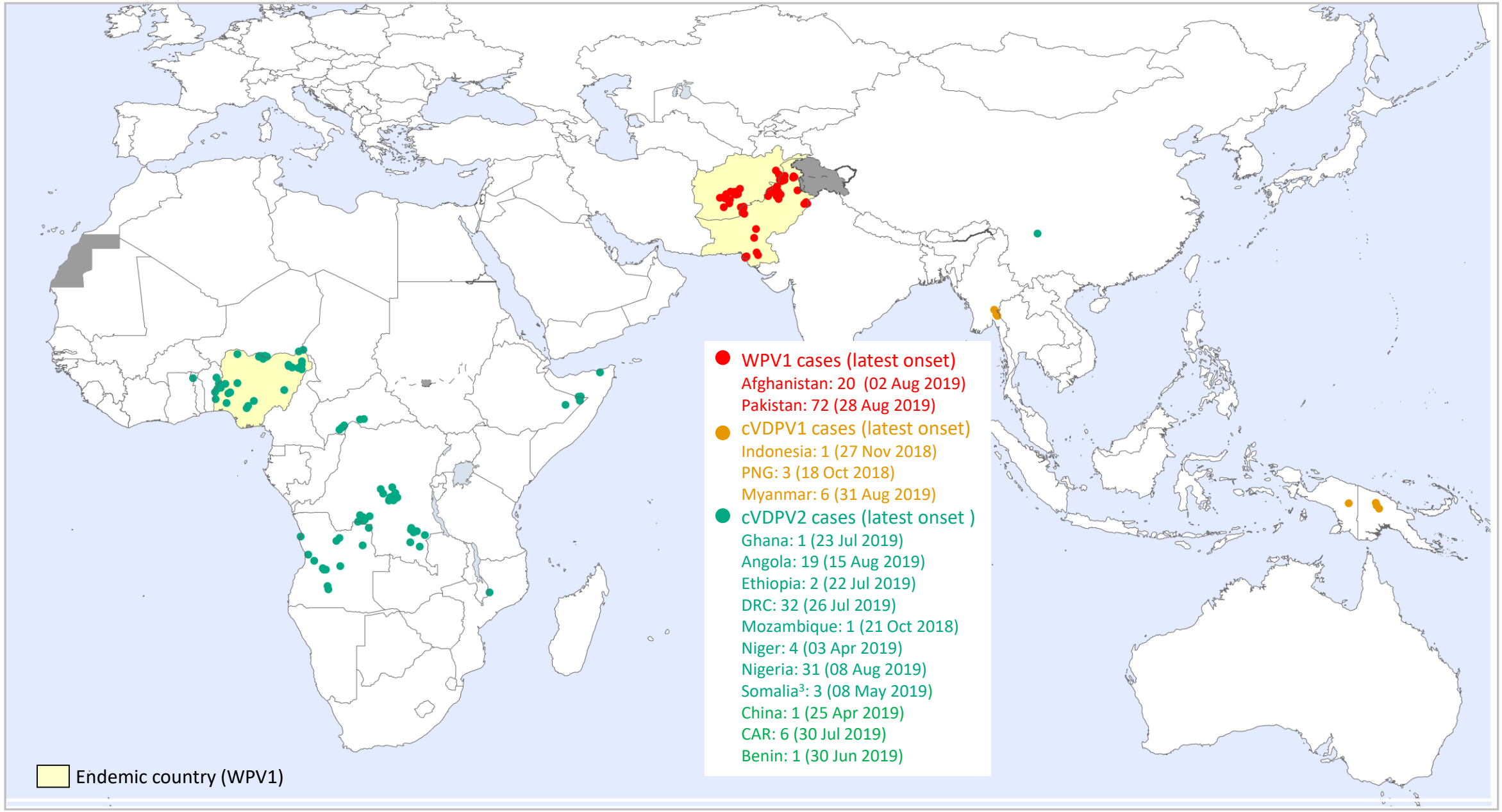
Polio Eradication Initiative

Global update

September 25, 2019

Global WPV1 & cVDPV Cases[1], Previous 12 Months[2]

World Health Organization

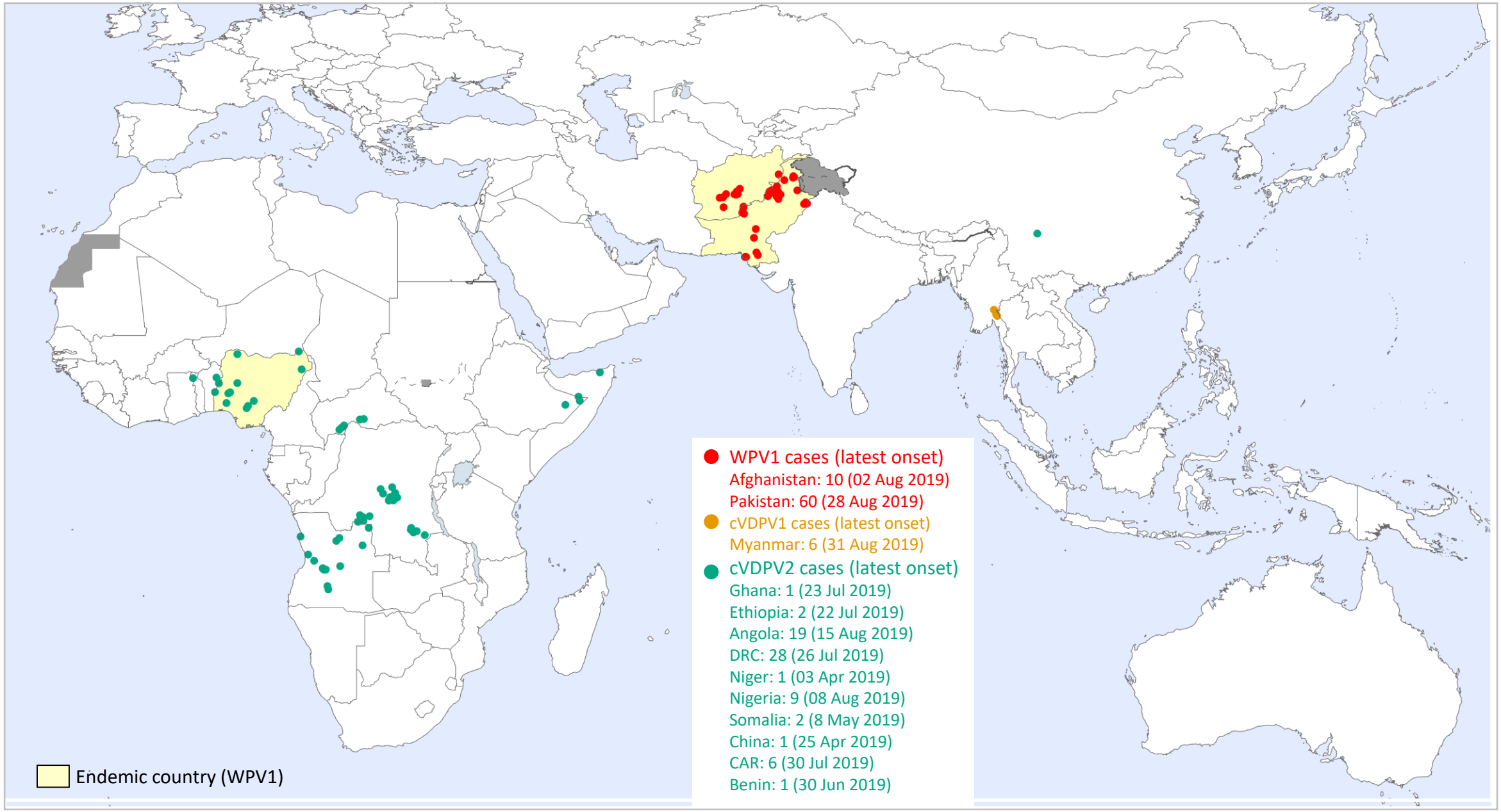


[1]Excludes viruses detected from environmental surveillance; [2]Onset of paralysis 25 Sep 2018 – 24 Sep 2019; [3]Include one case of co-infection with Type 2 and 3

Data in WHO HQ as of 24 Sep. 2019

Global WPV1 & cVDPV Cases[1], Previous 6 Months[2]

World Health Organization

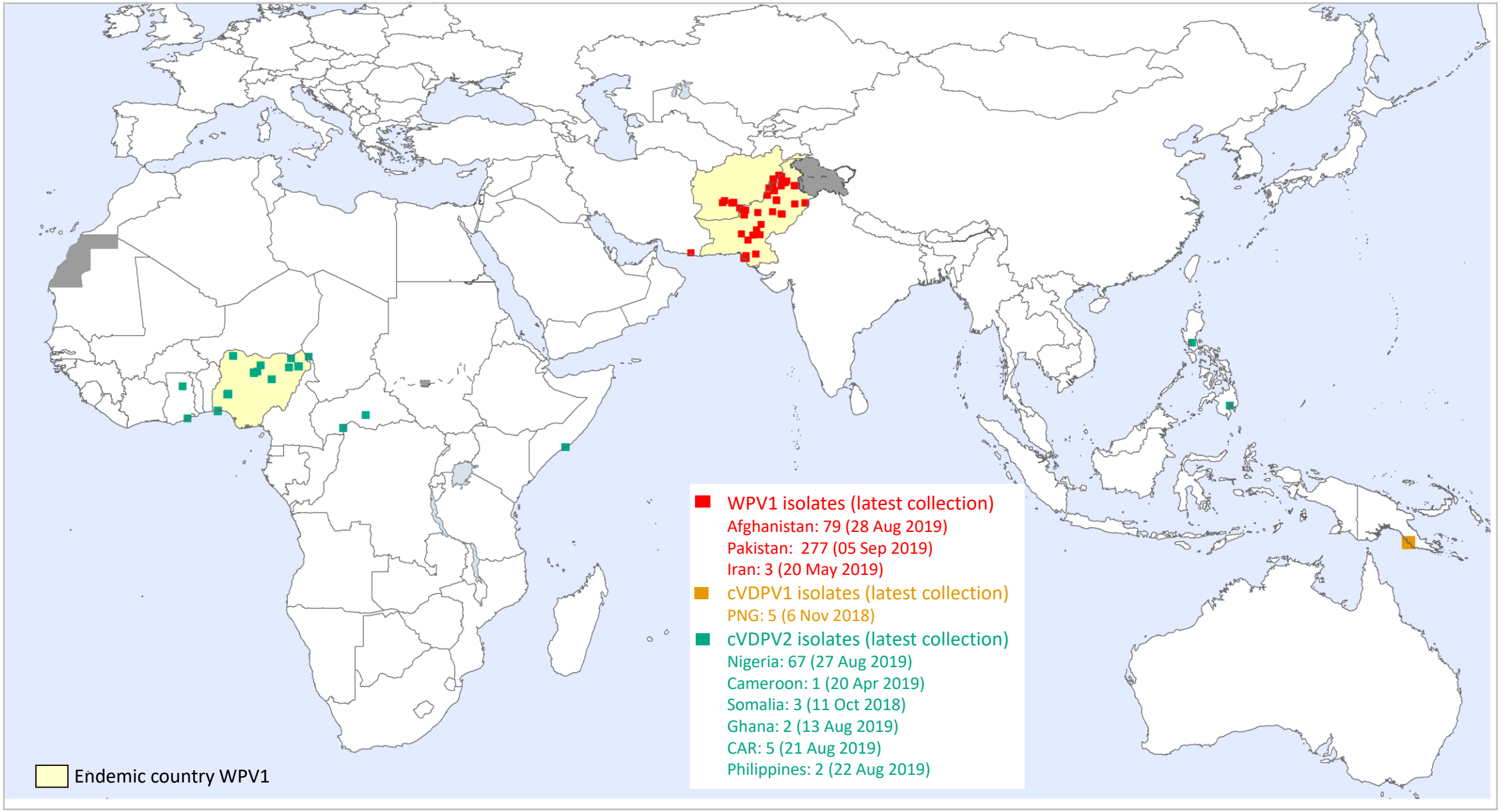


[1]Excludes viruses detected from environmental surveillance ; [2]Onset of paralysis: 25 Mar 2019 – 24 Sep 2019

