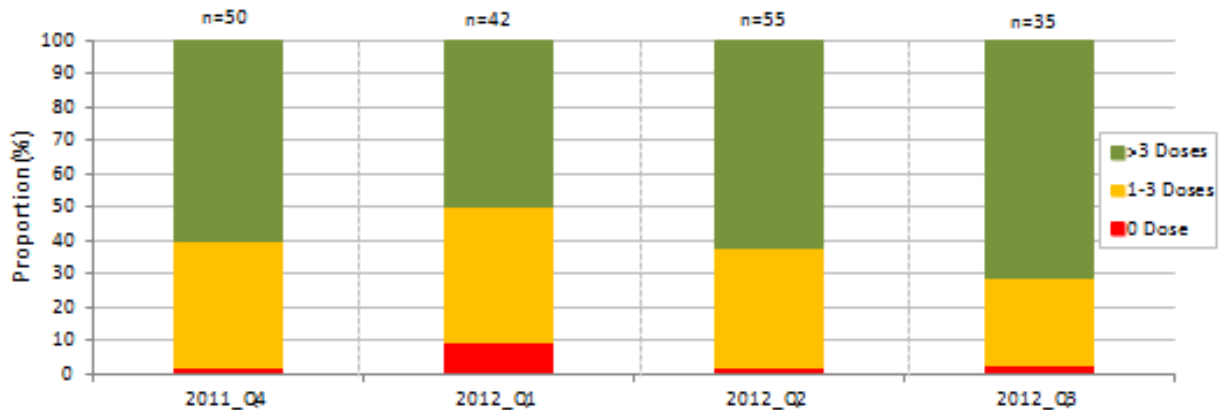


Proportion of LGAs with LQAS survey results by SIA, Northwest sanctuary



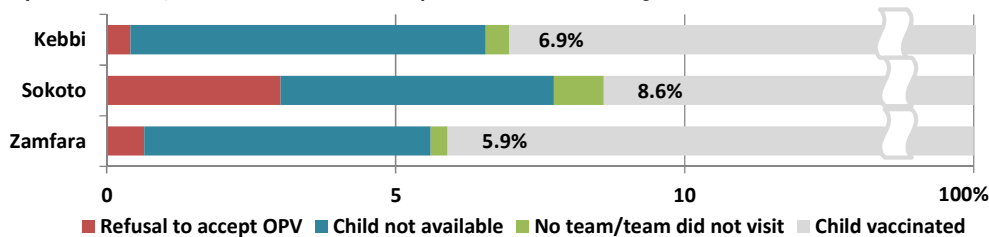
* SIA shown for September 2012 was conducted in early October

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, Northwest sanctuary



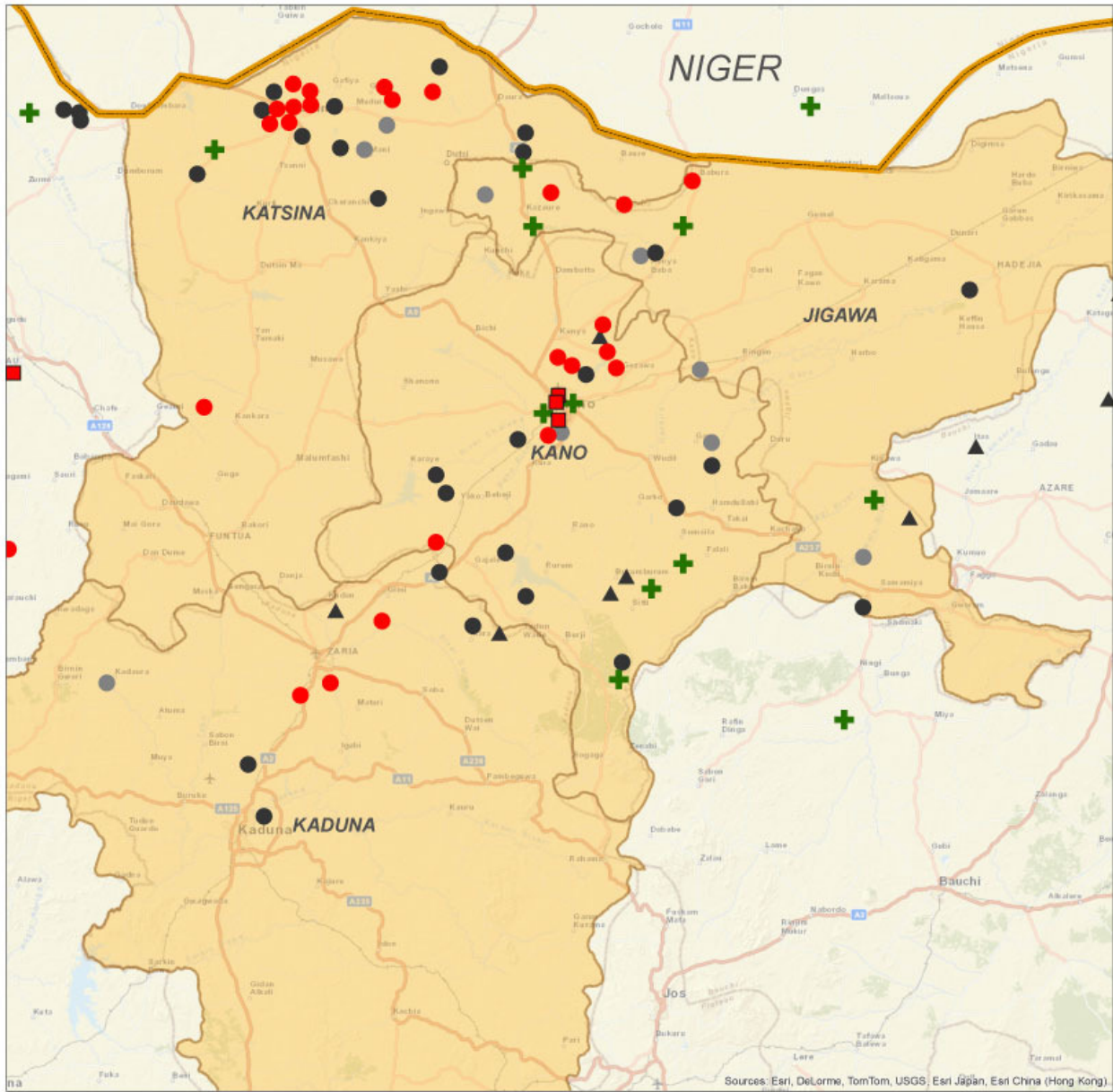
Percent of children missed and the reasons missed, Northwest sanctuary (plus Kebbi)

