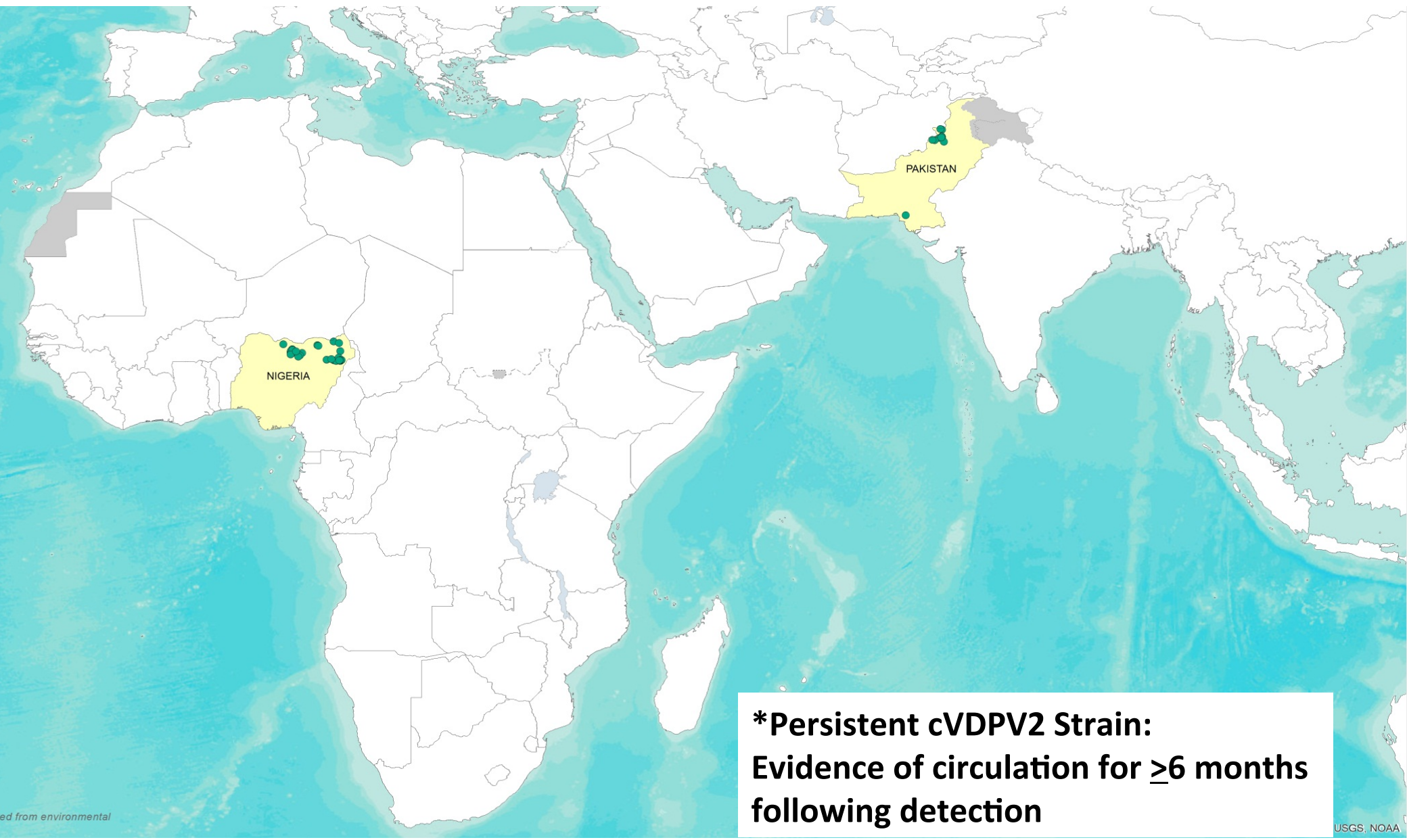


Progress Toward Elimination of Persistent cVDPV2

SAGE Meeting, 14 April 2015

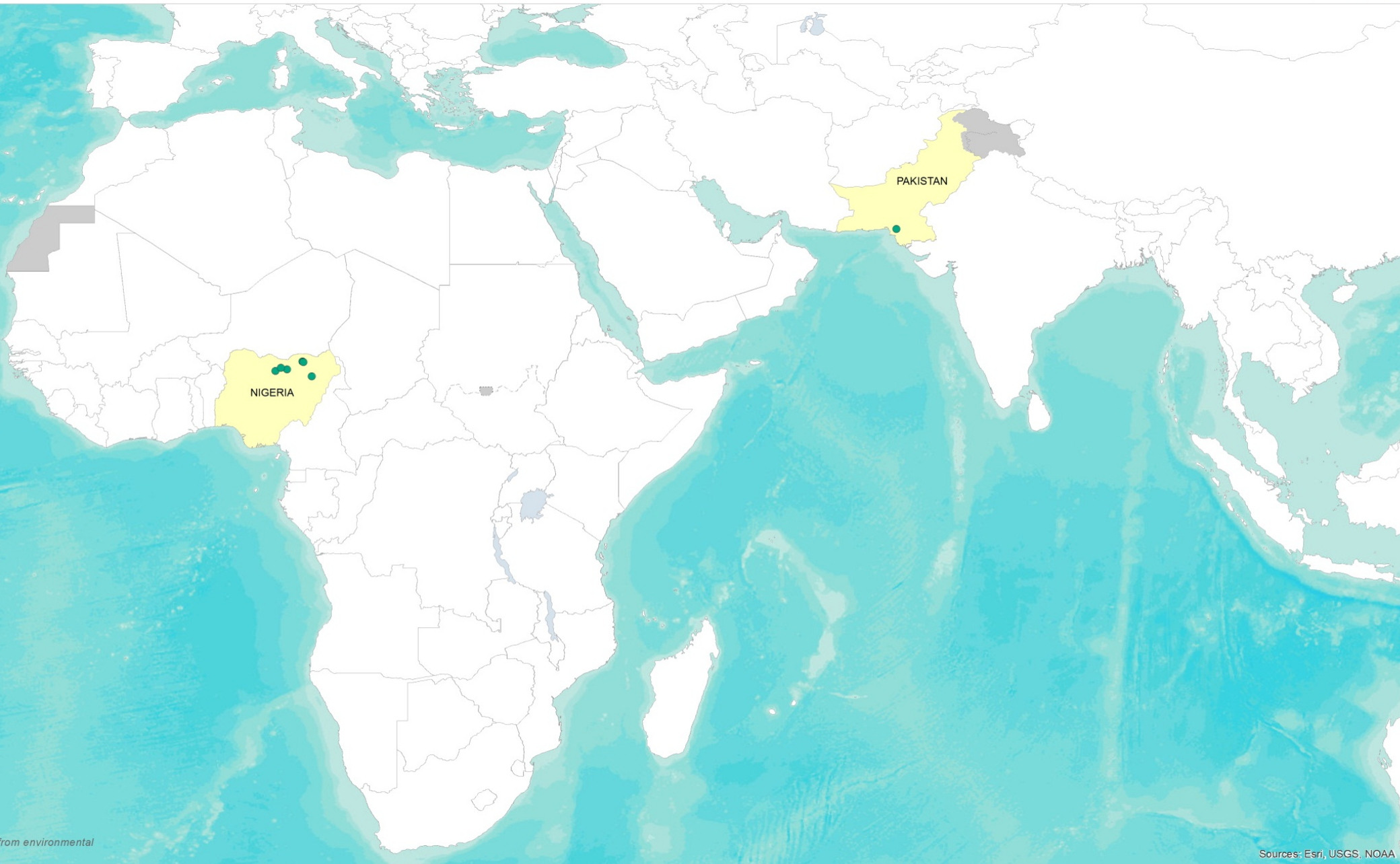
Persistent* Circulating Vaccine-Derived Poliovirus type 2 (cVDPV2) Cases - Last 12 months



***Persistent cVDPV2 Strain:**
Evidence of circulation for ≥ 6 months
following detection

Persistent cVDPV2 Cases - Last 6 months

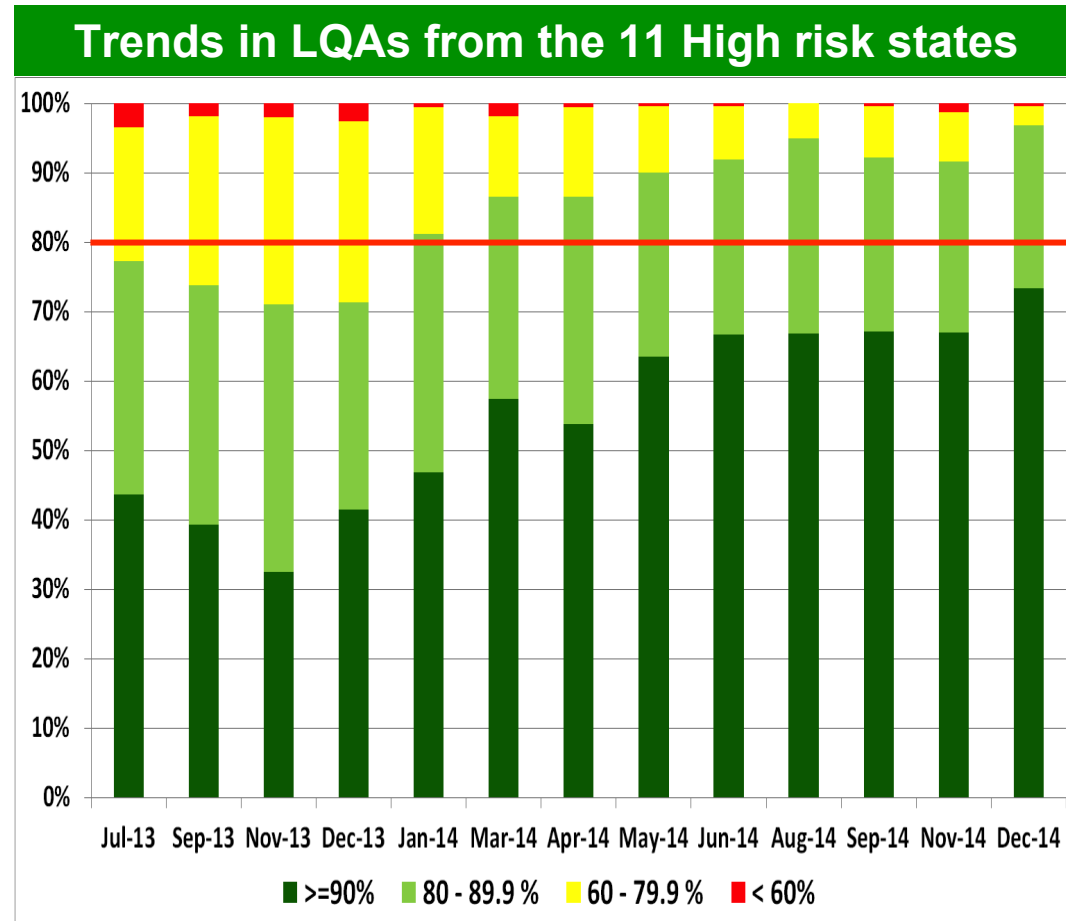
MAP DATE: 10 April 2015, Version 1.0



Progress in Nigeria

Substantial Improvement in Quality of SIAs in Nigeria

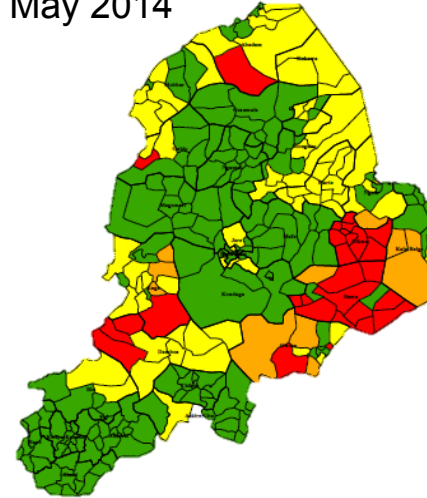
- Micro-planning, vaccination team selection
- Community engagement
- Accessing hard to reach
- Innovations, health camps, 'Directly observed vaccination'
- Monitoring, GPS tracking of teams, enforcing accountability framework