Data in WHO HQ as of 24 Sep. 2019

Global Environmental Sites[1] with WPV / cVDPV Positive Isolates, Previous 12 Months[2]

World Health Organization

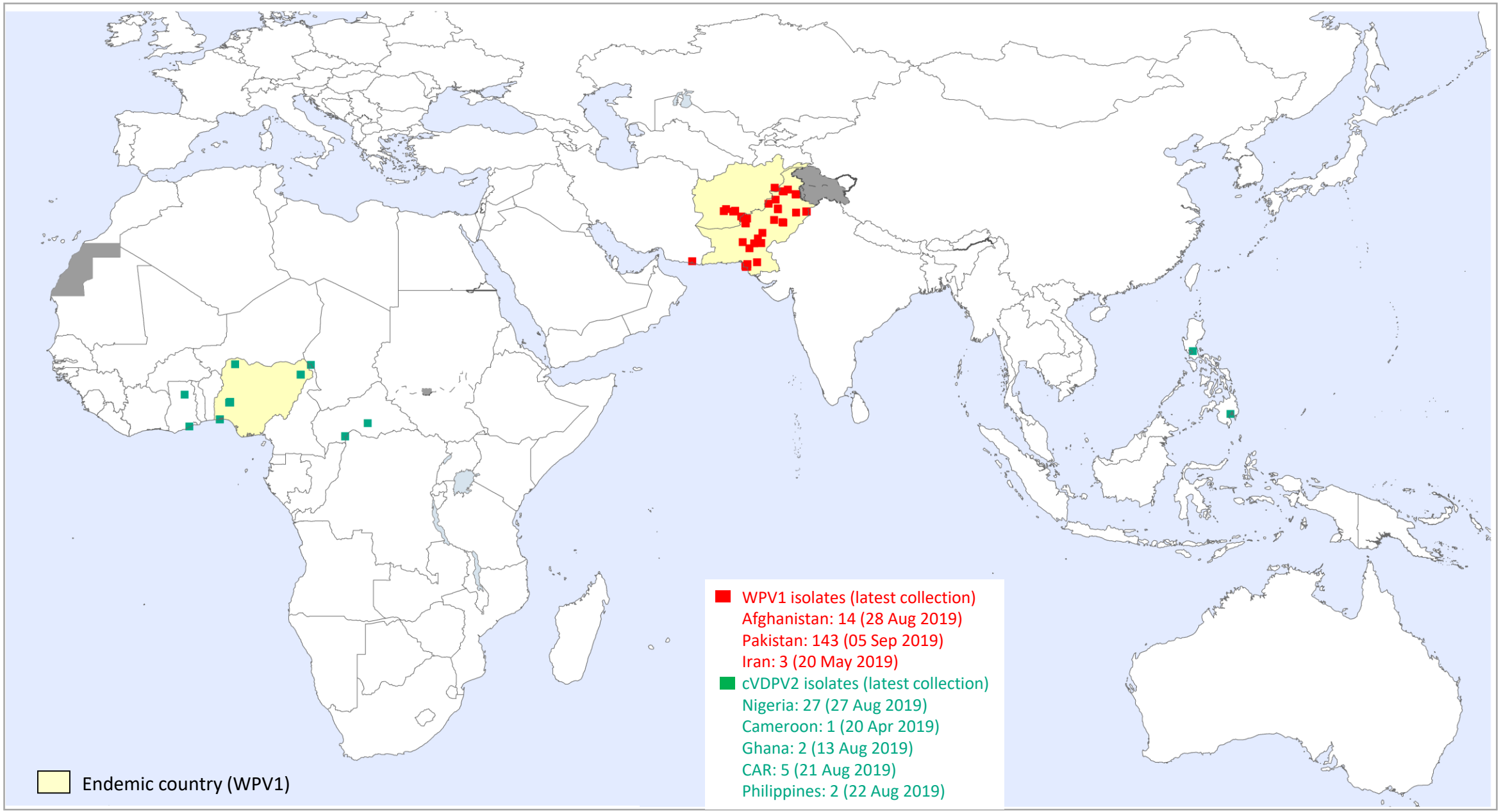


[1]Sites with one or more positive; excludes viruses detected from AFP surveillance.
[2]Collection date: 25 Sep. 2018 – 24 Sep. 2019

Data in WHO HQ as of 24 Sep. 2019

Global Environmental Sites[1] with WPV / cVDPV Positive Isolates, Previous 6 Months[2]

World Health Organization



[1]Sites with one or more positive; excludes viruses detected from AFP surveillance.

[2]Collection date: 25 Mar 2019 – 24 Sep. 2019

Data in WHO HQ as of 24 Sep. 2019

Global Wild Poliovirus 2014 - 2019

World Health Organization

Country or territory[3]	Wild virus type 1 confirmed cases								Wild virus type 1 reported from other sources[2]							
	Full year total					01 Jan - 24 Sep[1]		Date of most recent case	Full year total					01 Jan - 24 Sep[1]		Date of most recent virus
	2014	2015	2016	2017	2018	2018	2019		2014	2015	2016	2017	2018	2018	2019	
Pakistan	306	54	20	8	12	4	66	28-Aug-19	127	84	62	110	141	66	224	05-Sep-19
Afghanistan	28	20	13	14	21	14	16	02-Aug-19	17	20	2	42	83	36	36	29-Aug-19
Nigeria	6	0	4	0	0	0	0	21-Aug-16	1		1[6]					27-Sep-16
Iran	0	0	0	0		0		NA							3	20-May-19
Israel[4]	0	0	0	0	0	0	0	NA	14							30-Mar-14
West Bank and Gaza	0	0	0	0	0	0	0	NA	1							05-Jan-14
Somalia	5	0	0	0	0	0	0	11-Aug-14								
Cameroon	5	0	0	0	0	0	0	09-Jul-14								
Equatorial Guinea	5	0	0	0	0	0	0	03-May-14								
Iraq	2	0	0	0	0	0	0	07-Apr-14								
Syrian Arab Republic	1	0	0	0	0	0	0	21-Jan-14								
Ethiopia	1	0	0	0	0	0	0	05-Jan-14								
Total	**359**	**74**	**37**	**22**	**33**	**18**	**82**		**160**	**104**	**65**	**152**	**224**	**102**	**263**	
Total wild virus type 1	359	74	37	22	33	18	82									
Total wild virus type 3	0	0	0	0	0	0	0									
Tot. in endemic countries	340	74	37	22	33	18	82									
Tot. in non-end countries	19	0	0	0	0	0	0									
No. of countries (infected)	9	2	3	2	2	1	0									
No. of countries (endemic)	3	2[5]	2[5]	3	3	1	0									

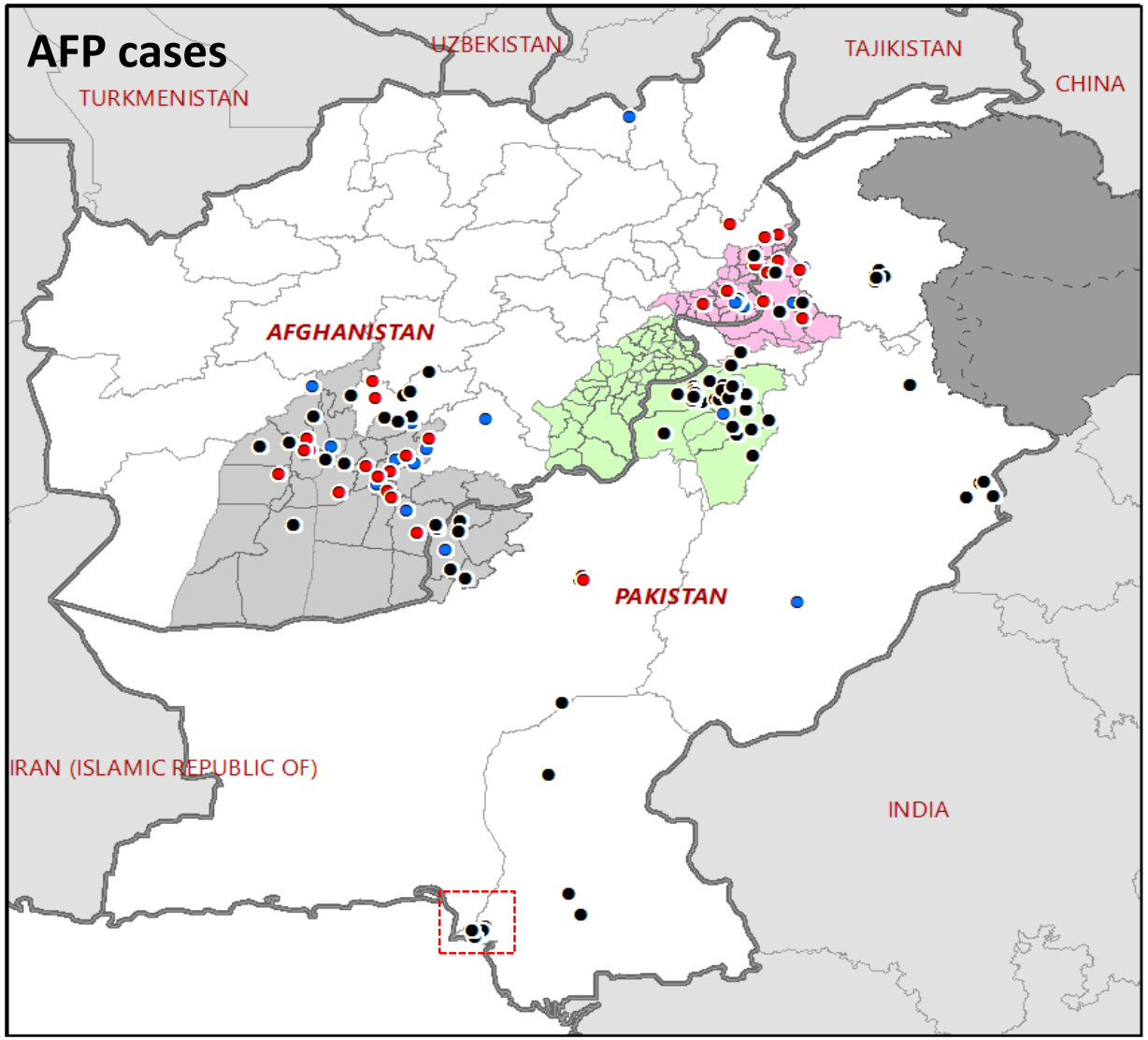
Countries in yellow are endemic. [1]Data reported to WHO HQ on 25 Sep 2018 for 2018 data and 24 Sep 2019 for 2019 data.

