

# Polio Eradication Plan : SA End Game



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**KZN POLIO SYMPOSIUM**  
**11<sup>TH</sup> March 2016**

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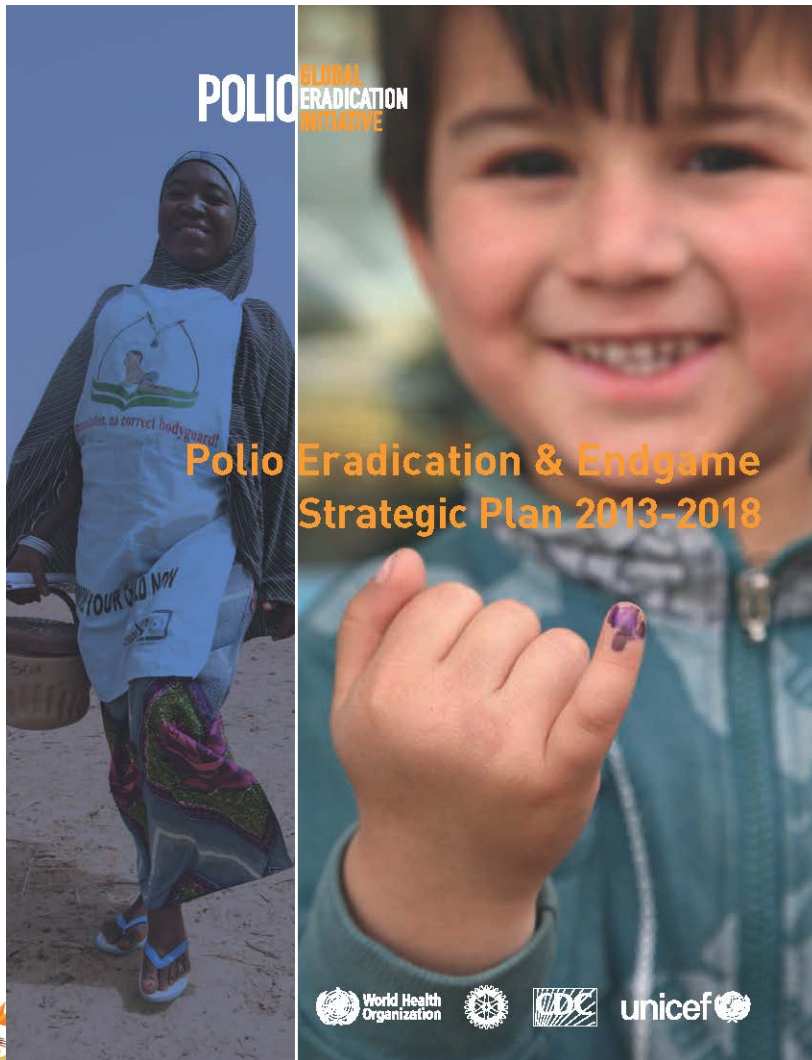
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“complete the eradication and containment of all wild, vaccine-related, and Sabin polioviruses such that no child ever again suffers paralytic poliomyelitis.”



# End of Game: SA Polio Eradication Plan



- Poliomyelitis- the basics
- Global Polio Eradication End Game
- Polio Eradication Committees
- EPI
- AFP surveillance
- Polio Stakeholder symposium



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# Poliomyelitis



- The polioviruses are three related enteroviruses : types 1, 2 and 3 (serotypes).
- Polio type 1 major cause of paralysis: <1% infections
- Faecal-oral transmission- highest viral excretion 1st 2 weeks: risk factor poor sanitation
- Infection to onset of paralysis = 21 days
- 80-90 % infection children < 5yrs old
- Clinical: asymmetric limb paralysis, bulbar, inapparent
- Immunity lifelong after infection or immunisation