Vaccination in Insecure Areas of Northeast Nigeria

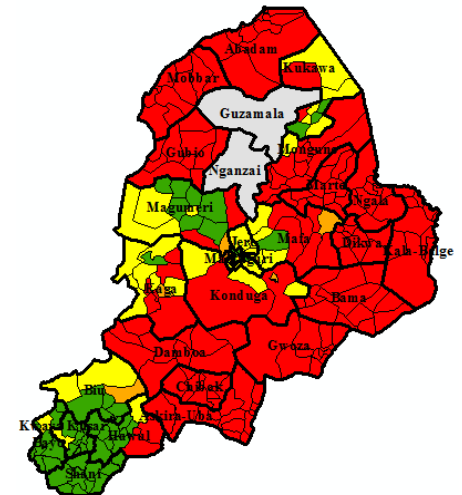
- Strategy adapted to access and security
- Health Camps
- MCH services and other 'pluses'
- Mapping and vaccination of displaced population
- 'Hit & Run' vaccination

May 2014



Est. inaccessible 251 K
(15%)

Dec 2014



Est. inaccessible 596 K
(60%)

Further Improved Surveillance in Nigeria

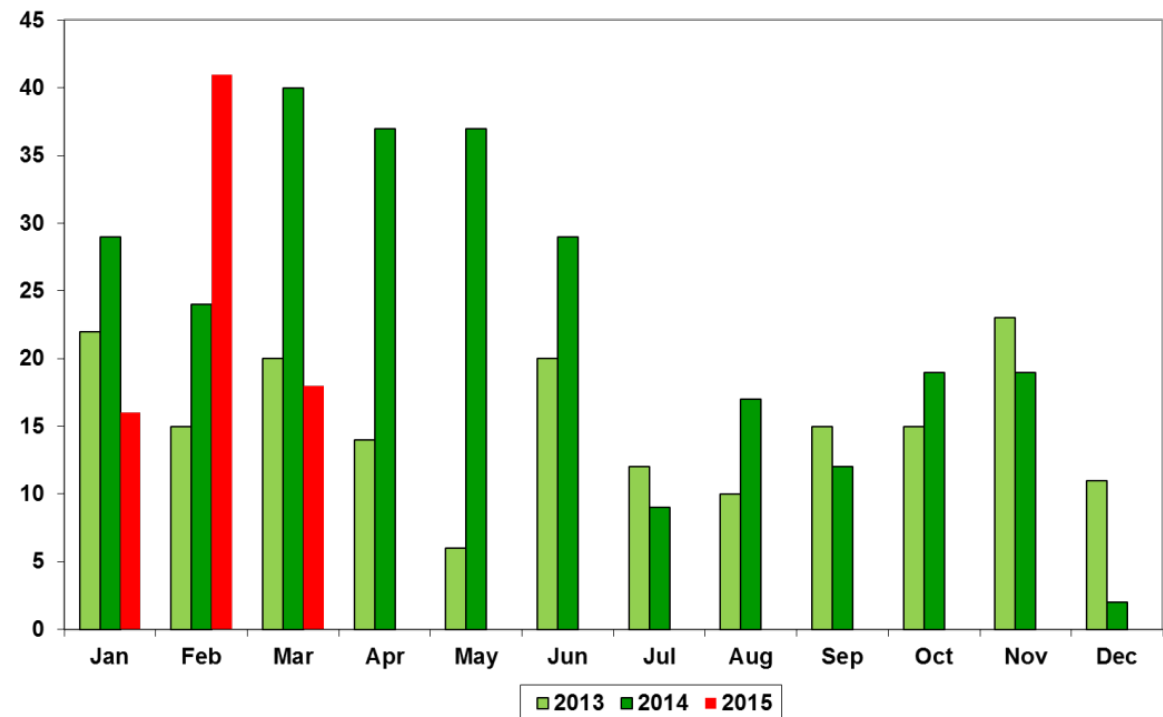
Strengths

- High NP-AFP rate (12.6)
- Expansion of environmental surveillance: 21→35 sites in 2014
- Contact specimens collection in Borno & Yobe starting in 2014

Challenges

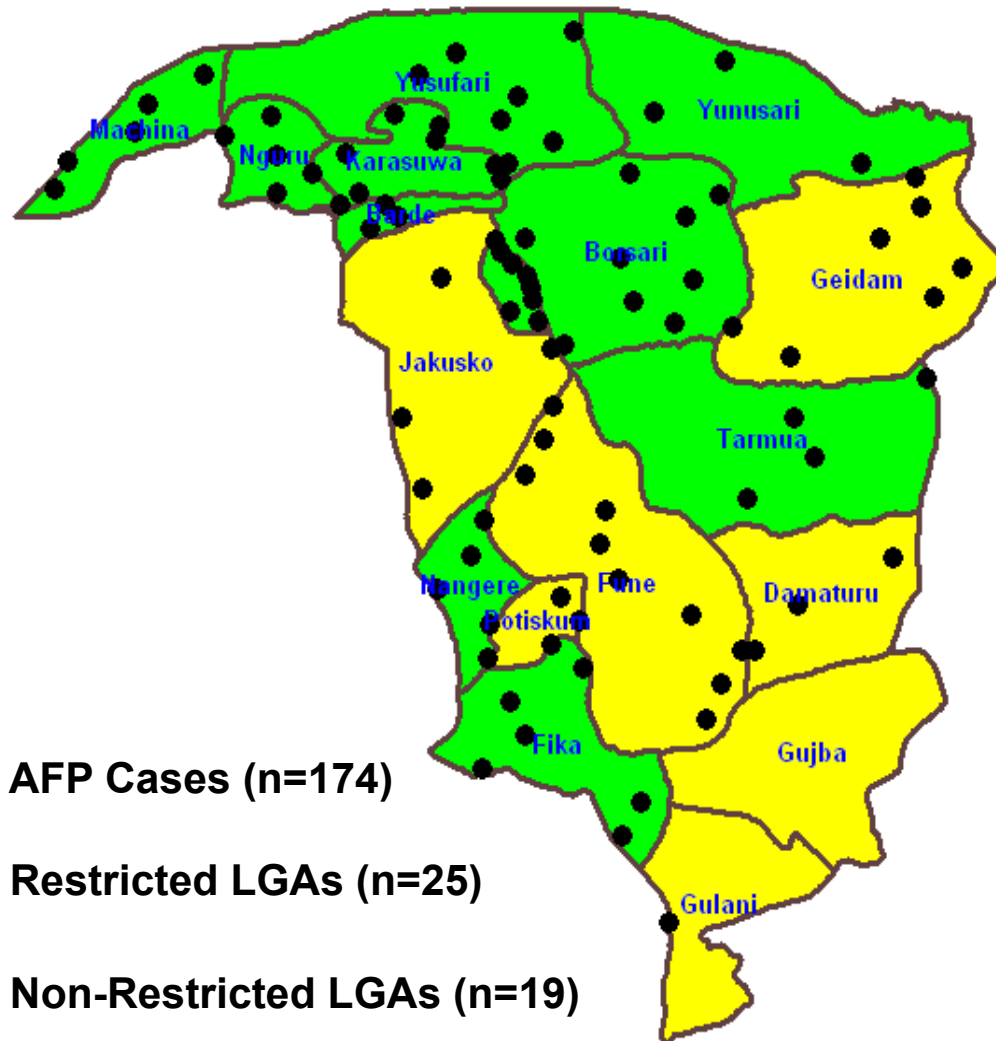
Increased insecurity (Borno)

**Borno State: Trends of AFP cases by month
Jan – Dec, 2013 – 2015 as at April 3, 2015**

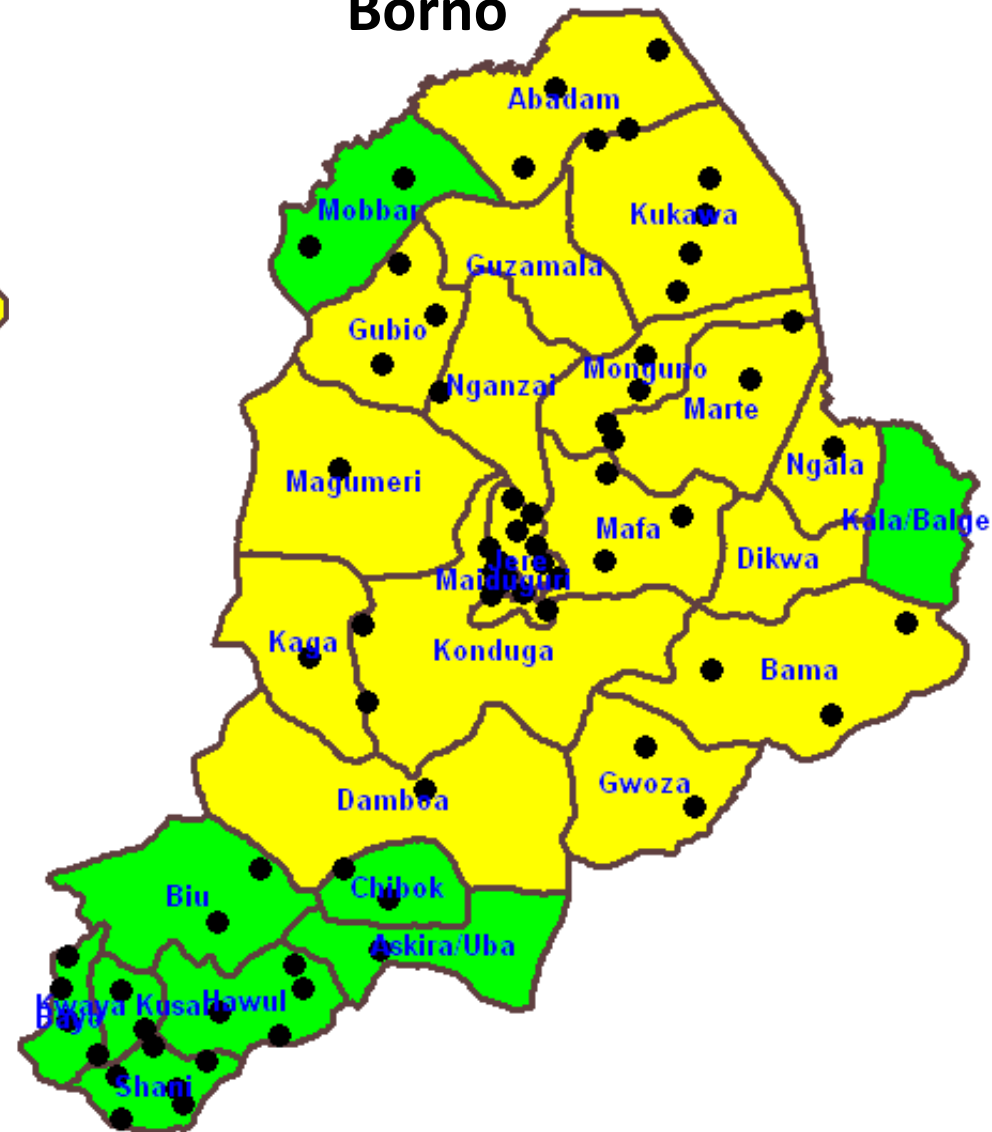


AFP cases reported from restricted & non restricted LGAs of Yobe & Borno States 2015*