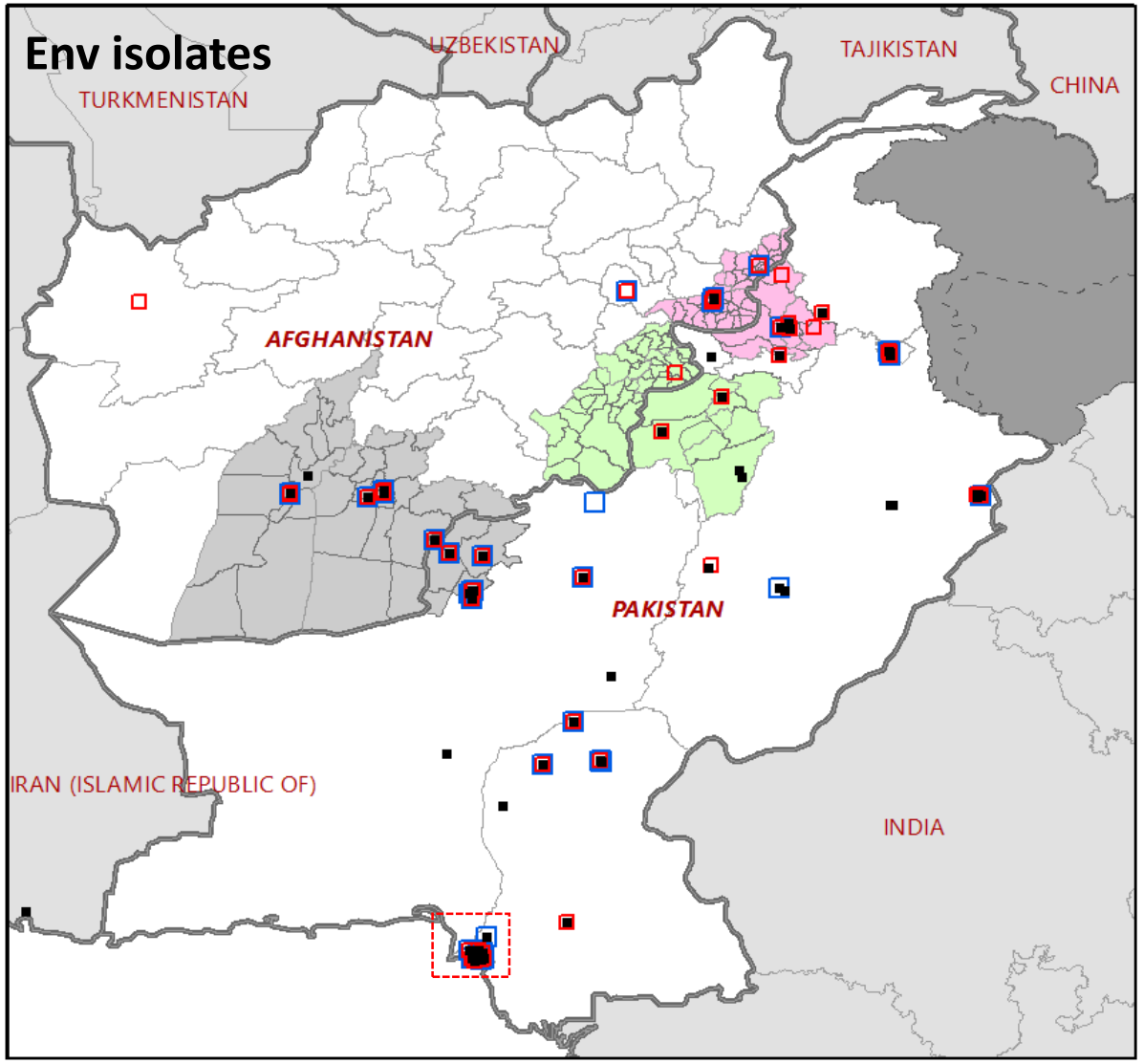
[2]Wild viruses from environmental samples, selected contacts, healthy children and other sources. Last WPV type 3 had its onset on 10 November 2012. [3]In March 2014, a serotype 1 wild poliovirus was detected in an environment specimen from Brazil, further investigation indicates this is an isolated event without evidence of circulation. [4]Results are based on L20B positive culture. Prior to reporting week 16, 2014, results were based on a combination of direct qRT-PCR on RNA from concentrated sewage and L20B positive culture. [5]Between 27 Sep 2015 and 27 Sep 2016, Nigeria was not classified as endemic. NA - Most recent case had onset prior to 1999. [6]Exceptionally reporting case-contact of a positive index case given the date of collection is later than the onset date of the most recent WPV.

Data in WHO HQ as of 24 Sep. 2019

Situation update
Endemic countries

WPV in Afghanistan and Pakistan between 2017-2019*





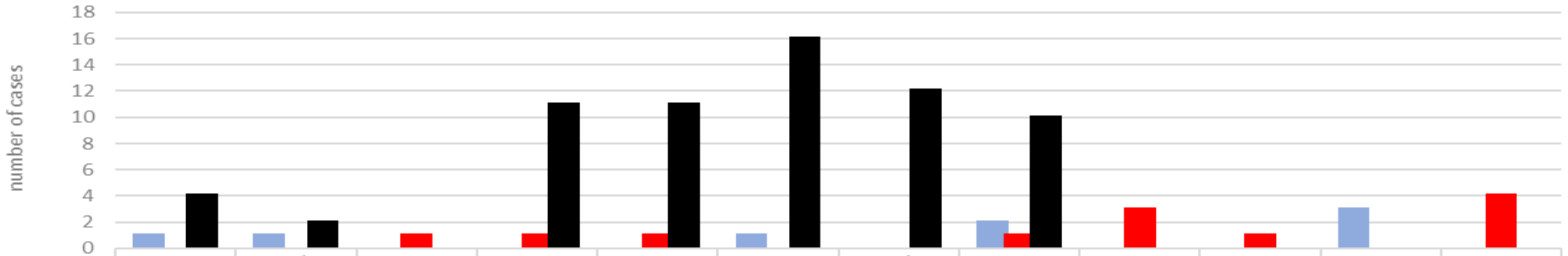
- WPV1 Case 2019 (n=82) AFG=16; PAK=66
- WPV1 Case 2018 (n=33) AFG=21; PAK=12
- WPV1 Case 2017 (n=22) AFG=14; PAK=8

- **Northern corridor**
- **Central corridor**
- **Southern corridor**
- **Karachi**

- ES positive sites 2019
- ES positive sites 2018
- ES positive sites 2017

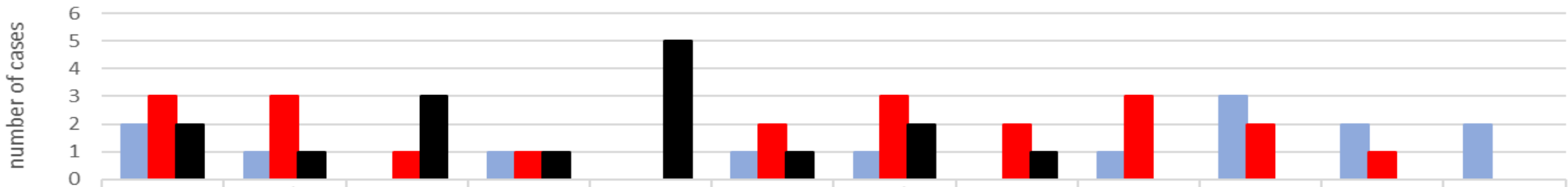
*Data in WHO HQ as of 24 Sep. 2019

Pakistan 2017-2019
WPV1 AFP cases



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	1	1				1		2			3	
2018			1	1	1			1	3	1		4
2019*	4	2		11	11	16	12	10				

Afghanistan 2017-2019
WPV1 AFP cases

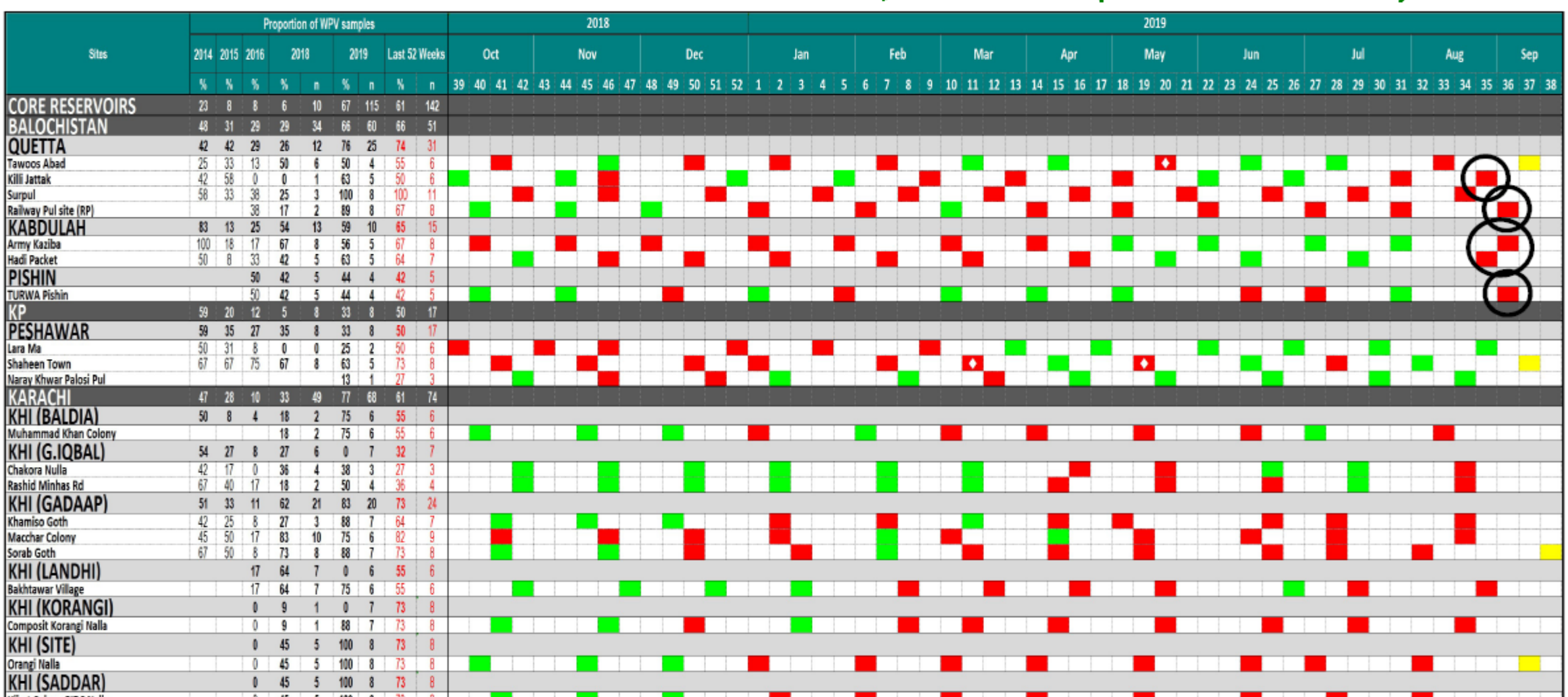


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	2	1		1		1	1		1	3	2	2
2018	3	3	1	1		2	3	2	3	2	1	
2019*	2	1	3	1	5	1	2	1				