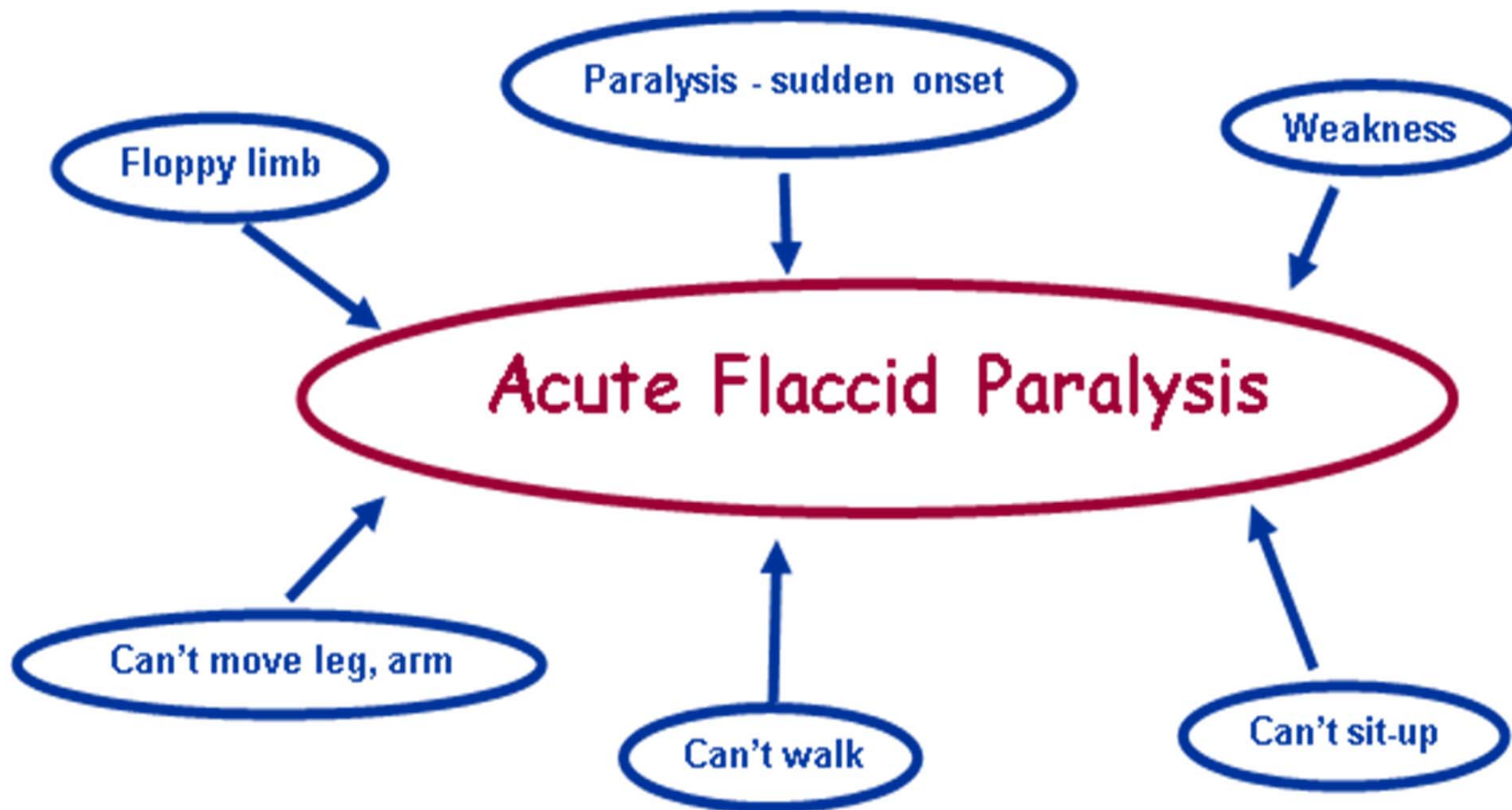


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# Symptoms of Acute Flaccid Paralysis