Yobe



Borno



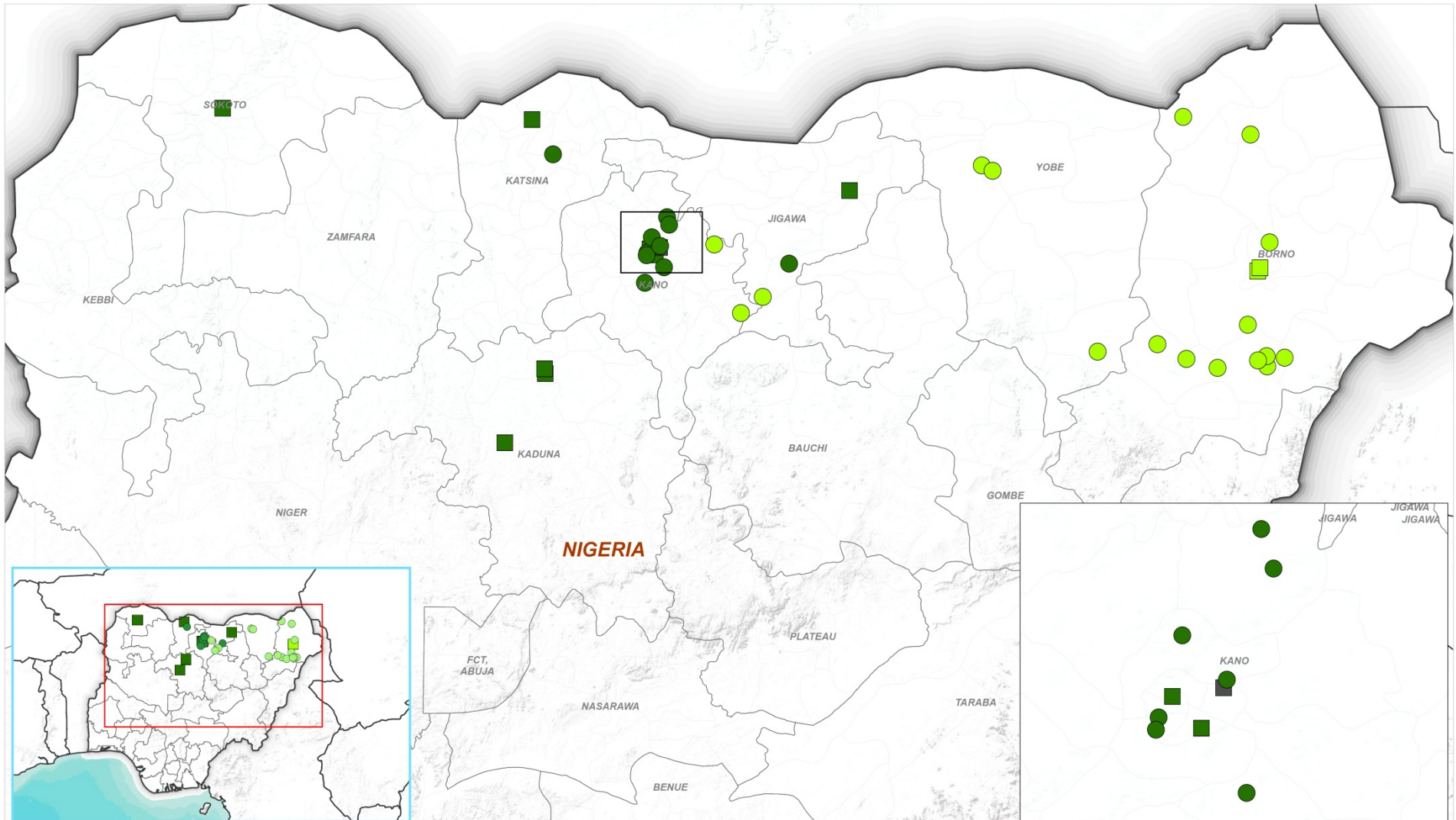
● AFP Cases (n=174)

Restricted LGAs (n=25)

Non-Restricted LGAs (n=19)

Persistent cVDPV2 cases & positive environmental sites

Last 12 months, Nigeria



Map Scale (A3): 1:3,000,453

1 cm = 30 km

Coordinate System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Data Source:

Admin. Boundaries: World Health Organization

Base Map: Esri, USGS, NOAA

Map Production: Global Polio Eradication

Initiative, World Health Organization

AFP cases



cVDPV-NIE-ORIGIN



cVDPV-CHAD ORIGIN

Environmental positive sites



cVDPV-NIE-ORIGIN



cVDPV-CHAD- ORIGIN

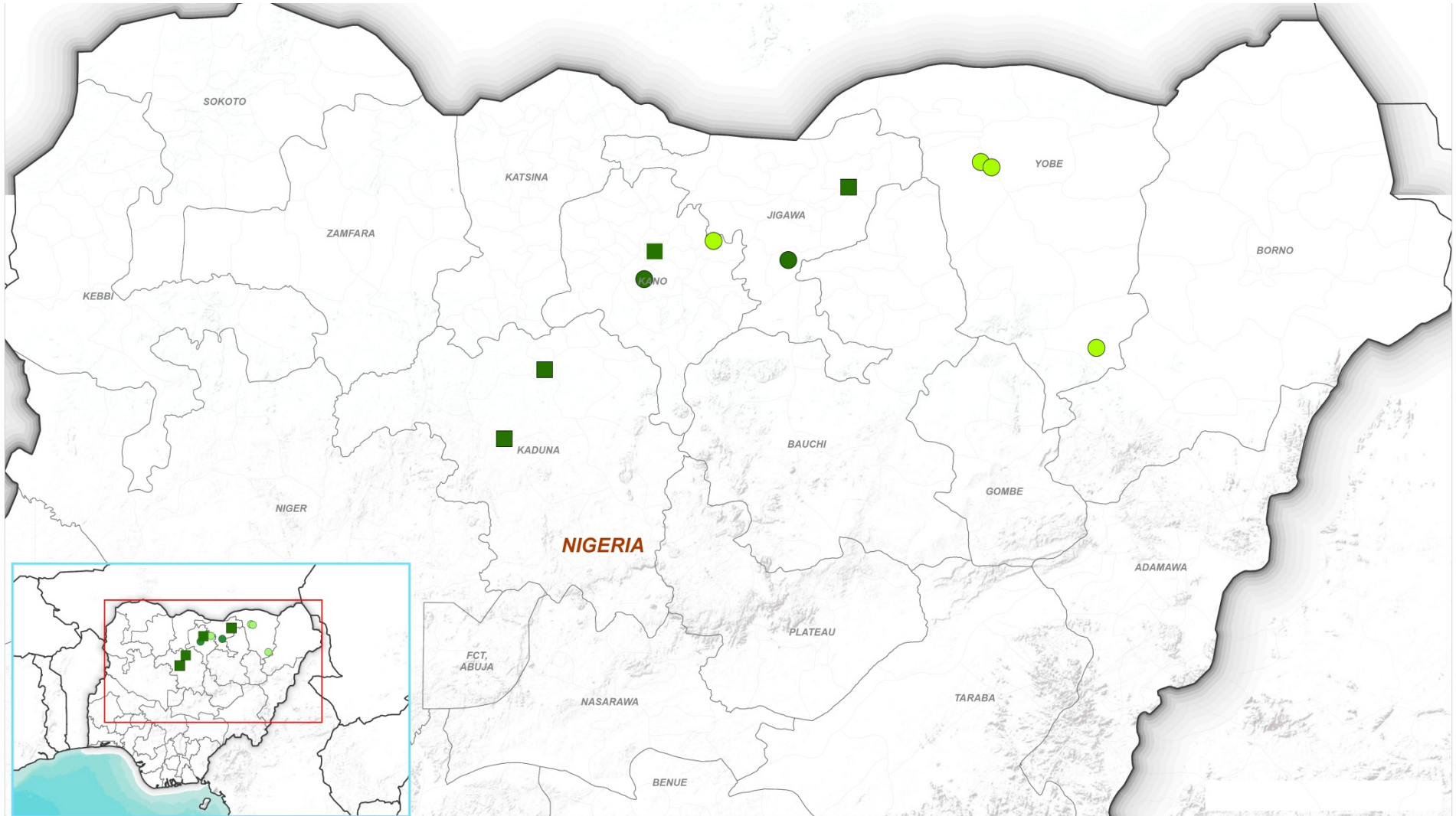


cVDPV-NIE+ CHAD-ORIGIN

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Persistent cVDPV2 cases & positive environmental sites

Last 6 months, Nigeria



Map Scale (A3): 1:3,000,453

1 cm = 30 km

Coordinate System: GCS WGS 1984

Datum: WGS 1984

Units: Degree



Data Source:

Admin. Boundaries: World Health Organization

Base Map: Esri, USGS, NOAA

Map Production: Global Polio Eradication Initiative, World Health Organization

AFP cases



cVDPV-NIE-ORIGIN



cVDPV-CHAD ORIGIN

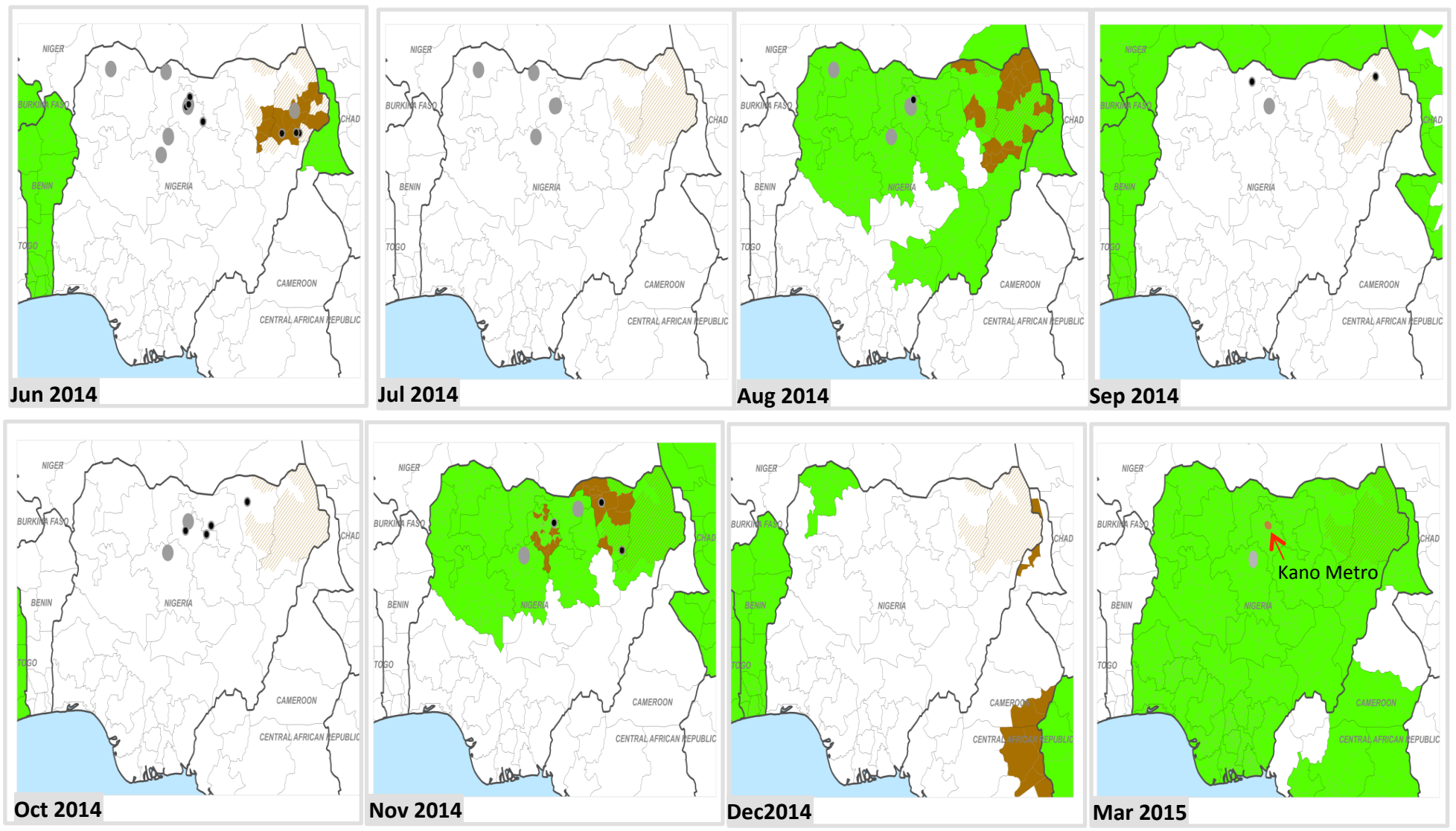
Environmental positive sites



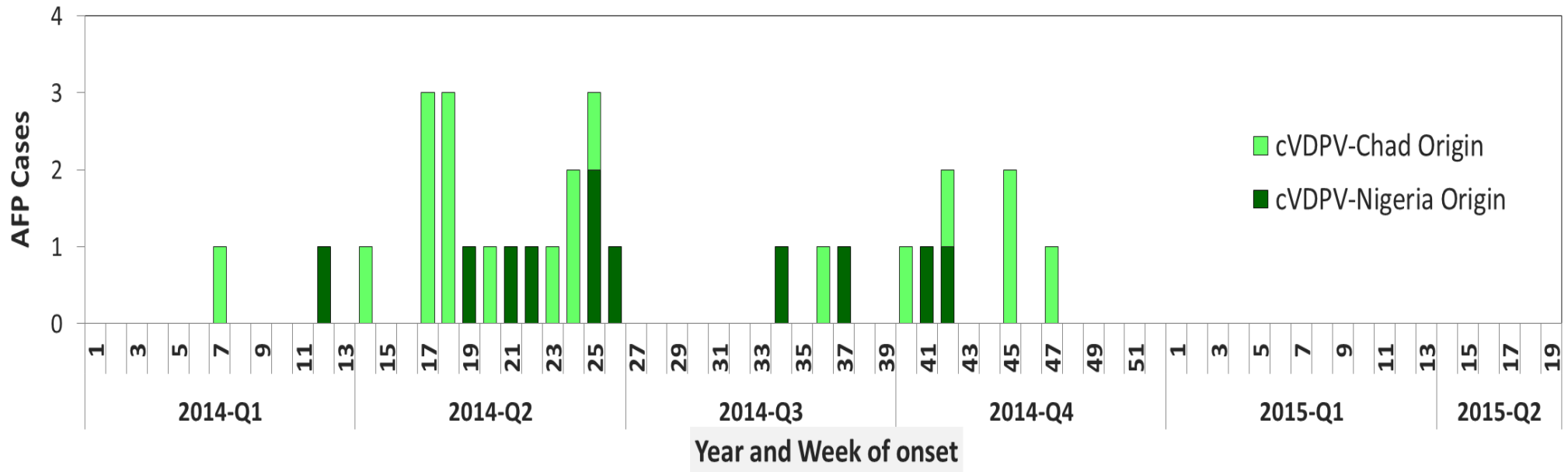
cVDPV-NIE-ORIGIN

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tOPV & tOPV+IPV SIAs conducted in Jun 2014 - Mar 2015, Nigeria