*Data in WHO HQ as of 24 Sep. 2019

Environmental Surveillance Results, Pakistan (Last 52 Weeks)

Sites	Proportion of WPV samples								
	2014	2015	2016	2018		2019		Last 52 Weeks	
	%	%	%	%	n	%	n	%	n
CORE RESERVOIRS	23	8	8	6	10	67	115	61	142
BALOCHISTAN	48	31	29	29	34	66	60	66	51
QUETTA	42	42	29	26	12	76	25	74	31
Tawoos Abad	25	33	13	50	6	50	4	55	6
Killi Jattak	42	58	0	0	1	63	5	50	6
Surpul	58	33	38	25	3	100	8	100	11
Railway Pul site (RP)			38	17	2	89	8	67	8
KABDULAH	83	13	25	54	13	59	10	65	15
Army Kaziba	100	18	17	67	8	56	5	67	8
Hadi Packet	50	8	33	42	5	63	5	64	7
PISHIN			50	42	5	44	4	42	5
TURWA Pishin			50	42	5	44	4	42	5
KP	59	20	12	5	8	33	8	50	17
PESHAWAR	59	35	27	35	8	33	8	50	17
Lara Ma	50	31	8	0	0	25	2	50	6
Shaheen Town	67	67	75	67	8	63	5	73	8
Naray Khwar Palosi Pul						13	1	27	3
KARACHI	47	28	10	33	49	77	68	61	74
KHI (BALDIA)	50	8	4	18	2	75	6	55	6
Muhammad Khan Colony				18	2	75	6	55	6
KHI (G.IQBAL)	54	27	8	27	6	0	7	32	7
Chakora Nulla	42	17	0	36	4	38	3	27	3
Rashid Minhas Rd	67	40	17	18	2	50	4	36	4
KHI (GADAAP)	51	33	11	62	21	83	20	73	24
Khamiso Goth	42	25	8	27	3	88	7	64	7
Macchar Colony	45	50	17	83	10	75	6	82	9
Sorab Goth	67	50	8	73	8	88	7	73	8
KHI (LANDHI)			17	64	7	0	6	55	6
Bakhtawar Village			17	64	7	75	6	55	6
KHI (KORANGI)			0	9	1	0	7	73	8
Composit Korangi Nalla			0	9	1	88	7	73	8
KHI (SITE)			0	45	5	100	8	73	8
Orangi Nalla			0	45	5	100	8	73	8
KHI (SADDAR)			0	45	5	100	8	73	8
Hijrat Colony PIDC Nalla			0	45	5	100	8	73	8
KHI (LIAQUAT)			0	45	5	75	6	64	7
Haji Mureed Goth			0	45	5	75	6	64	7
PAKISTAN	35	20	13	20	139	43	224	40	268

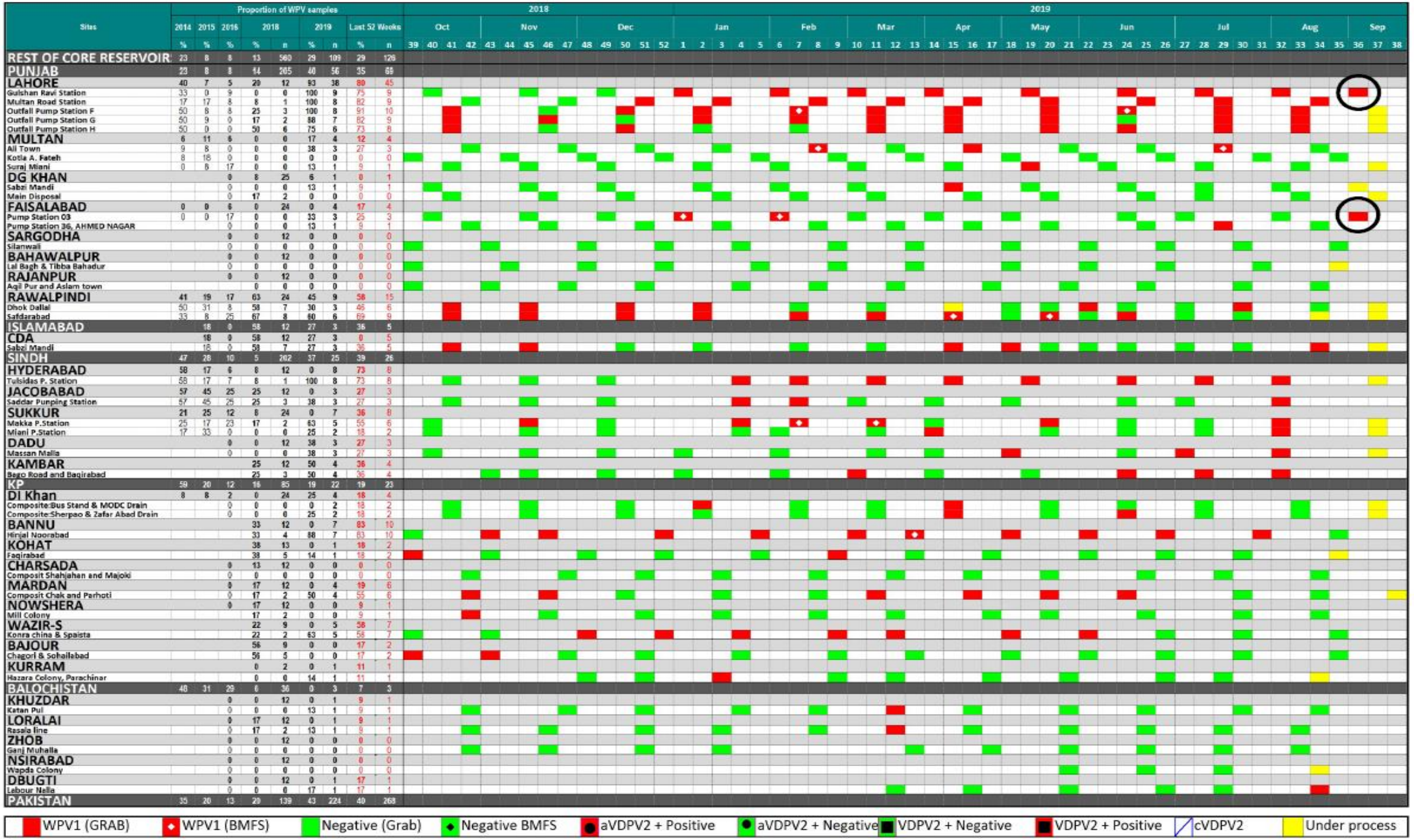


WPV1 (GRAB) | WPV1 (BMFS) | Negative (Grab) | Negative BMFS | aVDPV2 + Positive | aVDPV2 + Negative | VDPV2 + Negative | VDPV2 + Positive | cVDPV2 | Under process

Source: Pakistan weekly bulletin

Data in WHO HQ as of 24 Sep. 2019

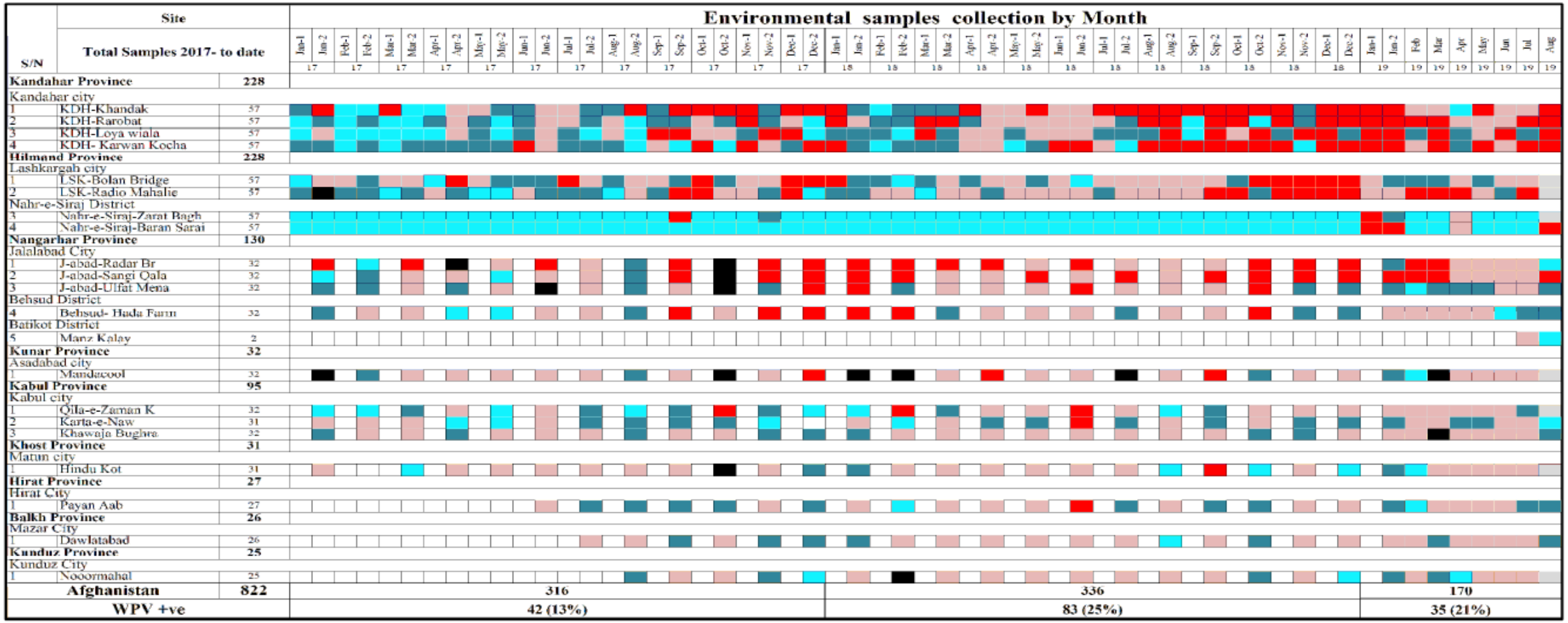
Environmental Surveillance Results, Pakistan (Last 52 Weeks)



Source: Pakistan weekly bulletin

Data in WHO HQ as of 24 Sep. 2019

Summary of Laboratory data for Environmental Surveillance, Afghanistan, (2017- 2019 to date)



Total Sites	21
WPV	160
EV	275
SL1/SL3	188
EV+SL1/SL3	182
Neg	15
Under Process	7
Total	822

Year	Kandahar	Helmand	Nangarhar	Kunar	Kabul	Hirat	Khost	Total
2017	18	9	13	1	1	0	0	42
2018	42	12	22	2	3	1	1	83
2019	21	8	6	0	0	0	0	35