July 2012 SIA, house-to-house independent monitoring



NORTH CENTRAL SANCTUARY

WPV and cVDPV2 cases October 2011 to September 2012



Map Scale- A3 : 1 cm = 15 km

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

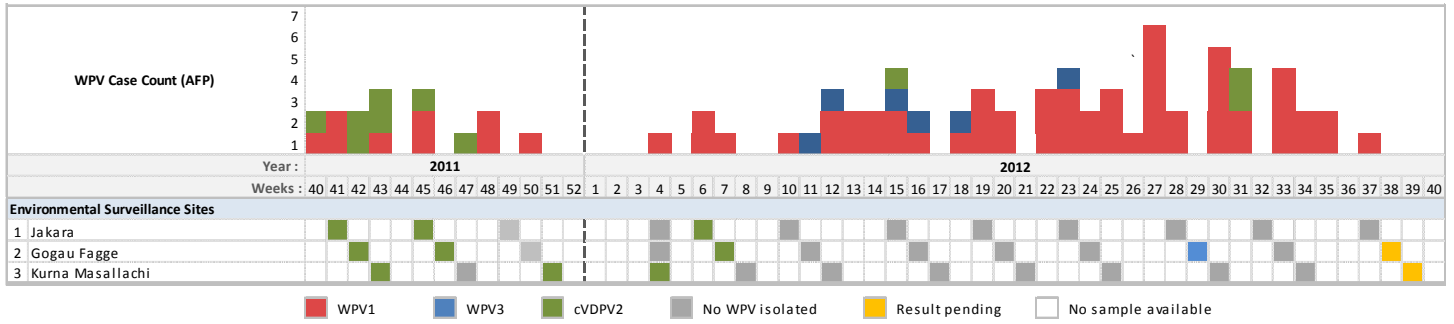
Data Source:
Admin: Boundaries: World Health Organization
Base Map: ESRI
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization
Data as on 04 October 2012
* Few Districts of Nigeria

Legend

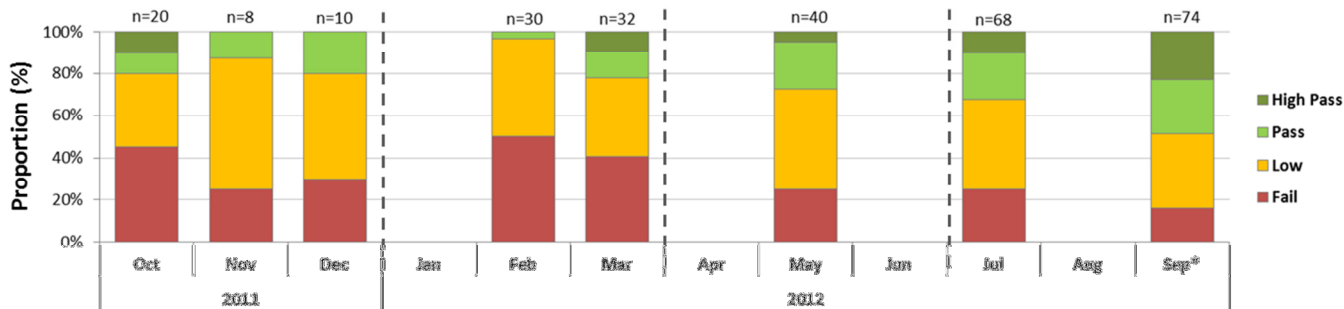
- WPV Type-1 Previous 3, 3-6, >6 months
- ▲ WPV Type-3 Previous 3, 3-6, >6 months
- ▲ WPV Type-1 & 3 Previous 3, 3-6, >6 months
- + cVDPV2
- Environmental sampling sites

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WPV cases by week of onset and environmental surveillance results, North Central sanctuary