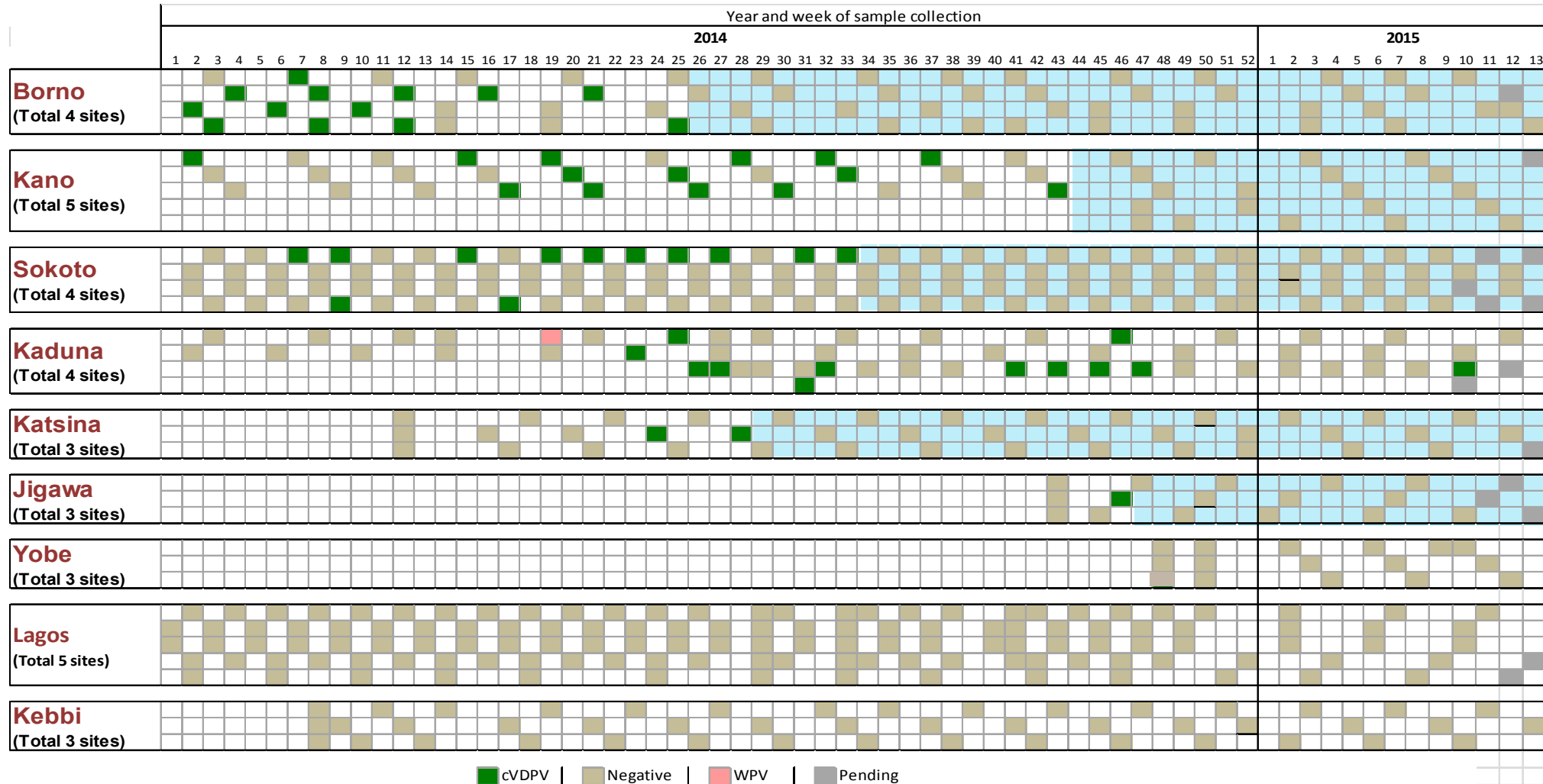


Cases of persistent cVDPV2, Nigeria by virologic group



Environmental Surveillance Results, Nigeria, 2014-15

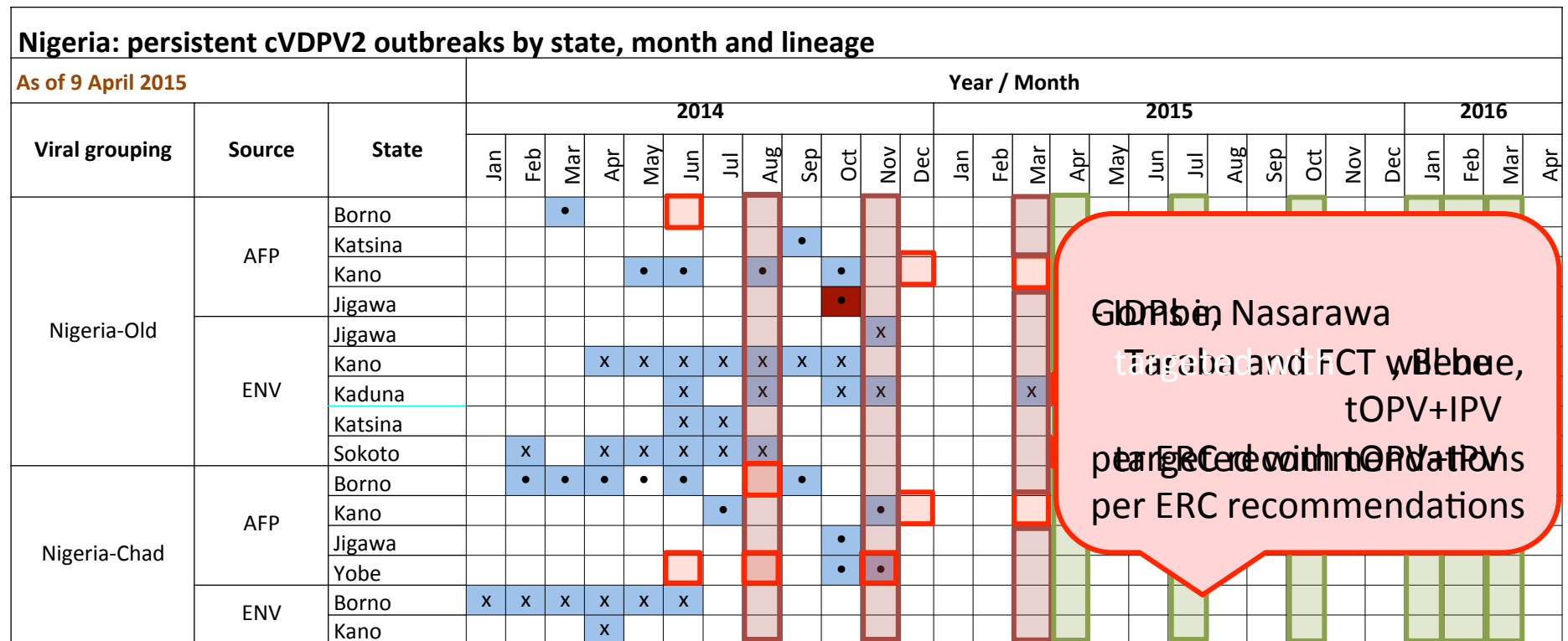
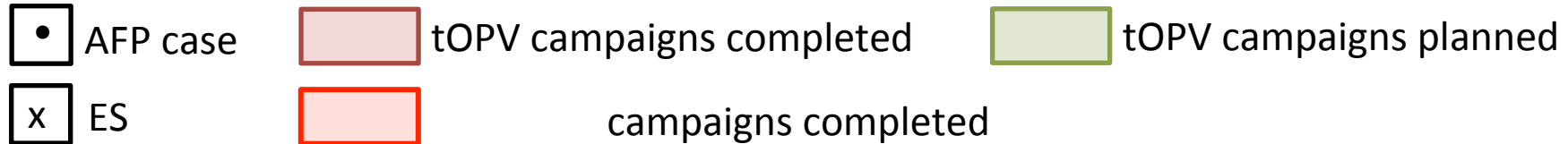
Persistent cVDPV2



Recommendations of the Expert Review Committee (ERC) Nigeria, Jan 2015

- Implement sufficient tOPV SIAs
- Track & Stop every chain of cVDPV2 transmission
- Aggressive mop-up of cVDPV2 detected from any source, covering multiple LGAs, if not statewide
- Prioritize introduction & strategic use of IPV in infected LGAs - (IPV introduced in RI in Feb 2015)

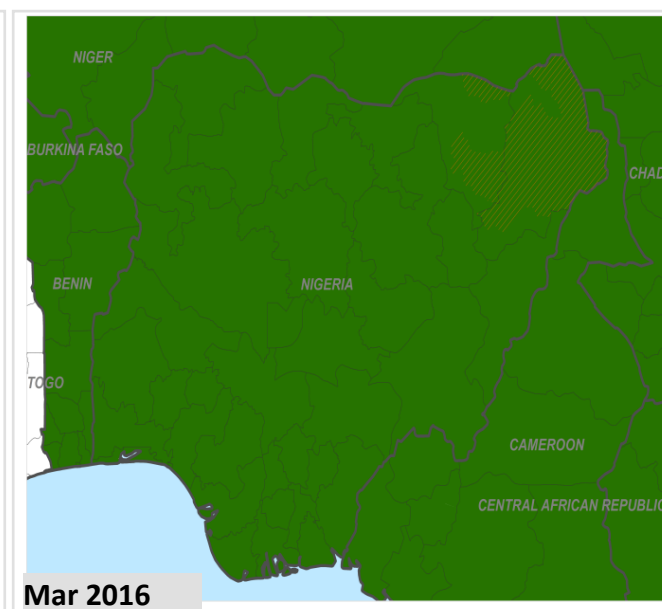
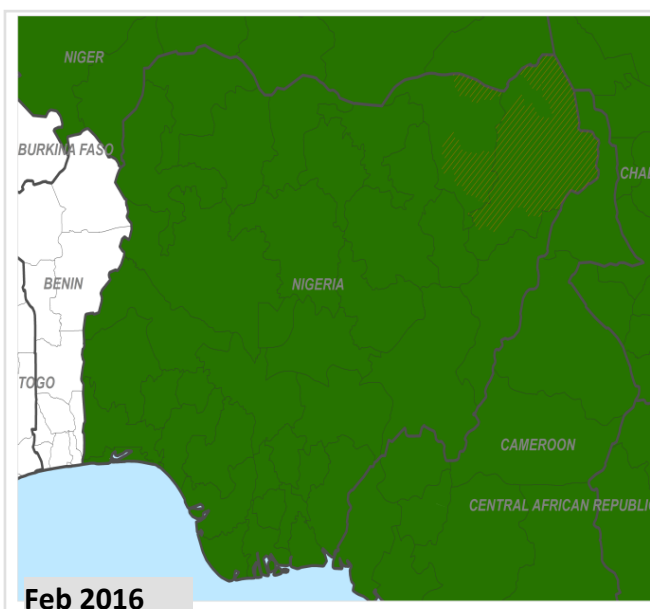
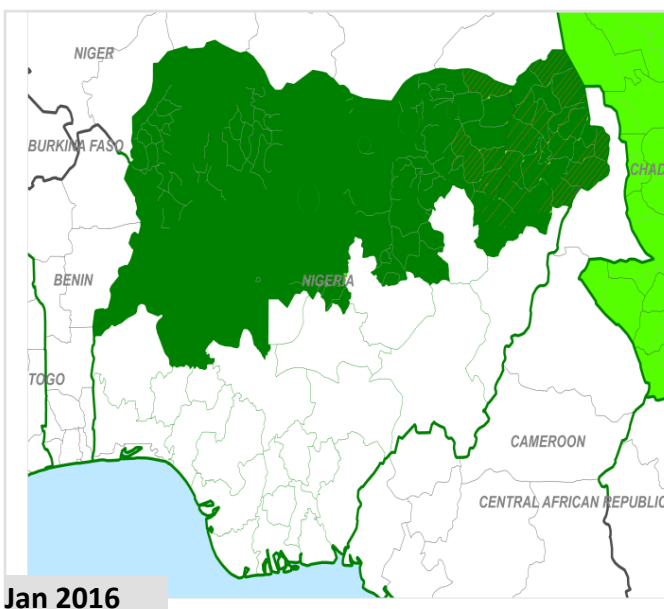
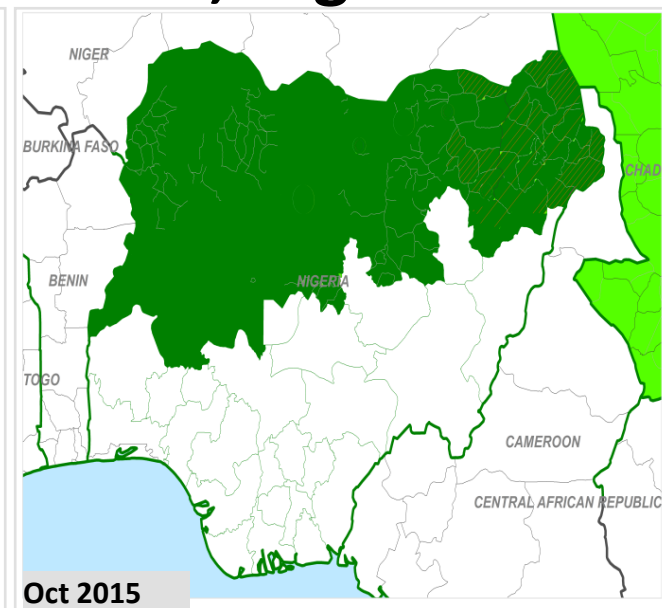
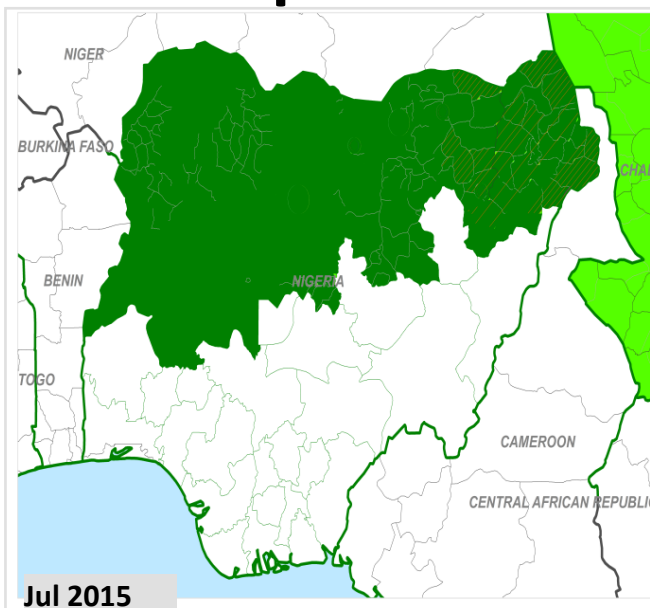
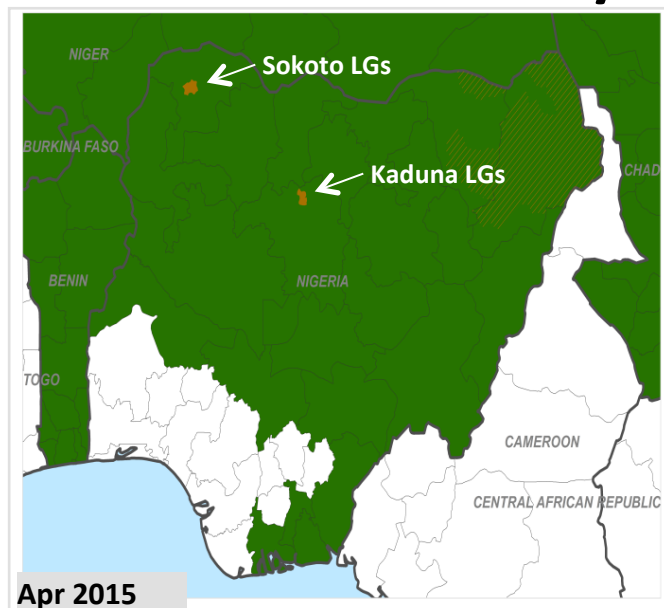
Persistent cVDPV2 in Nigeria



Gboko, Nasarawa
 Tugue and FCT Wuse, Abuja
 tOPV+IPV
 per ERC recommendations

The “Nigeria-Old” lineage was isolated from ES in March 2015 (last case in October).