WPV1 EV SL1/SL3 EV+SL1/SL3 Neg Under process

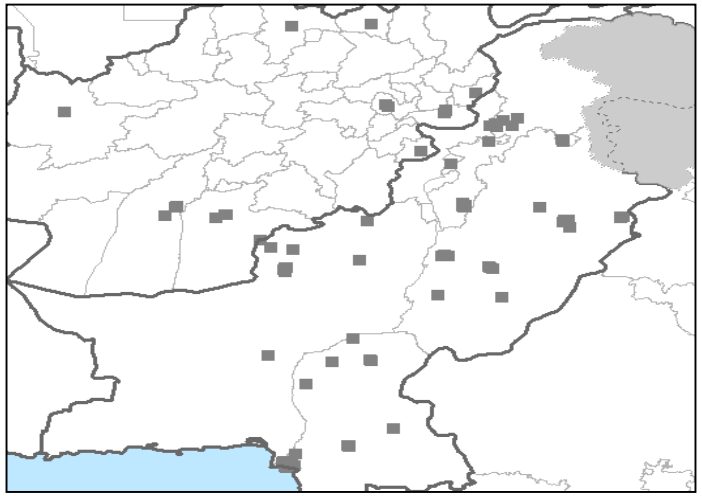
Data up to 14 Sep 2019

Source: Afghanistan weekly bulletin

Data in WHO HQ as of 24 Sep. 2019

Pakistan/Afghanistan: percent Env sample, districts and sites positive

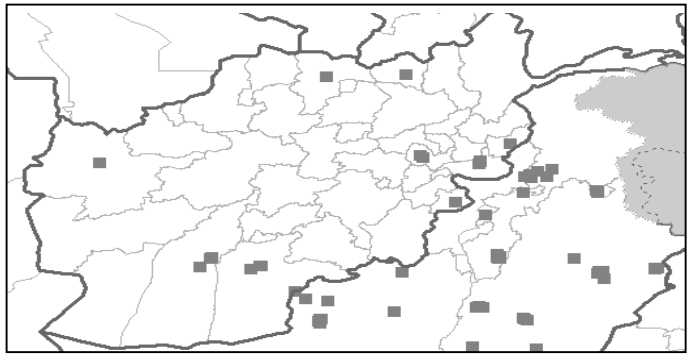
Pakistan



Env. site

	Samples			Districts			Sites		
year	+ive	%	Total	+ive	%	Total	+ive	%	Total
2010	76	49.4	154	9	100.0	9	17	94.4	18
2011	136	66.7	204	9	100.0	9	17	100.0	17
2012	88	36.8	239	12	100.0	12	20	87.0	23
2013	65	20.2	321	11	91.7	12	16	69.6	23
2014	132	34.8	379	14	87.5	16	26	81.3	32
2015	85	19.2	442	15	93.8	16	26	78.8	33
2016	61	11.5	529	17	54.8	31	25	43.1	58
2017	107	16.6	645	20	58.8	34	28	52.8	53
2018	141	20.8	677	27	67.5	40	37	62.7	59
2019	224	47.7	470	32	82.1	39	50	78.1	64

Afghanistan



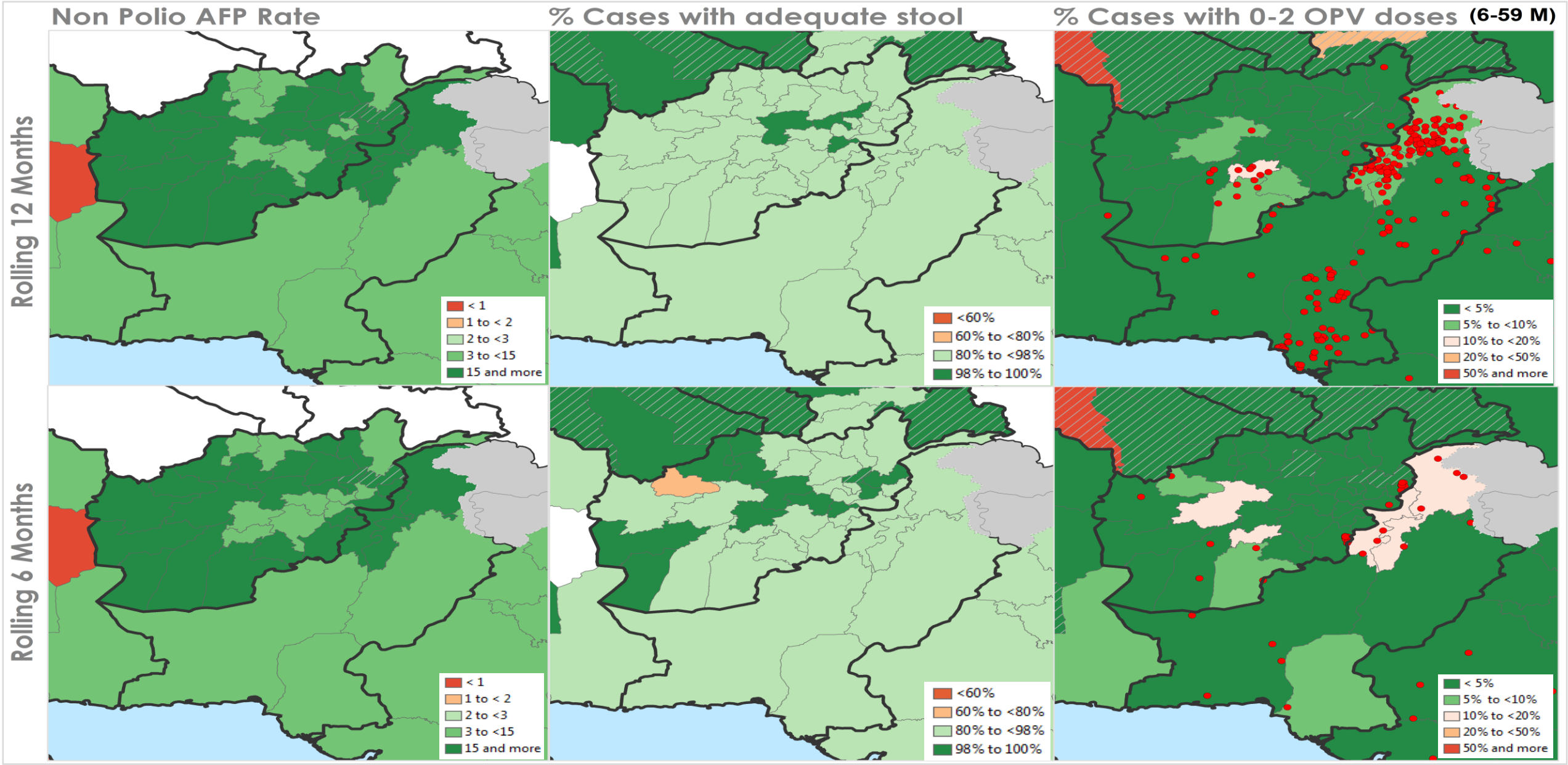
Env. site

	Samples			Districts			Sites		
year	+ive	%	Total	+ive	%	Total	+ive	%	Total
2014	17	17.9	95	4	66.7	6	6	50.0	12
2015	20	13.4	149	7	100.0	7	11	78.6	14
2016	2	1.1	185	2	28.6	7	2	13.3	15
2017	42	13.3	316	7	63.6	11	13	65.0	20
2018	83	24.5	339	8	72.7	11	15	75.0	20
2019	36	25.0	144	4	36.4	11	9	42.9	21