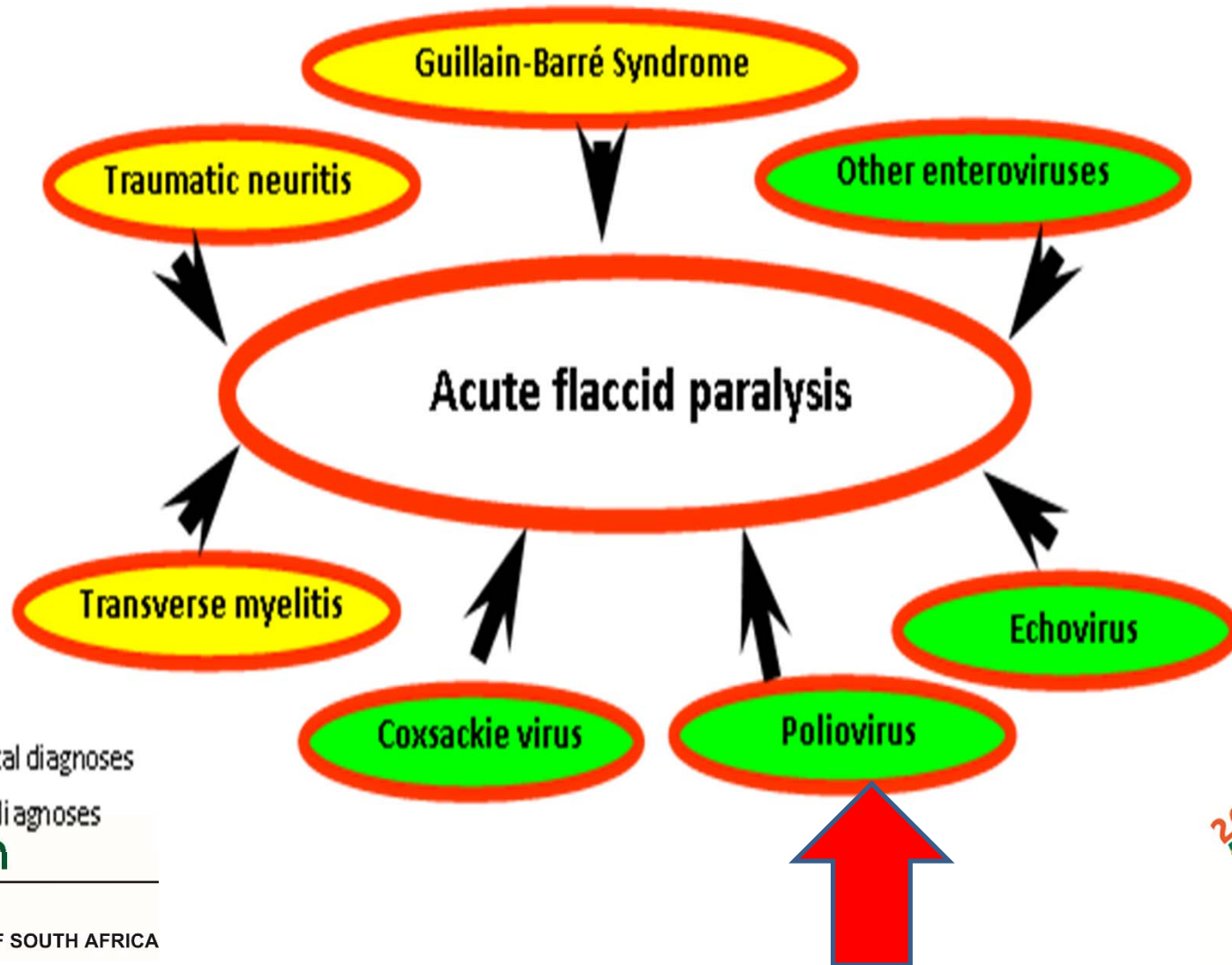


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# Differential Diagnoses for AFP