Planned tOPV / IPV SIAs Apr 2015 – Mar 2016, Nigeria



tOPV+IPV SIAs planned
 tOPV SIAs planned

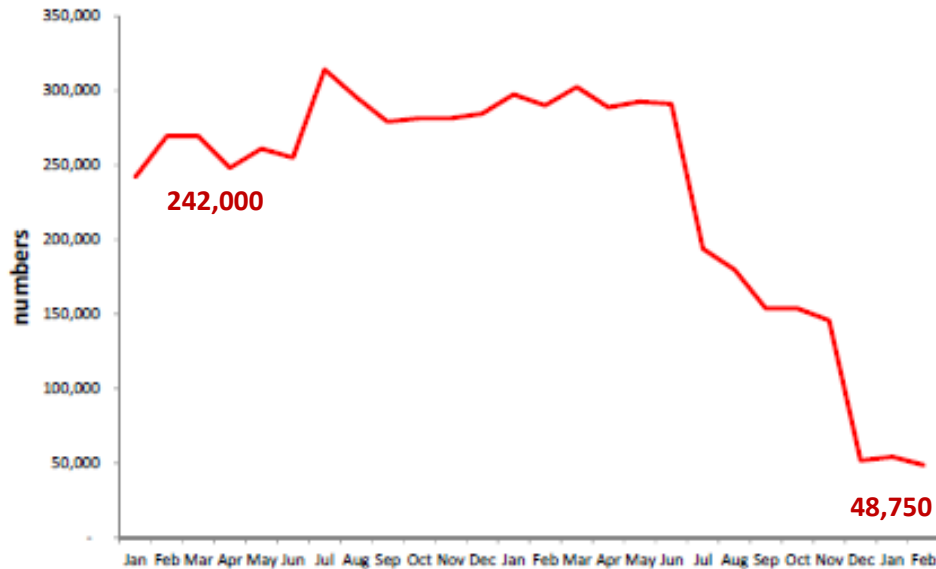
Nigeria Summary

- 2 persistent cVDPV2 strains in 2014
 - August and November 2014 campaigns in Borno and Yobe
 - After November 2014, 1 strain to OPV later mop-ups ES
- Sufficient response to cVDPV2 detected from any source
 - tOPV SIAs planned plus aggressive mop-ups in response to cVDPV2 detected from any source
- IPV introduced in RI in February 2015
- IPV introduced in RI in February 2015

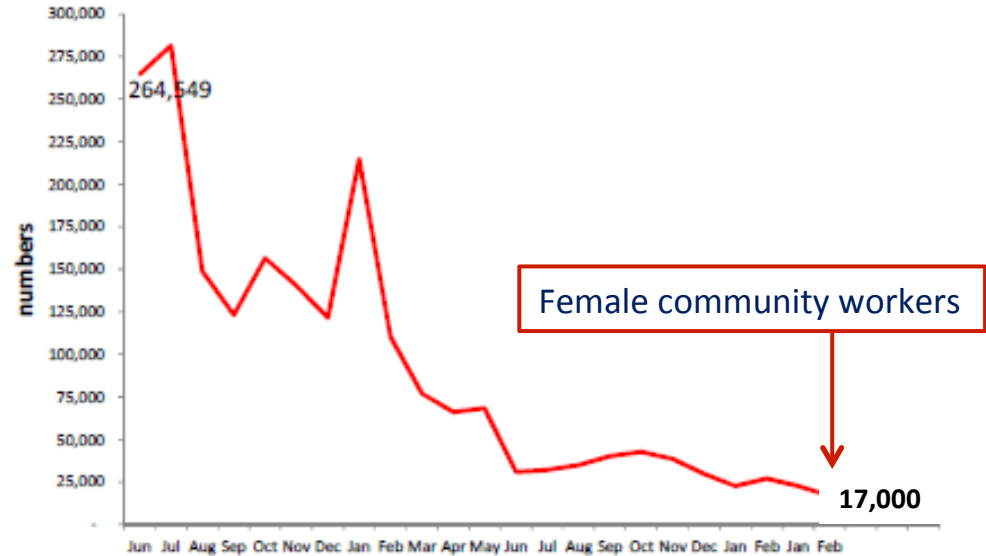
Progress in Pakistan

Access is improving in Pakistan

Unreached Children in FATA (Jan 2013 to Feb 2015)



Unreached Children in Karachi; June 2013 - Feb 2015



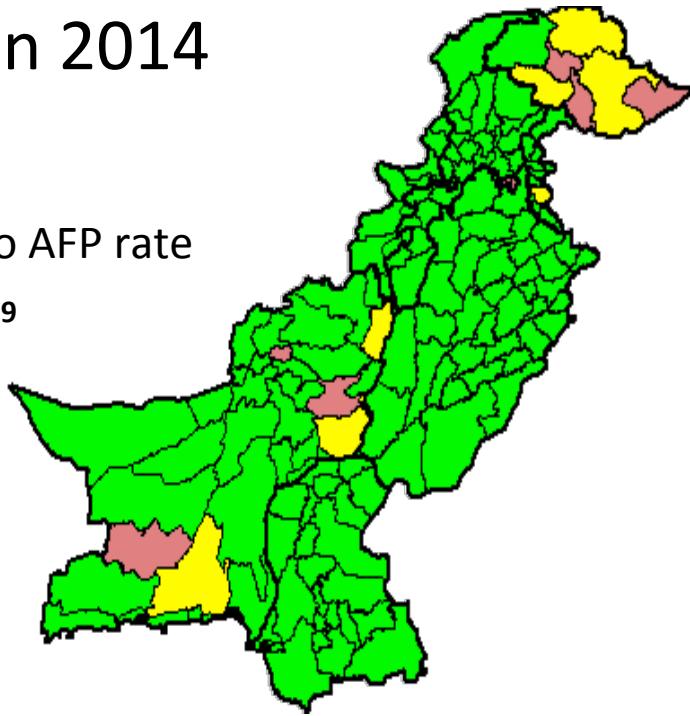
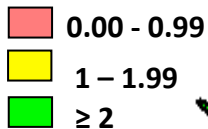
- cVDPV2 strains emerged in 2012, spread and persisted in inaccessible areas
- Inaccessible populations are being reached increasingly
- The country is implementing an intensified 'low season' plan

Surveillance in Pakistan

Strengths

- High AFP rate (7/100k)
- Expansion of environmental surveillance: 23→32 sites in 2014

Non-polio AFP rate

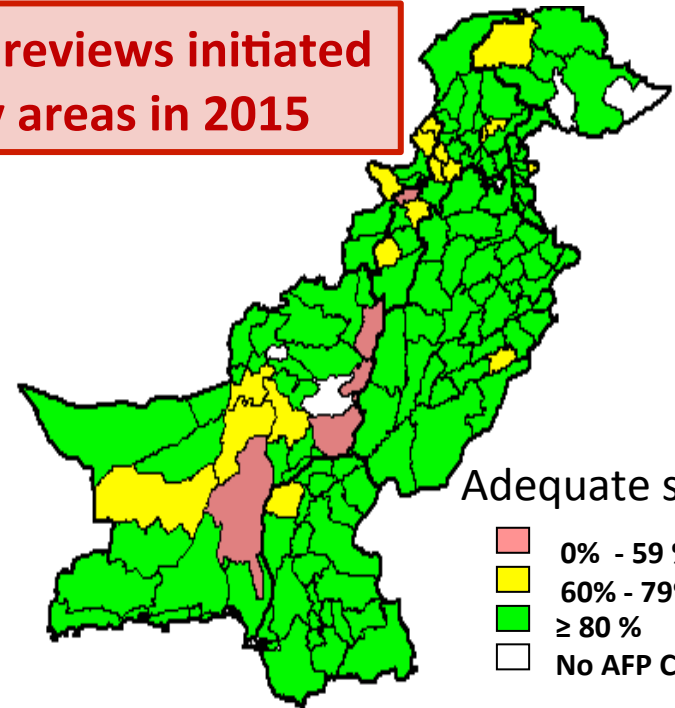
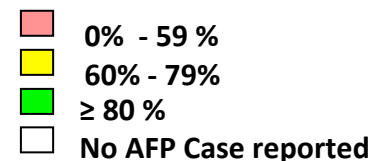


Challenges

- Pockets of low stool adequacy
- Orphan viruses in 2014-15

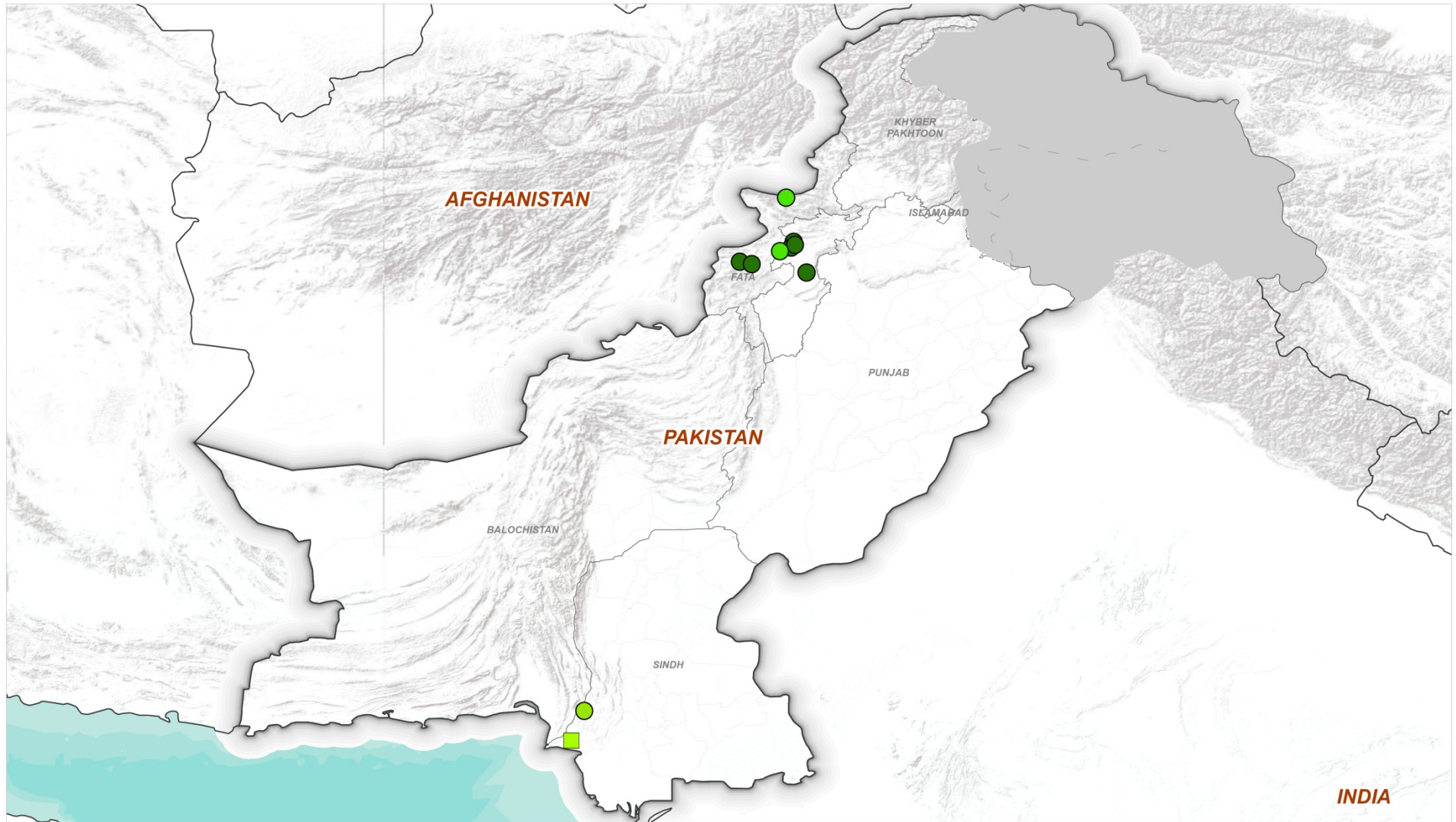
Surveillance reviews initiated in priority areas in 2015