Data in WHO HQ as of 24 Sept. 2019

AFG and PAK

Surveillance Indicators, rolling 12M and 6M



Population under 15 < 100 000

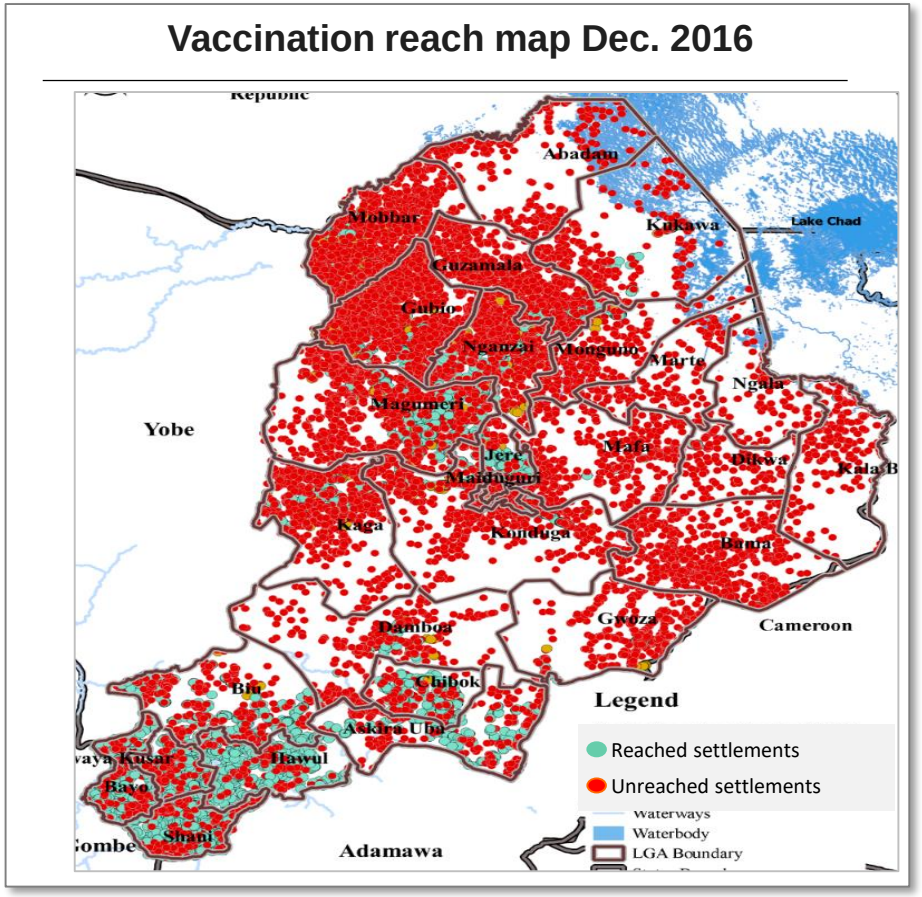
No AFP case

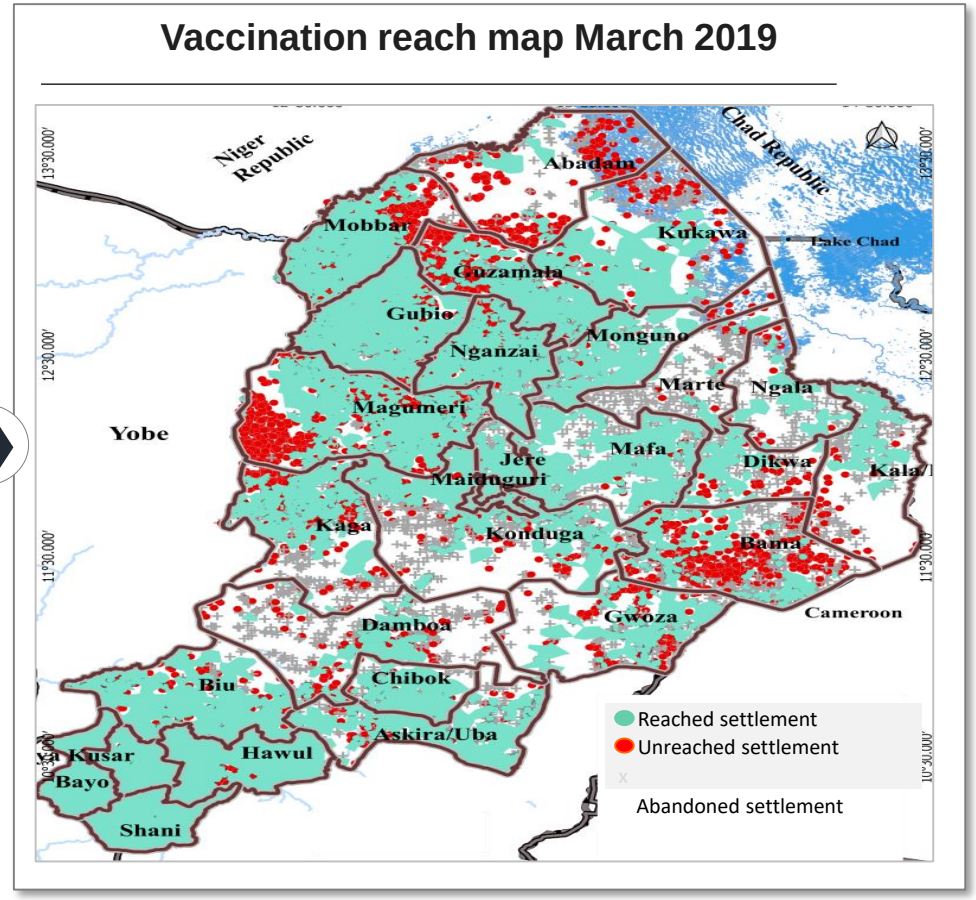
Denominator < 10

0 Dose npAFP Case (6-59m)

Data in WHO HQ as of 24 Sep. 2019

WPV in Africa: No WPV in 36 months



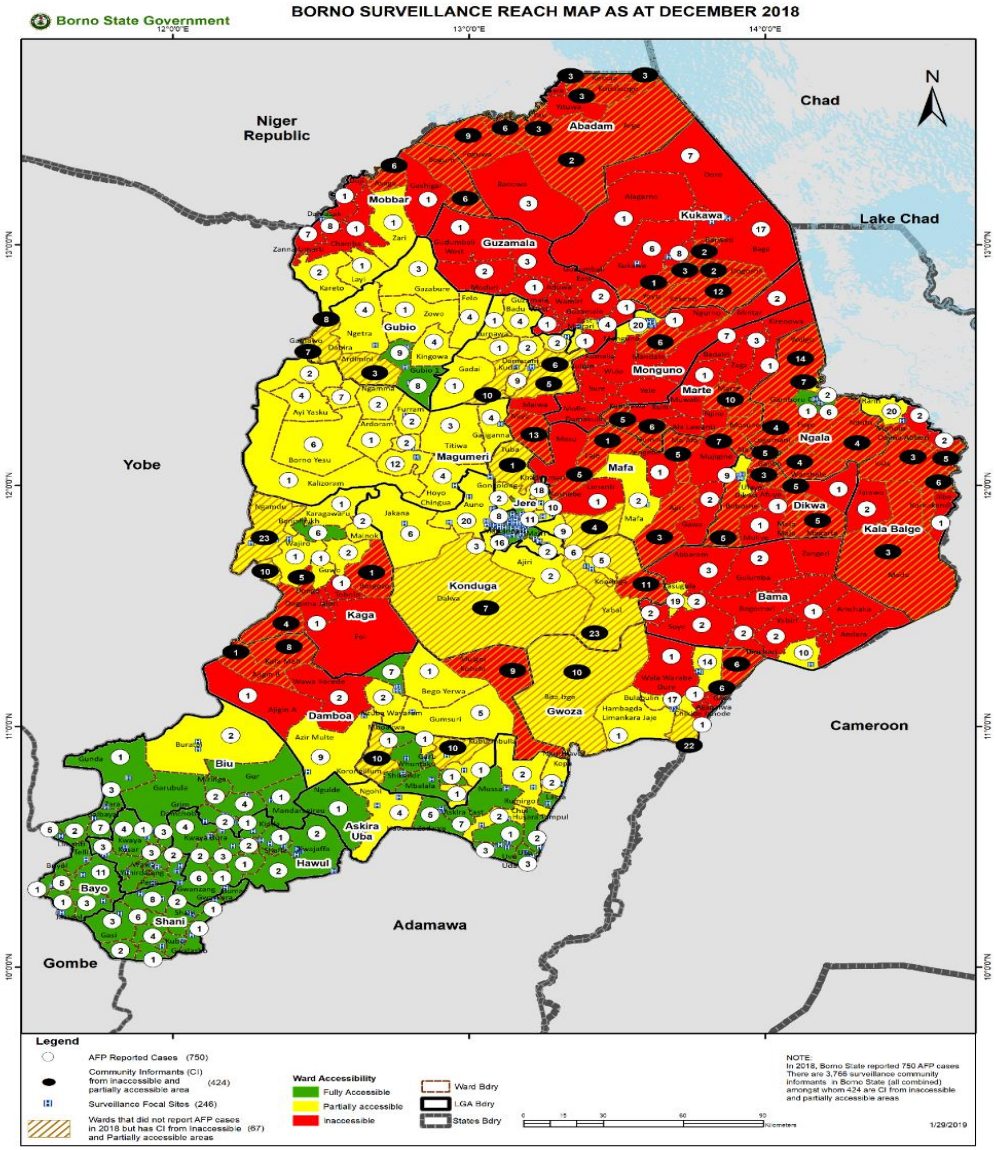


Source: Borno EOC data team analysis

- Last virus 27 September 2016 in healthy child in Borno
- Last Case 21 August 2016
- **August 2016, ~ 600,000 children** unreached across over 10,000 communities
- **February 2019, ~ 60,500 children** remain unreached in ~ 3,000 settlements

Surveillance Reach, Borno, 2018

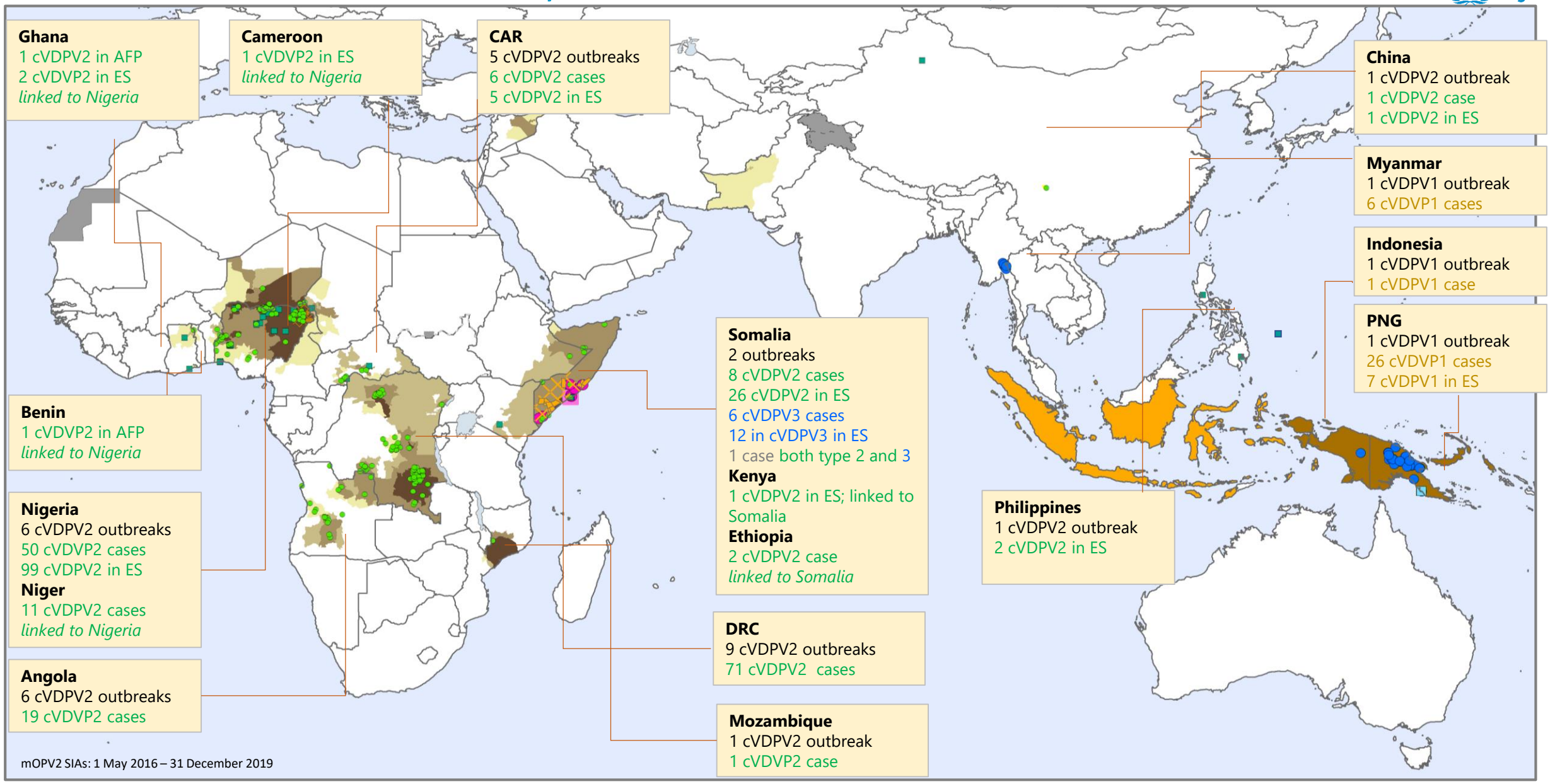
- 17% of 2018 AFP cases in Borno State reported from security compromised areas, including 6 from Lake Chad islands
- Program has engaged at least one **community informant** from 61 of the 77 inaccessible non reporting wards
- Abadam (3 AFP cases) and Marte (12 AFP cases) no longer silent thanks to community informants
- 3 of 5 cVDPV2 AFP cases in Borno state were from partially accessible areas and reported by community informants



cVDPVs Outbreaks

Summary of current cVDPV Outbreaks, 2017-2019

World Health Organization



cVDPV Type1 - Cases
cVDPV Type2 - Cases
cVDPV Type3 - Cases
cVDPV Type1 - ES
cVDPV Type2 - ES
cVDPV Type3 - ES

mOPV2 rounds: 1, 2, 3 - 4, 5 - 9+

bOPV rounds: 1, 2, 3 - 4, 5 - 9

Data in WHO HQ as of 24 Sep. 2019

Global Circulating Vaccine-derived Poliovirus (cVDPV)[1,2,3]