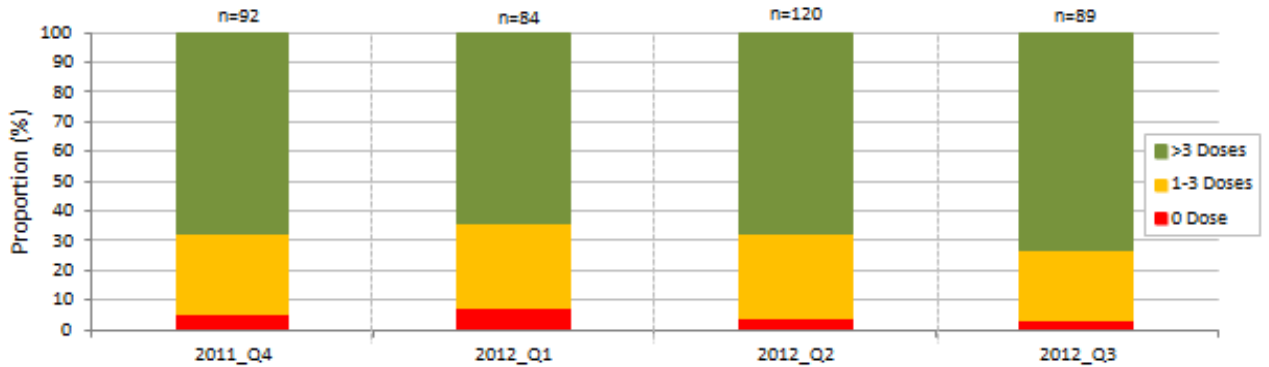


Proportion of LGAs with LQAS survey results by SIA, North Central sanctuary



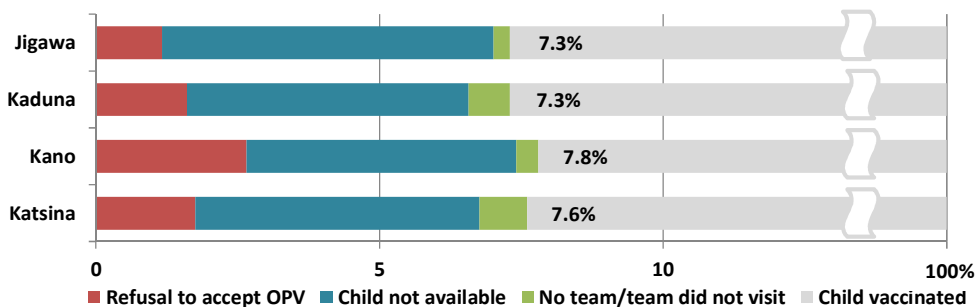
* SIA shown for September 2012 was conducted in early October

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, North Central sanctuary



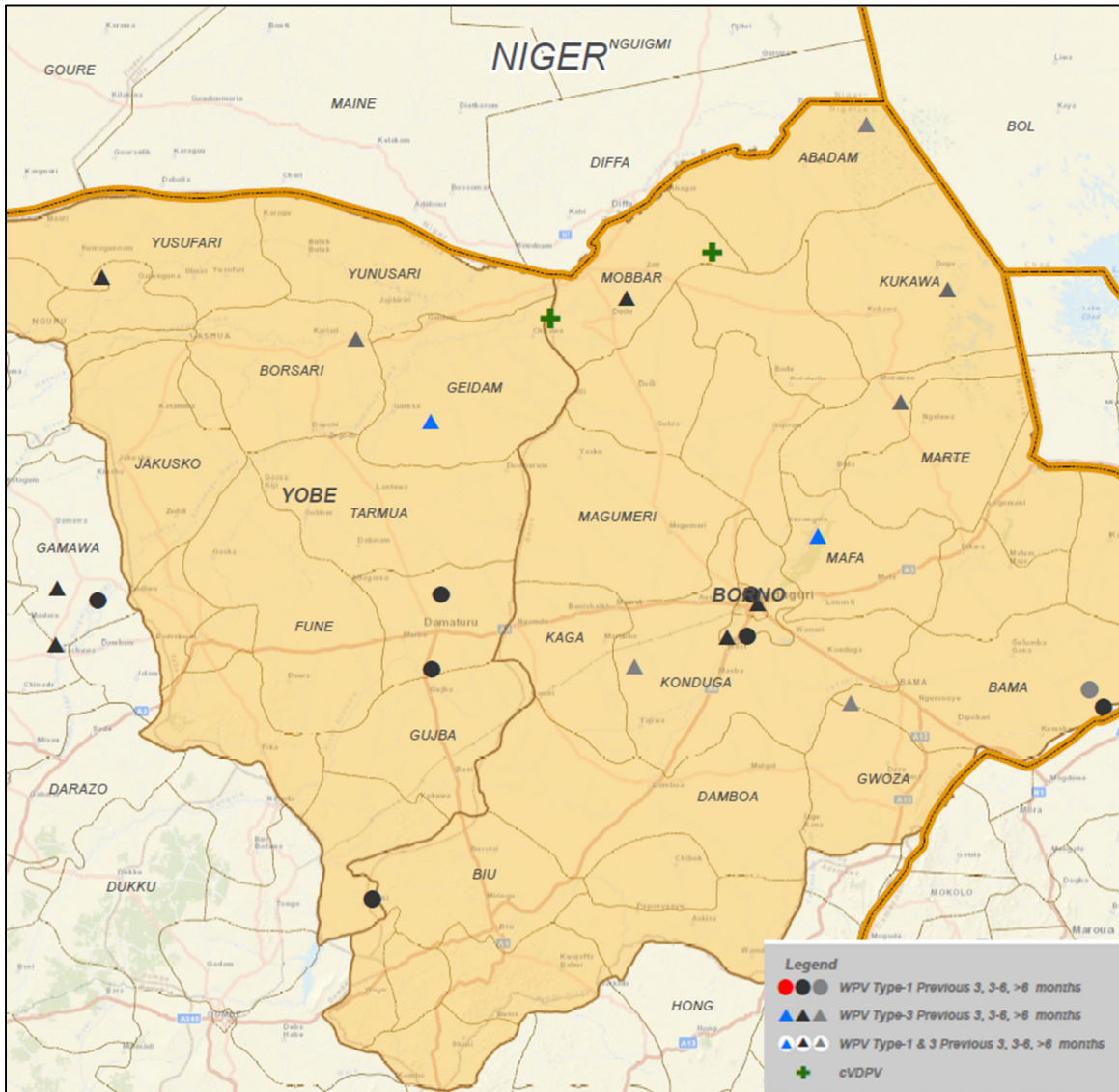
Percent of children missed and the reasons missed, North Central sanctuary