Adequate samples



Persistent cVDPV2 cases & positive environmental sites

Last 12 months, Pakistan



Map Scale (A3): 1:6,500,000

1 cm = 65 km

Coordinate System: GCS WGS 1984

Datum: WGS 1984

Units: Degree



Data Source:

Admin. Boundaries: World Health Organization

Base Map: Esri, USGS, NOAA

Map Production: Global Polio Eradication Initiative, World Health Organization

AFP cases

● cVDPV-PAK- GROUP 1

● cVDPV-PAK- GROUP 2

● cVDPV-PAK- GROUP 3

Environmental positive sites

■ cVDPV-PAK-GROUP 3

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Persistent cVDPV2 cases & positive environmental sites Last 6 months, Pakistan



Map Scale (A3): 1:6,500,000

1 cm = 65 km

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



Data Source:

Admin. Boundaries: World Health Organization
Base Map: Esri, USGS, NOAA
Map Production: Global Polio Eradication
Initiative, World Health Organization

AFP cases

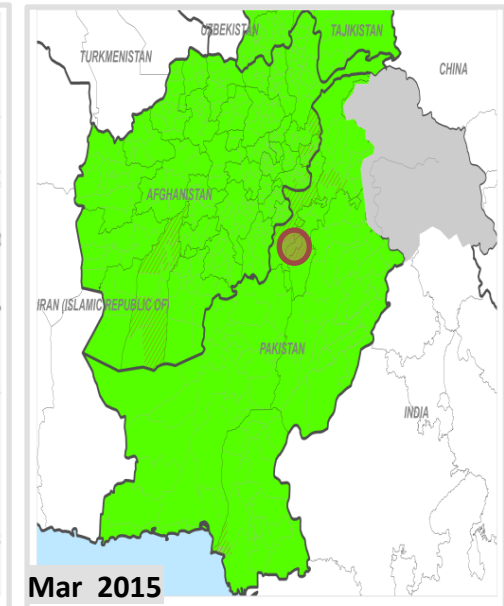
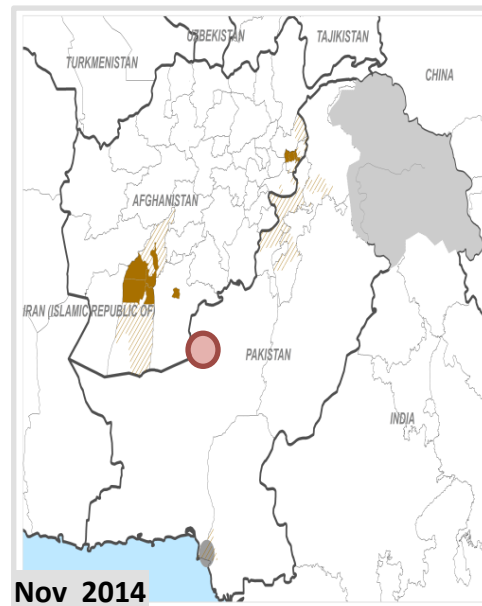
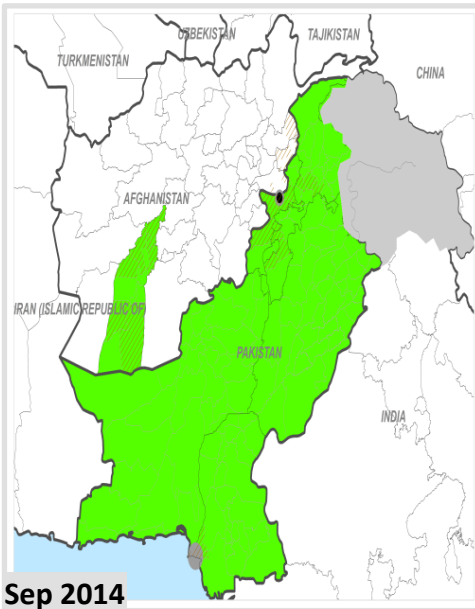
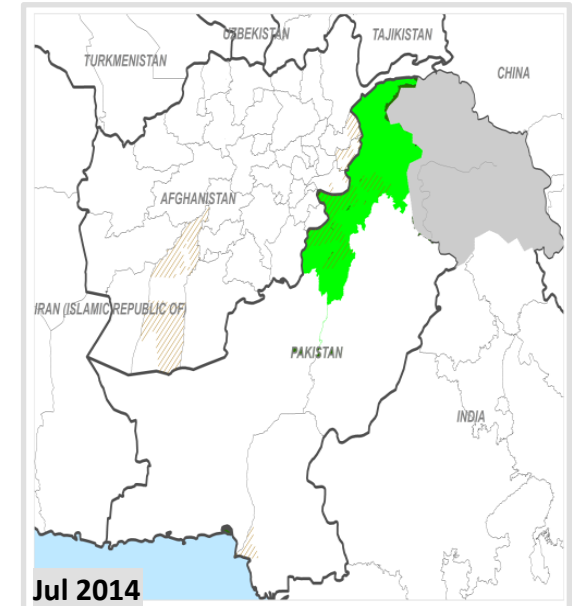
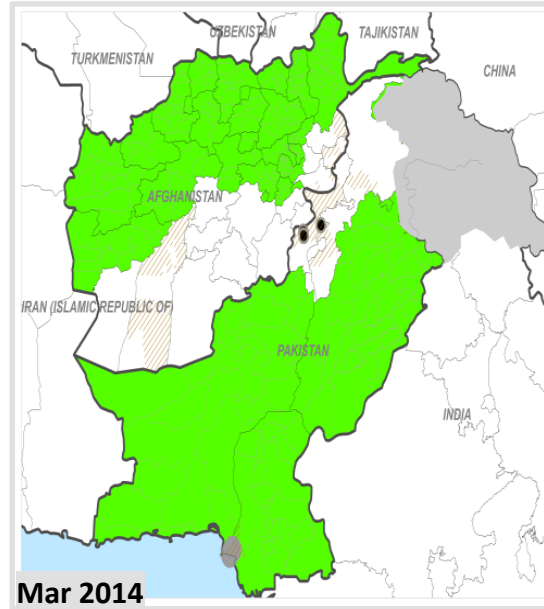
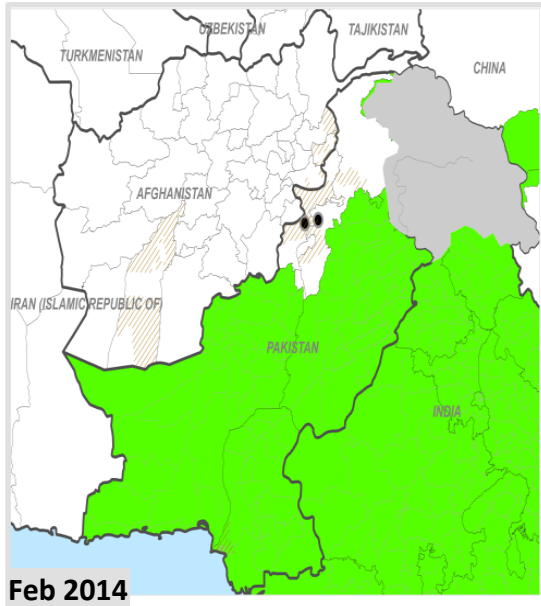
- cVDPV-PAK- GROUP 1
- cVDPV-PAK- GROUP 2
- cVDPV-PAK- GROUP 3

Environmental positive sites

- cVDPV-PAK-GROUP 3

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.