World Health Organization

Country	AFP cases (Paralysis onset between 2000-2019)						Other sources (Human)[5] (collection between 2015-2019)						Other sources (Environment) (collection between 2015-2019)					
	cVDPV1																	
	2015	2016	2017	2018	2019	Onset of most recent case	2015	2016	2017	2018	2019	most recent collection date	2015	2016	2017	2018	2019	most recent collection date
Myanmar					6	29-Aug-19					12	18-Jun-19						
Indonesia				1		27-Nov-18					2	13-Feb-19						
PNG				26		18-Oct-18				7		20-Sep-18				7		06-Nov-18
Laos	8	3				11-Jan-16	6	5				09-Feb-16						
Madagascar	10					22-Aug-15	1					01-Aug-15						
Ukraine	2					07-Jul-15												
Mozambique						02-Jun-11												
China						11-Nov-04												
Philippines						26-Jul-01												
DOR/Haiti						12-Jul-01												
Total type 1	20	3	0	27	6		7	5	0	7	14		0	0	0	7	0	
	cVDPV2																	
Country	2015	2016	2017	2018	2019	Onset of most recent case	2015	2016	2017	2018	2019	most recent collection date	2015	2016	2017	2018	2019	most recent collection date
Nigeria	1	1		34	16	08-Aug-19		2[2]		53	19	24-Jul-19	2	1		44	55	27-Aug-19
Philippines																	2	22-Aug-19
Central African Republic					6	30-Jul-19					31	22-Aug-19					5	21-Aug-19
Angola					19	15-Aug-19					14	30-Jul-19						
DRCongo			22	20	30	26-Jul-19			19	15	16	14-Aug-19						
Ghana					1	23-Jul-19											2	13-Aug-19
Ethiopia					2	22-Jul-19					3	29-May-19						
Benin					1	30-Jun-19												
China					1	25-Apr-19					1	14-Jun-19				1		18-Apr-18
Somalia				6[6]	3	08-May-19				3	2	25-May-19			2	19		11-Oct-18
Cameroon						12-Aug-13											1	20-Apr-19
Niger				10	1	03-Apr-19				4	6	16-Mar-19						
Mozambique				1		21-Oct-18				2		17-Dec-18						
Kenya						29-Aug-12										1		21-Mar-18
Syria			74			21-Sep-17		1[4]	66			12-Sep-17						
Pakistan	2	1				17-Dec-16							7	4				28-Dec-16
Guinea	7					14-Dec-15												
Myanmar	2					05-Oct-15												
South Sudan						12-Sep-14												
Chad						12-May-13												
Afghanistan						13-Mar-13												
Yemen						05-Oct-11												
India						18-Jan-10												
Madagascar						13-Jul-05												
Total type 2	12	2	96	71	80		0	3	85	77	92		9	5	2	65	65	
	cVDPV3																	
Country	2015	2016	2017	2018	2019	Onset of most recent case	2015	2016	2017	2018	2019	most recent collection date	2015	2016	2017	2018	2019	most recent collection date
Somalia				7[6]		07-Sep-18				2		29-Jun-18				12		23-Aug-18
Yemen						12-Jul-13												
Ethiopia						17-May-10												
Cambodia						15-Jan-06												
Total type 3	0	0	0	7	0		0	0	0	2	0		0	0	0	12	0	

Environmental surveillance for poliovirus in selected sewage sites established and working

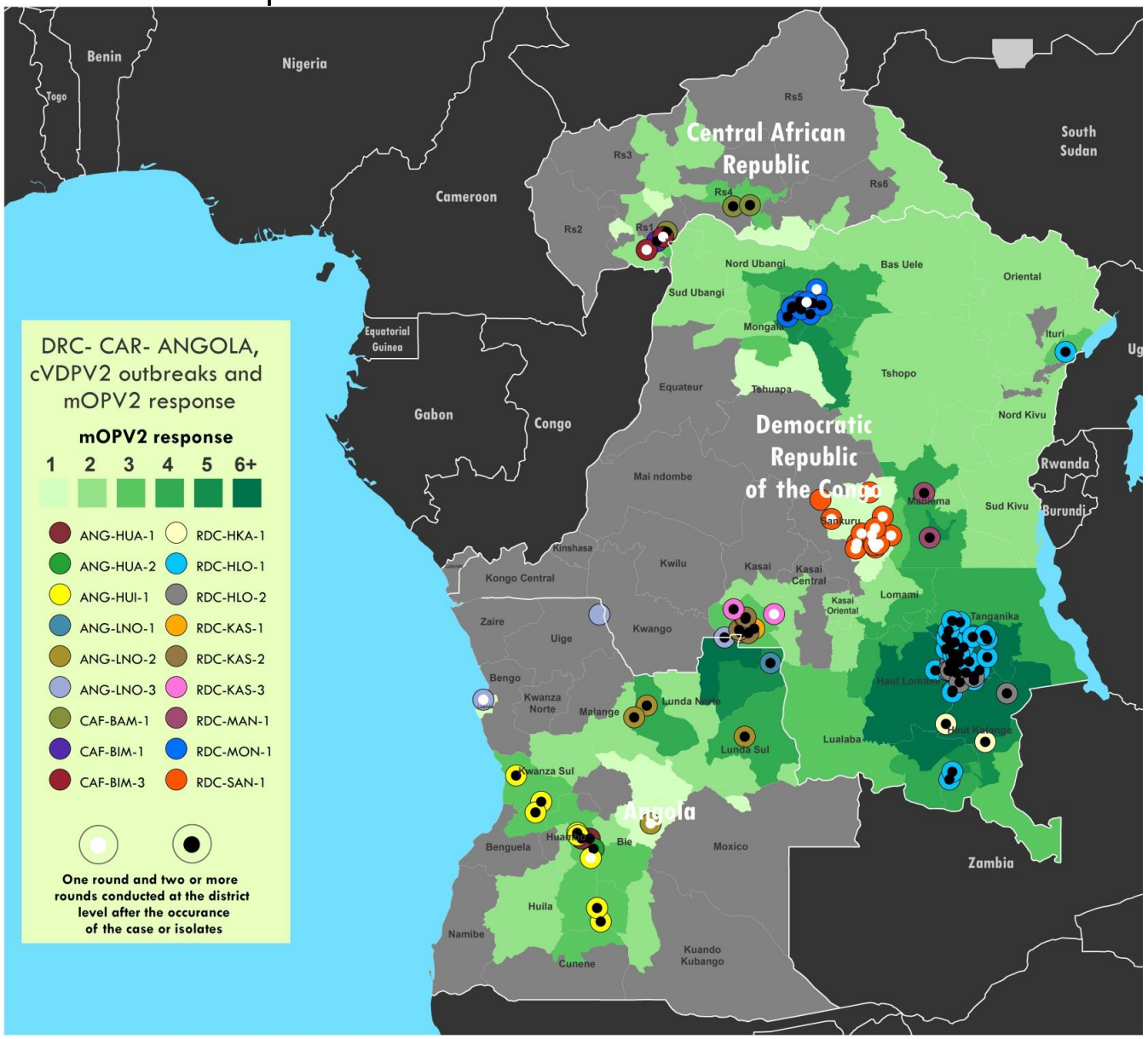
Changes from previous week

[1]For cVDPV definition see http://polioeradication.org/wp-content/uploads/2016/09/Reporting-and-Classification-of-VDPVs_Aug2016_EN.pdf . Niger 2006, Niger 2009, Niger 2010, Chad 2010 cVDPVs are linked to the Nigeria outbreak. Kenya 2012 cVDPVs are linked to the Somalia outbreak. Nigeria figures include cases with WPV1/cVDPV2 mixture: 2005 - 2, 2006 - 1, 2007 - 1, 2008 - 3, 2009 - 1, 2011 - 1; WPV3/cVPDV2 mixture: 2007 - 2. [2] include a cVDPV2 from a contact of a WPV1 case in Nigeria. [3]Figures include multiple emergences. [4] stool collected in Sep - 2016 but the final result was reported in 2017. [5] Include contact, healthy and community samples . Positive contact of a negative index AFP case double counted in both AFP cases and other sources count . [6] 1 cVDPV2 and cVDPV3 isolated from one child .

Data in WHO HQ as of 24 Sep. 2019

DRC, Angola and CAR cVDPV2 outbreaks, 2019

post-switch mOPV2* rounds



Highlights

DRC

- Total 10 distinct post switch cVDPV2 outbreaks reported
- Of the total 10 outbreak, 5 have not reported any virus for more than 6 months.
- Five outbreaks (KAS-2,Kas-3 HLO-2, SAN-1 and TPA-1) reported cases in last 6 month are localized.
- All outbreak have been responded with at least 3 rounds of mOPV2.

Angola

- Total 6 different post switch cVDPV2 outbreaks reported.
- 5 of the total 6 outbreaks are localized. Sixth outbreak (HUI-1) have been widely spread

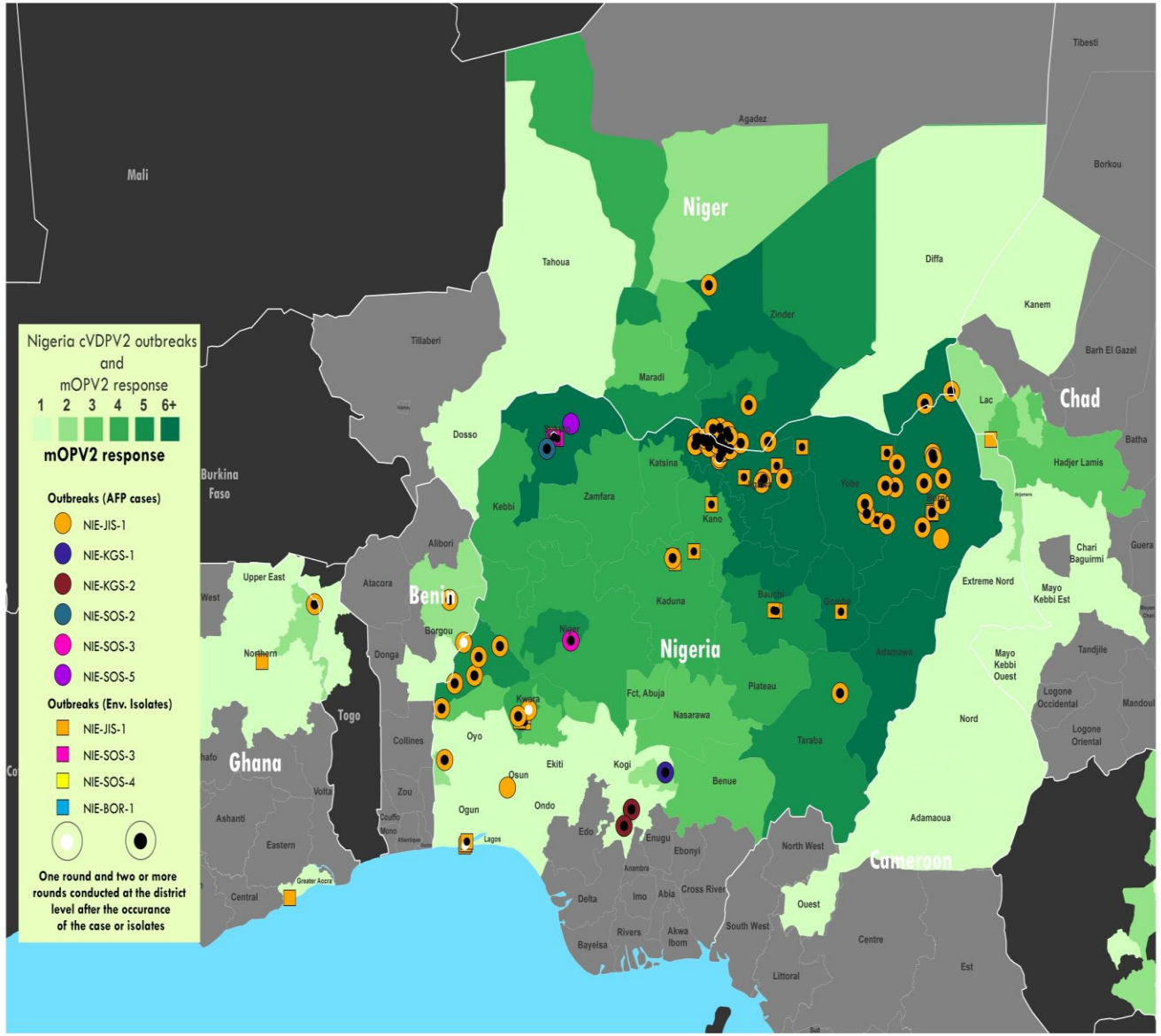
CAR

- Total 5 different post switch cVDPV2 outbreaks reported.
- All 5 outbreaks are are localized.
- mOPV2 Rounds have been conducted and planned in all the infected districts