July 2012 SIA, house-to-house independent monitoring

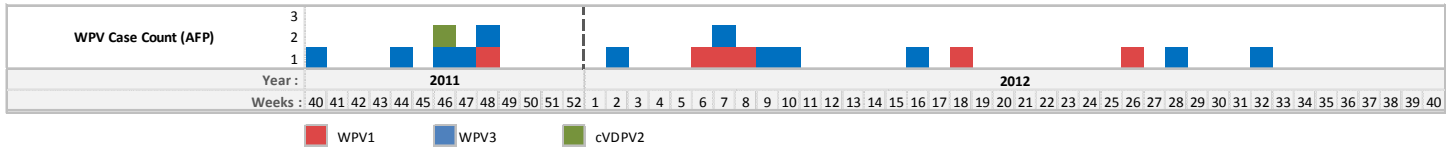


NORTHEAST SANCTUARY

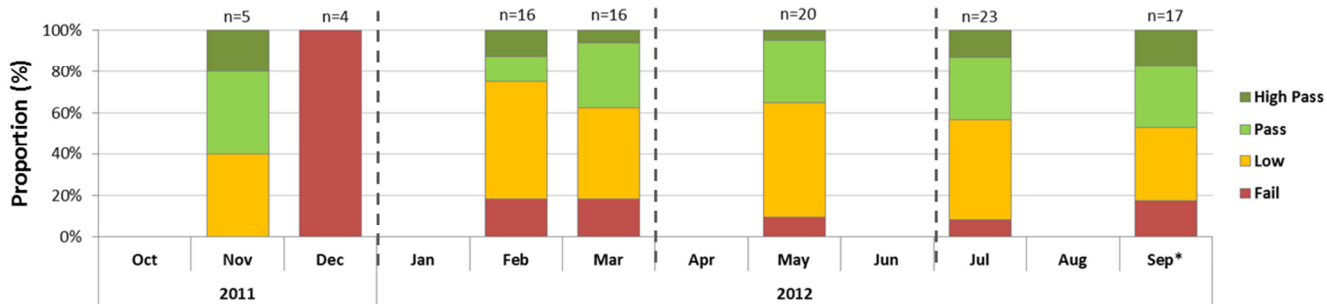
WPV and cVDPV2 cases October 2011 to September 2012



WPV cases by week of onset, Northeast sanctuary

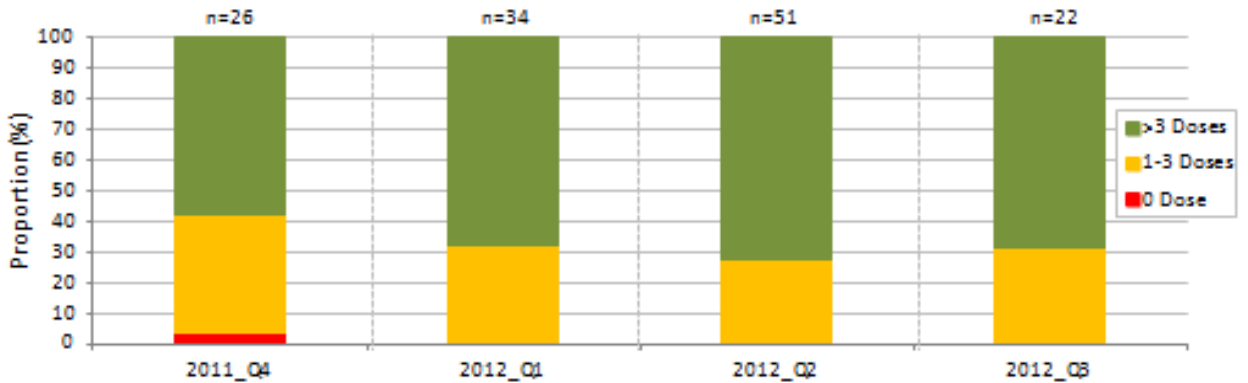


Proportion of LGAs with LQAS survey results by SIA, Northeast sanctuary



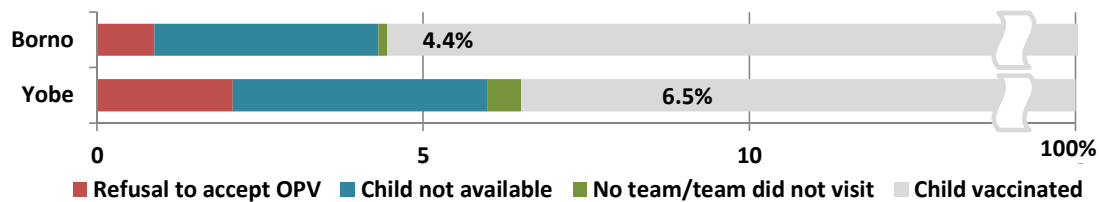
* SIA shown for September 2012 was conducted in early October

Proportion of non-polio AFP cases 6 to 35 months, by OPV status, Northeast sanctuary



Percent of children missed and the reasons missed, Northeast sanctuary

July 2012 SIA, house-to-house independent monitoring



PERFORMANCE INDICATORS

GPEI STRATEGIC PLAN 2010-2012 INDICATORS

end-2012: >90% of children with ≥3 doses of OPV in all states.

States	Number of NPAFP cases ≥3 doses	Number of NPAFP cases < 3 doses	Percent ≥3 doses	Achieved 3rd Qrt.
Bauchi *	95	6	94.1	Yes
Borno *	84	12	87.5	No
Gombe	79	3	96.3	Yes
Jigawa *	69	6	92.0	Yes
Kaduna	66	14	82.5	No
Kano *	139	50	73.5	No
Katsina *	95	25	79.2	No
Kebbi	174	2	98.9	Yes
Niger	117	16	88.0	No
Sokoto *	98	25	79.7	No
Yobe *	49	7	87.5	Yes
Zamfara *	66	24	73.3	No

- Only 5 of the 12 high-risk states achieved the target this quarter.
- In the 1st Qtr. 10 high-risk states achieved the target.