tOPV / IPV SIAs conducted from Feb 2014 – Mar 2015, PAK/AFG



● cVDPV2 case

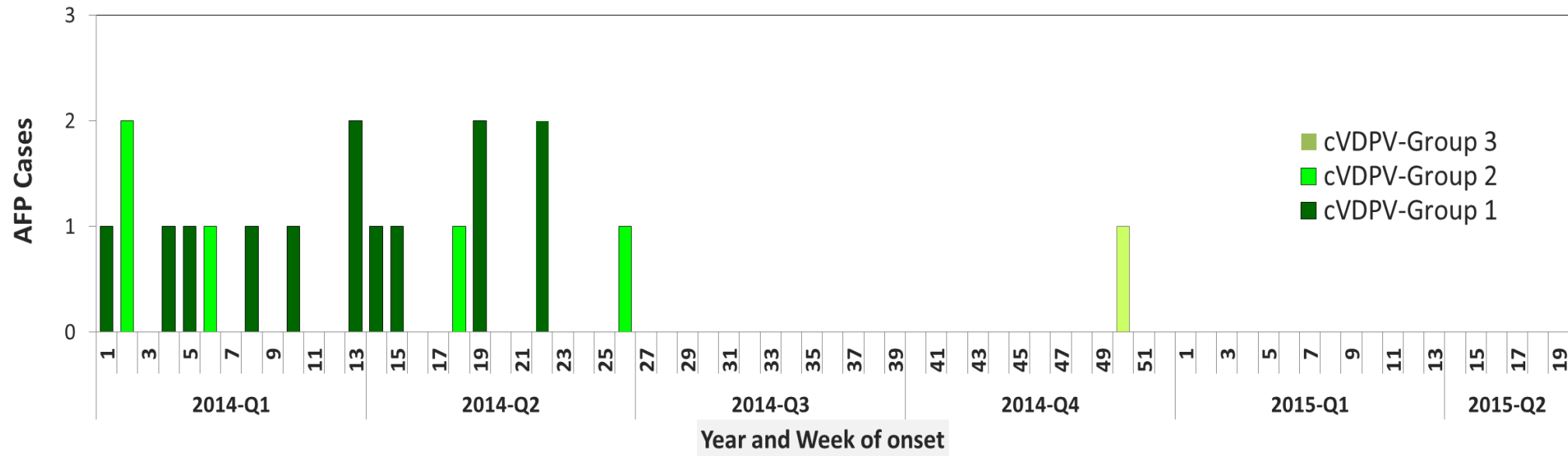
● cVDPV2 E.S. isolate

■ tOPV SIAs conducted

● IPV+tOPV SIAs conducted

Data in WHO/HQ as of 07 Apr 2015

Cases of persistent cVDPV2, Pakistan by virologic group

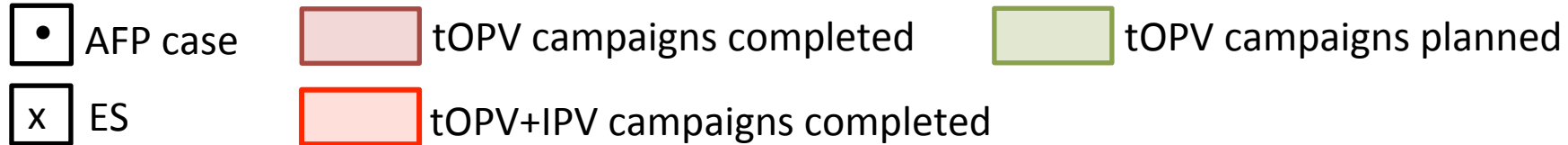


Environmental Surveillance Results, Pakistan, Feb 2014 – Apr 2015

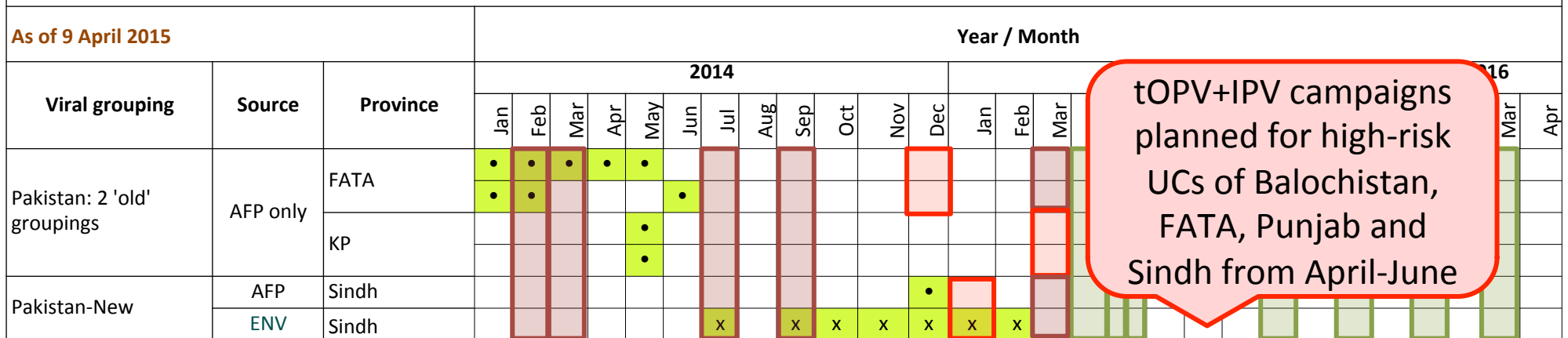
Persistent cVDPV2

[illegible]

Persistent cVDPV2 in Pakistan

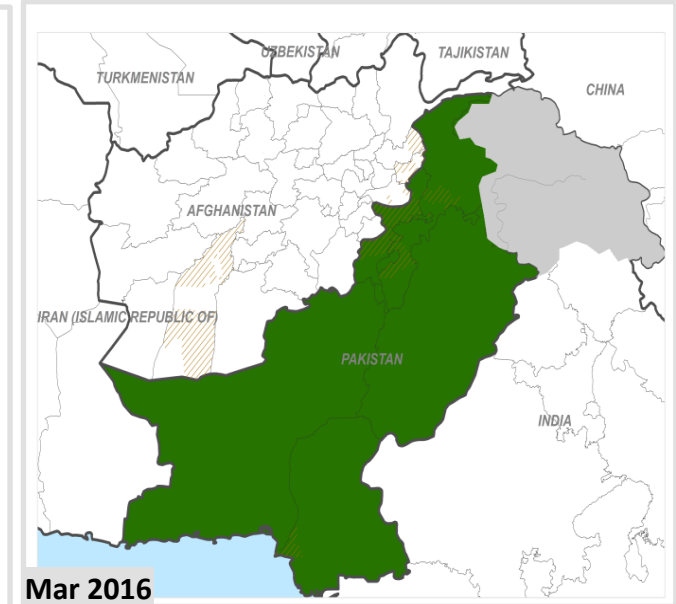
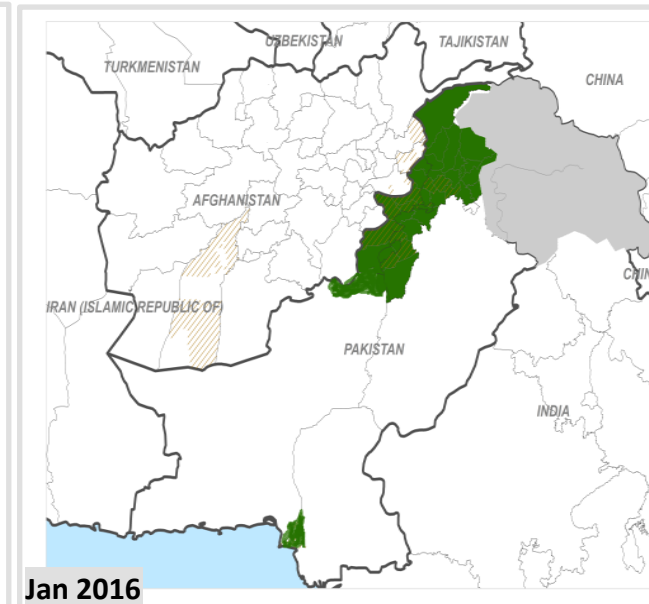
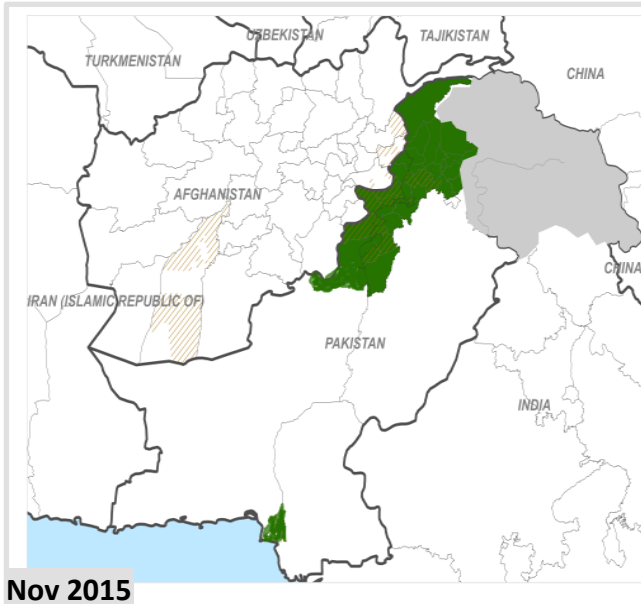
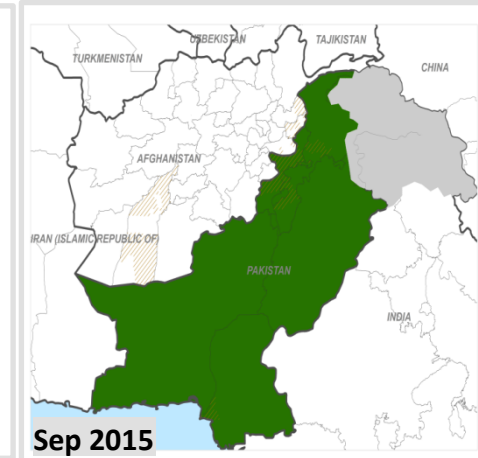
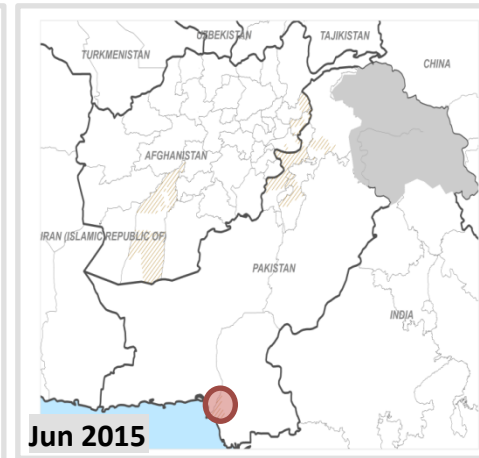
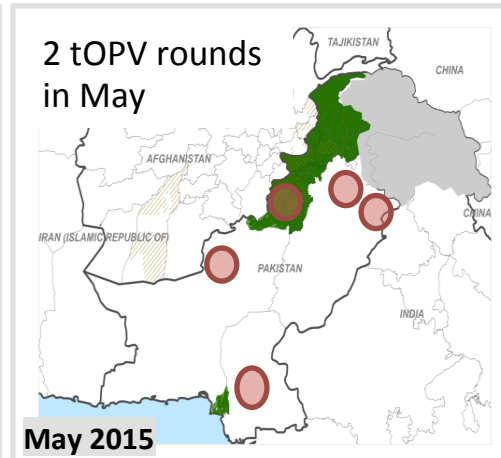
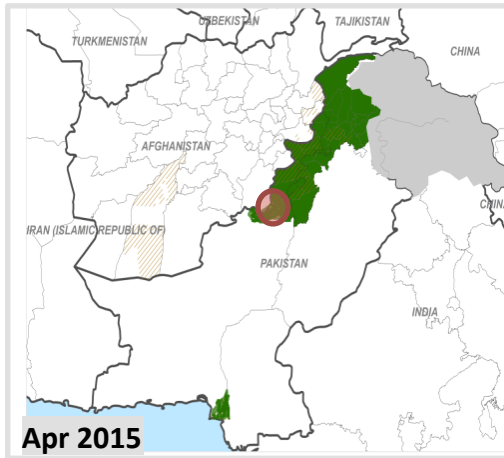


Pakistan: persistent cVDPV2 outbreaks by province, month and lineage



- The “old” lineages not detected since June 2014
- A new persistent lineage emerged in Karachi in July 2014

tOPV / IPV SIAs Apr 2015 – Mar 2016, Pakistan



 tOPV SIAs planned

 IPV+tOPV SIAs planned

Pakistan Summary

- Progressive improvement in access and coverage
- Overall sound surveillance, gaps being addressed
- Possible interruption of 2 of 3 persistent cVDPV2 groups
 - Groups 1 and 2 that clustered in FATA/KP not detected since June
 - Group 3 in Gadaap is a new emergence in July 2014 with only 1 case in December, recent environmental detection in February 2015
- IPV campaigns targeting children in previously inaccessible or insecure areas, IPV introduction in RI planned for July 2015
- At least 4 tOPV campaigns will be conducted in the first half of 2015 and an additional 4 until March 2015

Summary

- Persistent cVDPV2 only in Nigeria and Pakistan in 2014
- Substantial improvements in both countries:
 - use of tOPV, targeted IPV, IPV in RI in 2015
 - SIA quality in Nigeria, access in Pakistan
 - expanding Env. surveillance, filling gaps in AFP surveillance
- Possible elimination of multiple cVDPV2 strains, 1 positive environmental sample in each country in 2015
- Multiple tOPV campaigns planned between now and March 2016, mop-up response to cVDPV2 detection from any source