Data in WHO HQ as of 24 Sep. 2019

Nigeria, Niger, Cameroon, Benin and Ghana cVDPV2 outbreaks, 2019

post-switch mOPV2* rounds



Highlights

Nigeria and surrounding countries

- Total 7 distinct post-switch cVDPV2 outbreaks reported
- Of the total 7 current outbreaks, 2 has not reported any virus for more than 6 months. 5 have last virus within last 6 months.
- Of the five current outbreaks (SOS-4, SOS-5, KGS-1, KGS-2 and JIS-1), 4 are localized,
- Both duration and geographic spreads of Jigawa outbreak within Nigeria and to neighboring countries: Niger, Benin, Ghana and Cameroon, have led massive response with multiple mOPV2 rounds.
- AFP surveillance strengthening activities are being implemented in Western Africa to detected possible circulation of cVDPV2.

*from 1 May 2016 to 31 Dec 2019

Data in WHO HQ as of 24 Sep. 2019

cVDPV2 International Spread

2014 – 2017 – no international spread of cVDPV2

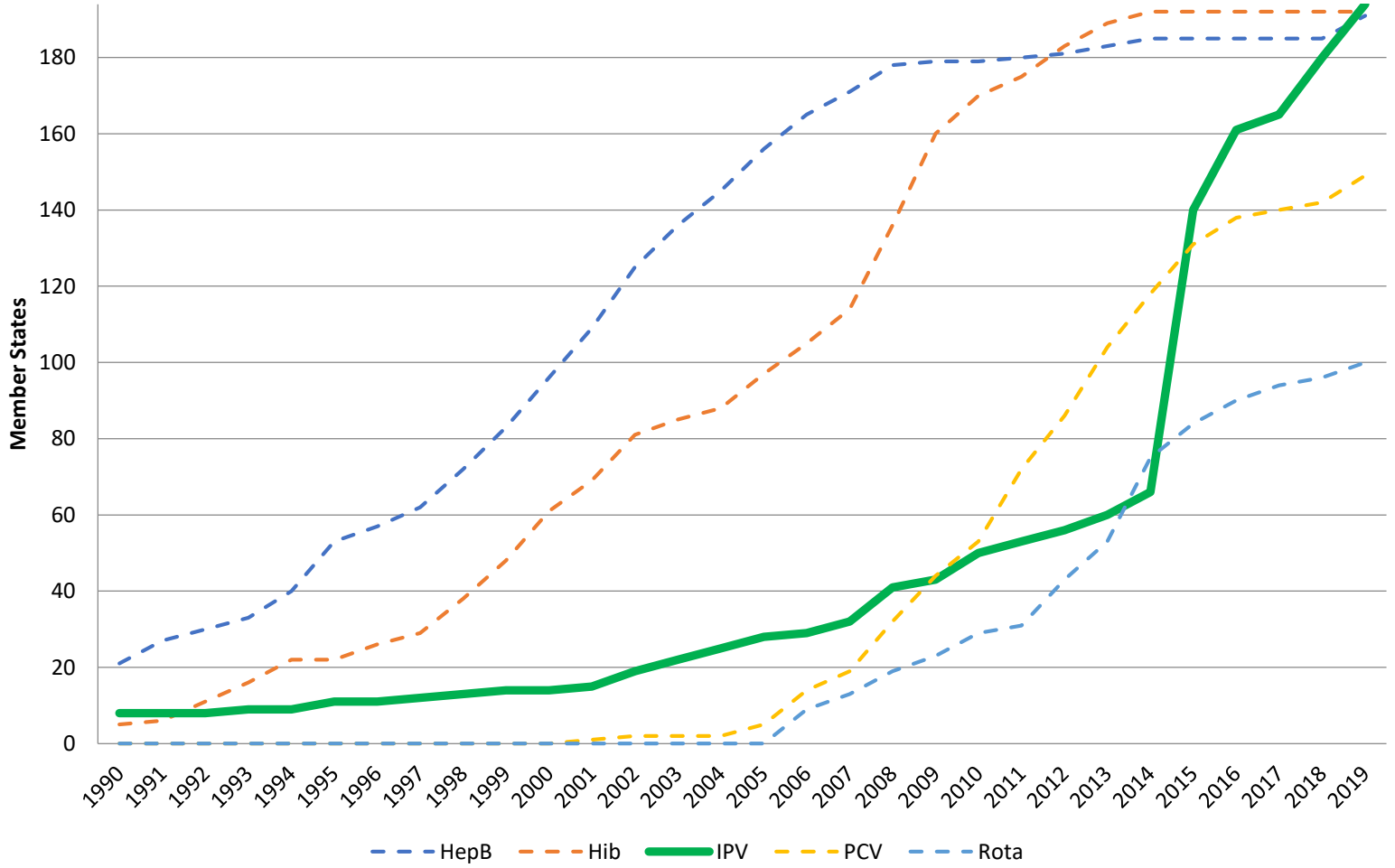
2018

- SOM to KEN, no further spread
- NIE to NER, no further spread

2019

- SOM to ETH, no further spread
- NIE to CAE, no further spread
- NIE to GHA, no further spread
- NIE to BEN, no further spread

IPV introduction completed April 2019



Source: WHO/IVB database, Immunization Repository

IPV introduction in RI

- Despite this achievement, approximately **42 million children** missed in “low risk” countries affected by supply shortages
- However, catch ups have started in 2019
  - Doses made available for 35% of the missed cohort by end 2019
  - In 2020 doses should be available for most of the catch ups
- IPV routine use in high risk countries has improved slightly but continues to be low

Certification

Certification of WPV3 eradication

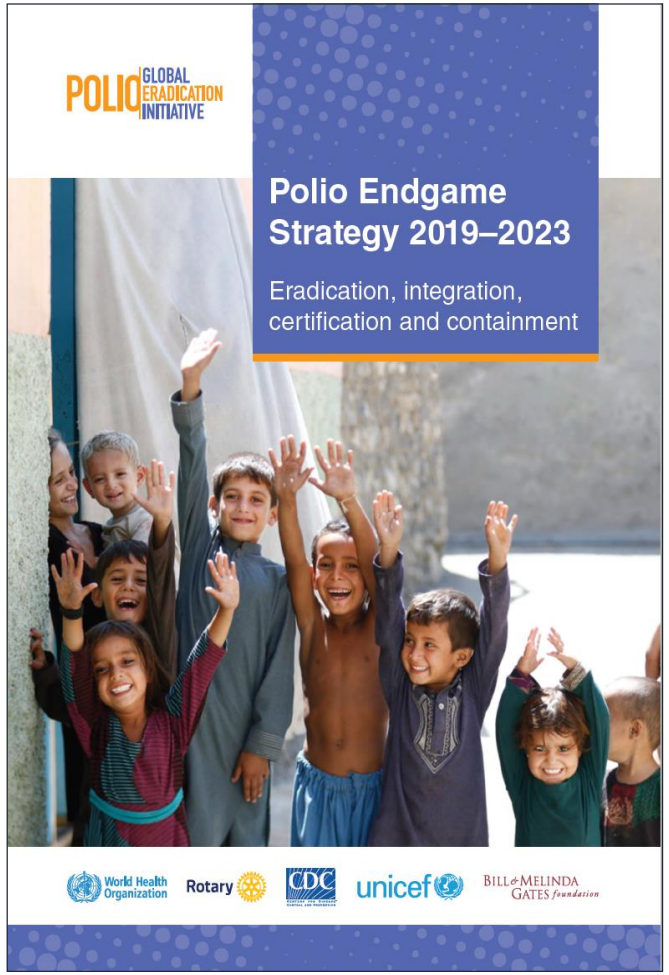
Asia : Last case in FATA, Pakistan : April, 2012;

Africa : Last case in Yobe, Nigeria: November, 2012

GCC: *"Certification of WPV3 eradication can proceed"*

- All regional committees to submit data to GCC
- Process to be completed in Early October
- Communication challenges in the face of cVDPV outbreaks

Polio Endgame Strategy
2019-2023 Goals



Eradication

- Interrupt transmission of all wild poliovirus (WPV)
- Stop all circulating vaccine-derived poliovirus (cVDPV) outbreaks within 120 days of detection and eliminate the risk of emergence of future VDPVs

Integration

- Contribute to strengthening immunization and health systems
- Poliovirus surveillance integration with comprehensive vaccine-preventable disease (VPD)
- Prepare for and respond to future outbreaks and emergencies

Certification & Containment

- Certify eradication of WPV
- Contain all polioviruses

Initial progress with strategy implementation

- Pakistan/Afghanistan hub framework finalized and an interim Hub being established
- Staff being deployed by all partners (to be completed by March)
- Dedicated Rapid Response Team established in AFRO
- Intensified collaboration with Gavi
  - Engagement in all GPEI management groups
  - Accountability framework to monitor progress
  - Strengthening RI post initial outbreak response (PNG)
  - Focus on high-risk polio districts

Priority activities-Next 6 month

Global

- Mobilise resources to rapidly and fully finance the programme (Contingency budgeting already undertaken for 2019-2020)

Endemic countries

- High level Political advocacy with Pakistan and support to reset the programme
- Fully staff and operationalize Pakistan/Afghanistan hub (mid September retreat)
- Gain access and resume vaccination in Afghanistan

Outbreak Countries

- Radically improve speed and quality of vaccination responses
- Secure sufficient quantities of mOPV2 for stockpile (identify new Fill and Finish capacity)
- Accelerate development and EUL of nOPV2
- Further improve surveillance in all outbreak countries and beyond
- Collaborate with EPI to build capacity to mitigate risks