* Persistent transmission states

end-2012: <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.

State	Month of SIA												Achieved 3rd Qrt.
	February			March			May			July			
	No. LGAs		%	No. LGAs		%	No. LGAs		%	No. LGAs		%	
	<10%	10%+		<10%	10%+		<10%	10%+		<10%	10%+		
Bauchi	18	2	90.0	18	2	90.0	18	2	90.0	18	2	90.0	Yes
Borno	24	3	88.9	24	3	88.9	24	3	88.9	26	1	96.3	No
Gombe	11	0	100.0	11	0	100.0	Yes
Jigawa	20	7	74.1	21	6	77.8	24	3	88.9	22	5	81.5	No
Kaduna	20	3	87.0	18	5	78.3	16	6	72.7	16	7	69.6	No
Kano	31	13	70.5	27	17	61.4	28	16	63.6	35	9	79.5	No
Katsina	27	7	79.4	30	4	88.2	28	6	82.4	29	5	85.3	No
Kebbi	13	8	61.9	13	8	61.9	17	4	81.0	20	1	95.2	No
Niger	19	6	76.0	20	5	80.0	16	5	76.2	23	2	92.0	No
Sokoto	18	5	78.3	21	2	91.3	20	3	87.0	15	8	65.2	No
Yobe	15	2	88.2	15	2	88.2	14	3	82.4	14	2	87.5	No
Zamfara	14	0	100.0	13	1	92.9	13	1	92.9	13	1	92.9	Yes

Considering IM data from all SIAs conducted thus far in 2012 in a state, the following is used to score each for achievement of the MPI for the quarter. If ≥4 SIAs were conducted, and of those, if ≥4 SIAs had >90% of LGAs with <10% missed children, the state is scored as “Yes”. If ≥4 SIAs were conducted, and of those, if <4 SIAs had >90% of LGAs with <10% missed children, the state is scored as “No”. If <4 SIAs were conducted and of those, if >1 SIAs had <90% of LGAs with <10% missed children, the state is scored as “No”. If <4 SIAs were conducted and all had >90% of LGAs with <10% missed children, the state was scored as “Yes”.

GPEI GLOBAL EMERGENCY ACTION PLAN 2012-2013 INDICATORS

AREA	ACHIEVEMENT / TARGET	DATE (2012)	RESULTS	STATUS
SIA Coverage	> 80% LGAs in high-risk states (HRS) achieve 90% coverage in at least 1 IPD (Immunization Plus Day) round.	End June	LQAS assesses SIA quality and is not a direct measure of coverage. The highest LQAS threshold is testing quality at 90% coverage, so tracking trends at this threshold are a guide to progress toward the goal. 50% of the 286 LGAs in the 12 high risk states had no LQAS survey. If the analysis is based on the LGAs that had at least 1 survey, only 15% passed at the 90% threshold at least once.	Not met
	> 90% LGAs in the HRS achieve 90% coverage in 2 IPDs.	End September	See above.	Not met
	> 90% LGAs in the HRS achieve 90% coverage in at least 4 IPDs.	End December		Too soon to assess
Surveillance	90% of LGAs meet the 2 main surveillance indicators.	End December	<i>Current status: the proportion of LGAs in high-risk northern states that met both indicators during January–September 2012 was 80%.</i>	Too soon to assess
	Zero orphan virus detection.	End December	<i>11 of 74 (15%) viruses across all serotypes have been classified as orphan.</i>	Too soon to assess
Routine Immunization	Achievement of at least 50% OPV3 coverage in all high-risk LGAs.	End December		Too soon to assess
Communication & social mobilization	Ensure 80% of high-risk States and LGAs achieve quarterly Abuja Commitments.	End December	<i>Current status: only approximately 50% of state and LGA commitments met for the second quarter.</i>	Too soon to assess
	80% of LGAs implement 80% of social mobilization activities in national EAP.	End December	<i>There are insufficient data to assess this indicator. What is known at this time is that 557 volunteer community mobilizers (VCM) are working in Kano since May 2012 and 200 VCM in both Sokoto and Kebbi since March 2012. In August 2012, the VCM network expanded to Zamfara (250 VCM), Katsina (200 VCM), Jigawa (270 VCM), and in Borno (150 VCM). The total number of VCM is now 1827 in seven high risk states.</i>	Too soon to assess

CONCLUSION

SUMMARY

Nigeria is the only country in the world in which the number of polio cases increased from 2011 to 2012. The program is substantially scaling up and implementing changes at all levels, including field-based micro-planning, changes in team composition, outreach to scattered and nomad settlements, and monitoring of performance indicators through a standardized “dashboard.” However, as of October 2012, although there has been recent improvement in some indicators of program performance, immunization performance remains suboptimal and the full impact of those changes remains to be seen.

Nigeria is also the only country in which all 3 types of poliovirus—WPV1, WPV2 and cVDPV—continue to circulate. There have been almost three times as many WPV cases so far this year as during the same time period in 2011. Case counts are particularly high in the North Central sanctuary, where the focus of transmission recently has been around the city of Katsina.

Several lines of cVDPV2 have emerged and circulated in northern Nigeria since 2005. Cases of cVDPV2 poliomyelitis were not detected through AFP surveillance during April through July 2012, but environmental surveillance in Sokoto has detected the virus consistently since surveillance was initiated there in March. Cases of cVDPV2 poliomyelitis were again detected in August in Sokoto and Kano.

While the results continue to show too many missed children, LQAS data show a trend of improvement over the past year, particularly in the Northwest and North Central sanctuaries.

Nigeria continues to detect AFP cases at rates consistent with adequate surveillance. However, the continued detection of WPVs and cVDPVs with less genetic linkage than expected indicates continued gaps in surveillance.

Nowhere does non-compliance contribute more directly to the spread of the poliovirus than in northern Nigeria. Among the 58 polio cases in 2012 that have been analysed for social variables so far, more than a third of affected children are from families who refused vaccination. This represents the highest level of refusal on the global scale, and the magnitude of refusals may turn out to be even larger once all of this year's cases are analysed.

The states of Sokoto and Kano carry the highest burden of refusals and the largest number of polio cases resulting from such refusals, with more than 65% of cases attributed to families that refuse to vaccinate their children. Kaduna follows in third place, with 44% of polio cases occurring in refusal households. Given that almost half of all polio cases this year are emerging from these three states, refusal cases should be investigated in detail and a report submitted to the partnership. Specialized plans should be developed to address what is clearly a chronic problem that may spread akin to the virus itself.

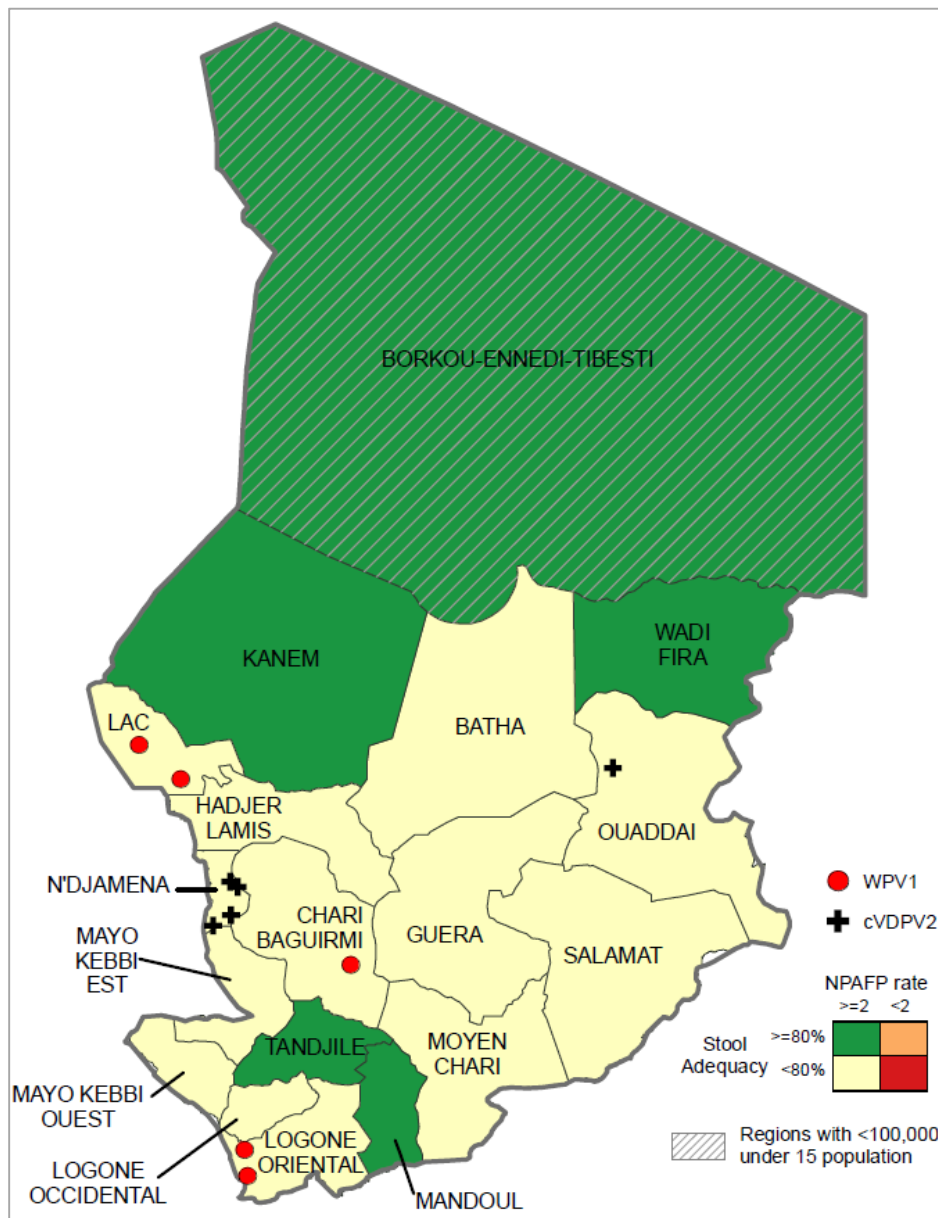
CONCLUSIONS

- **Epidemiology:** Cases of polio attributable to WPV have almost tripled over the last year, but have remained relatively stable at around three to six cases per week since April, with most cases occurring in the North Central sanctuary. There is little evidence so far of impact from the scale-up in activities in Nigeria. cVDPV transmission appears to be much curtailed since tOPV campaigns began late last year. However, sporadic cases continue to occur and cVDPVs continue to be detected in environmental sampling in Sokoto.
- **Immunization:** Data suggest some improvement in immunization since February.
- **Surveillance:** The continued detection of WPVs and cVDPVs with less genetic linkage than expected indicates gaps in surveillance.
- **Social Mobilization and Communication:** Nigeria has the highest level of refusal of any country with polio, with the largest proportion of WPV cases due to refusal. Areas with VCM workers in place since March have shown significant declines in refusals.

RE-ESTABLISHED TRANSMISSION COUNTRIES

CHAD

There were 132 WPV cases (129 WPV1, 3 WPV3) confirmed in 2011 and only five WPV cases (5 WPV1, 0 WPV3) confirmed to date in 2012. The most recent WPV3 case had onset 10 March 2011. WPV1 transmission became re-established after 2010 importation from Nigeria (most recent onset 14 June 2012). Surveillance indicators remain suboptimal in most areas of the country, but have improved from 2011. Although adequacy of specimen collection has improved, so far in 2012 there have been 14 compatible cases for which polio could not be ruled out because of inadequate specimens. Sequencing of 2011 and 2012 WPVs from Chad has shown few orphan viruses, and the 2012 cVDPV2 isolates show little divergence from Sabin 2 and from one another.



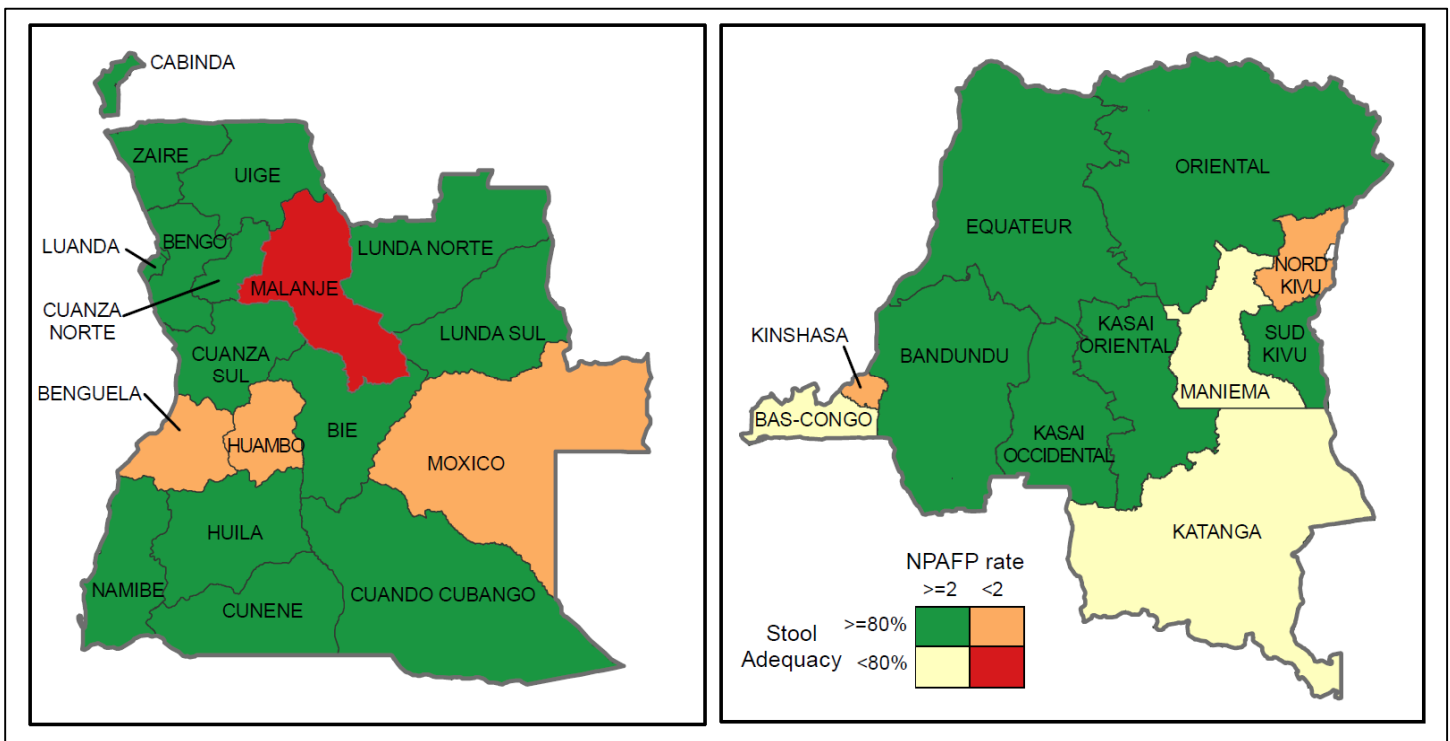
ANGOLA

Of the five WPV1 cases in 2011, four occurred in Kuando-Kubango, the last confirmed site of re-established transmission of a 2007 WPV1 importation from India (most recent case onset 27 March). The other 2011 WPV1 case in Uige (onset 7 July) followed WPV importation from DRC. Environmental surveillance in Luanda is to be established during Q1 of 2013. AFP surveillance indicators have improved in most areas but remain suboptimal in some areas of the country, critically including areas of Luanda.

DEMOCRATIC REPUBLIC OF THE CONGO

Following WPV1 importation from Angola in 2008, re-established transmission persisted in DRC. In 2011, 93 WPV1 cases were confirmed in six different provinces. Of these, 14 cases were the result of re-established transmission. Katanga province had 12 cases in 2011 (most recent case onset 18 November) and Maniema province had 2 cases (most recent onset 20 December). The remainder of cases in 2011 was related to the 2010–2011 outbreak in the Republic of the Congo. AFP surveillance indicators have improved in most areas but remain suboptimal in some areas of the country.

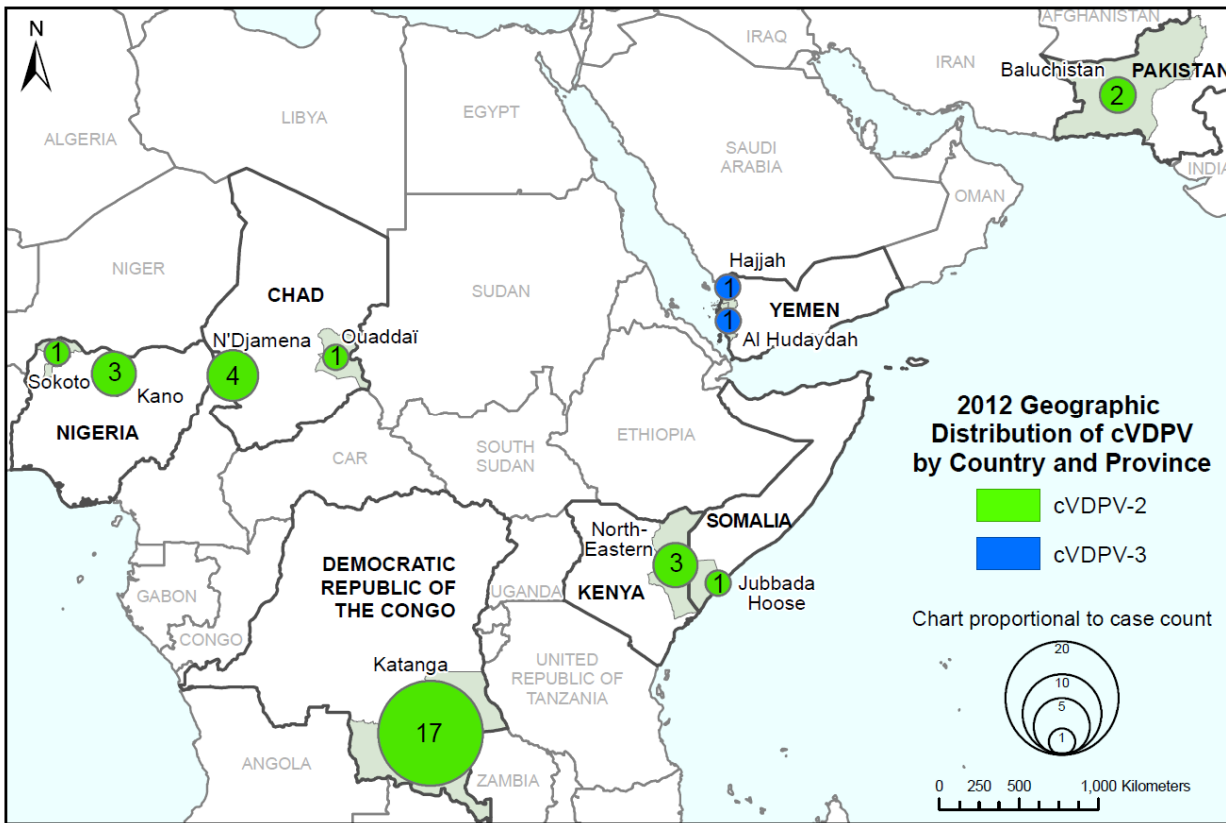
Provincial level surveillance indicators, Angola and the Democratic Republic of the Congo



Data: 19-Sep-2011 to 18-Sep-2012

CIRCULATING VDPV

2012 Geographic Distribution of cVDPV by country and province



County	Serotype	2012 Quarterly cVDPV case counts ¹			9 month total	Onset date of last case ²
		Jan-Mar '12	Apr-Jun '12	Jul-Sep '12		
Chad	2	0	0	5	5	18-Aug-12
Democratic Republic of the Congo	2	14	3	0	17	04-Apr-12
Kenya ³	2	0	1	2	3	02-Sep-12
Nigeria	2	0	1	3	4	26-Aug-12
Pakistan	2	0	0	2	2	12-Sep-12
Somalia	2	0	0	1	1	23-Jul-12
Yemen	3	0	1	1	2	24-Aug-12

¹ Counts do not include environmental specimens, but do include case contacts.

² Specimen date used for case contacts

³ Related to Somalia cVDPV2 outbreak

AFFECTED COUNTRIES IN 2012

DEMOCRATIC REPUBLIC OF THE CONGO

14 cVDPV2 cases were identified during the first quarter of 2012. These cVDPV2s represent lineages derived from four independent emergence events. The last reported cVDPV2 (by onset date) in Democratic Republic of the Congo was from Katanga province in April 2012; it had 13 nucleotide differences from Sabin 2 VP1.

NIGERIA

The number of cVDPV2 cases has declined substantially from 22 in 2011 to four in 2012. There were 5 VDPV2 cases reported in 2012; four are cVDPV2, and the fifth represents a new emergence of PV2 VDPV (aVDPV2) with onset in May 2012. The viral sequence suggests emergence within the past year. Environmental sampling in Kano and Sokoto states has resulted in detection of 30 distinct VDPV2s for 2012 (two in Kano and 28 in Sokoto). 28 of the 30 environmental sequences are cVDPVs; 2 are aVDPVs.

SOMALIA AND KENYA

The 2012 Kenya and Somalia VDPV2s are from a lineage of virus that emerged in Somalia in 2009 and has circulated continuously since then. Among the cVDPV2 isolates detected in Kenya (2 cases, 1 isolate from a contact) and Somalia (1 case), two are orphans indicating ~2 years of undetected circulation. Overall, the viral sequencing results provide evidence for significant gaps in surveillance in Somalia during the past two years and possibly in Kenya in 2012.

CHAD

Five genetically linked cVDPV2s were isolated from AFP cases in Chad. Four of the cVDPV2s are from Ndjamena, and one cVDPV2 is reported from Abeche in the east. The sequences are relatively closely related (99 to 99.4%) to Sabin 2 and therefore are likely to have emerged within the past year.

YEMEN

Two genetically linked cVDPV3s, from Hajjah and Alhudaidah were isolated from AFP cases from April and August 2012. The viral sequences indicate more than 2 years of circulation. These geographic regions are areas where cVDPV2 circulated in 2011.

PAKISTAN

Two genetically linked cVDPV2s, from Quetta and Pishin districts in Baluchistan, Pakistan, were isolated from AFP cases from August and September 2012. The viral sequences indicate approximately 2 years of circulation.