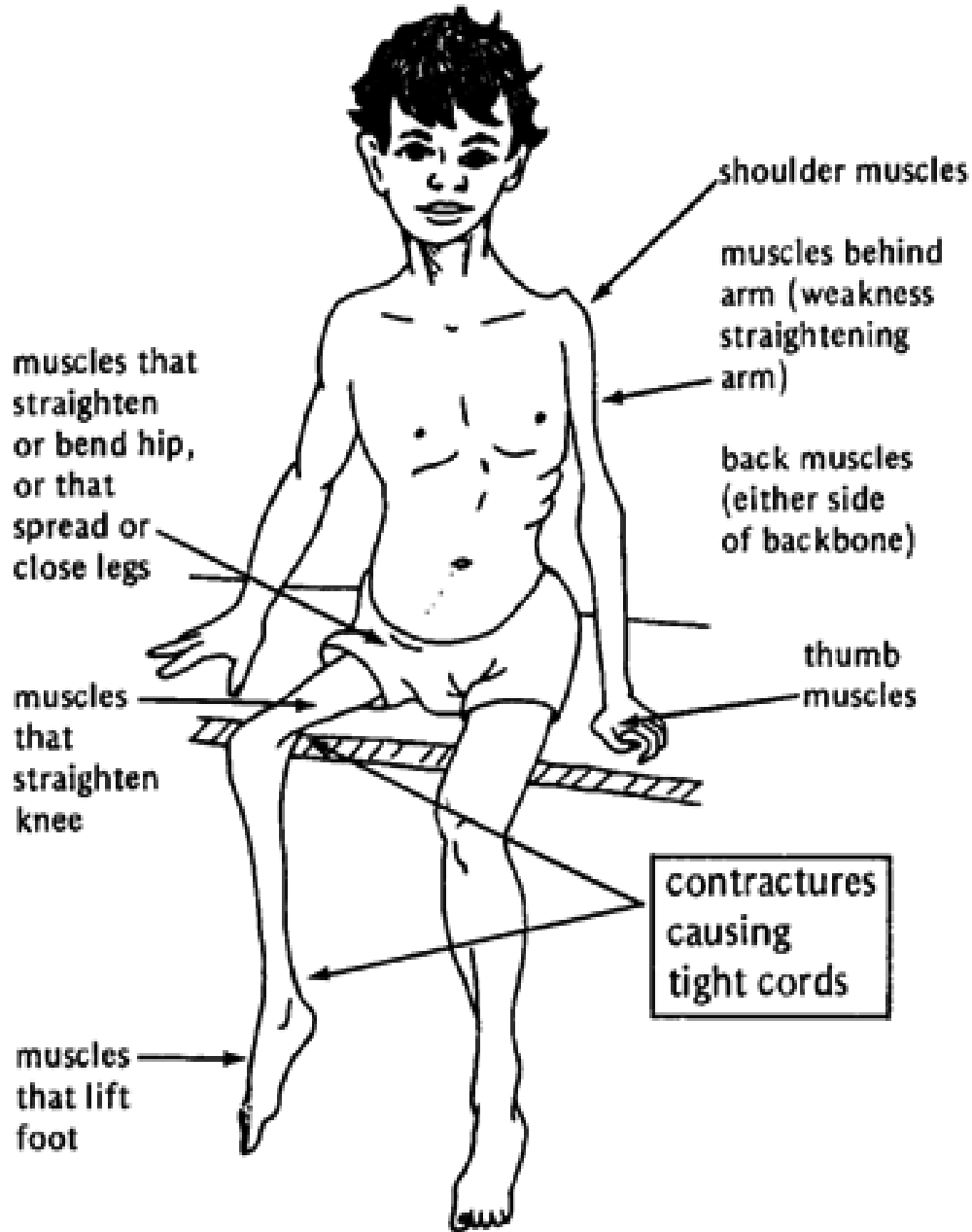


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# MUSCLES COMMONLY WEAKENED BY POLIO



# THE UNTREATED POLIO PATIENT

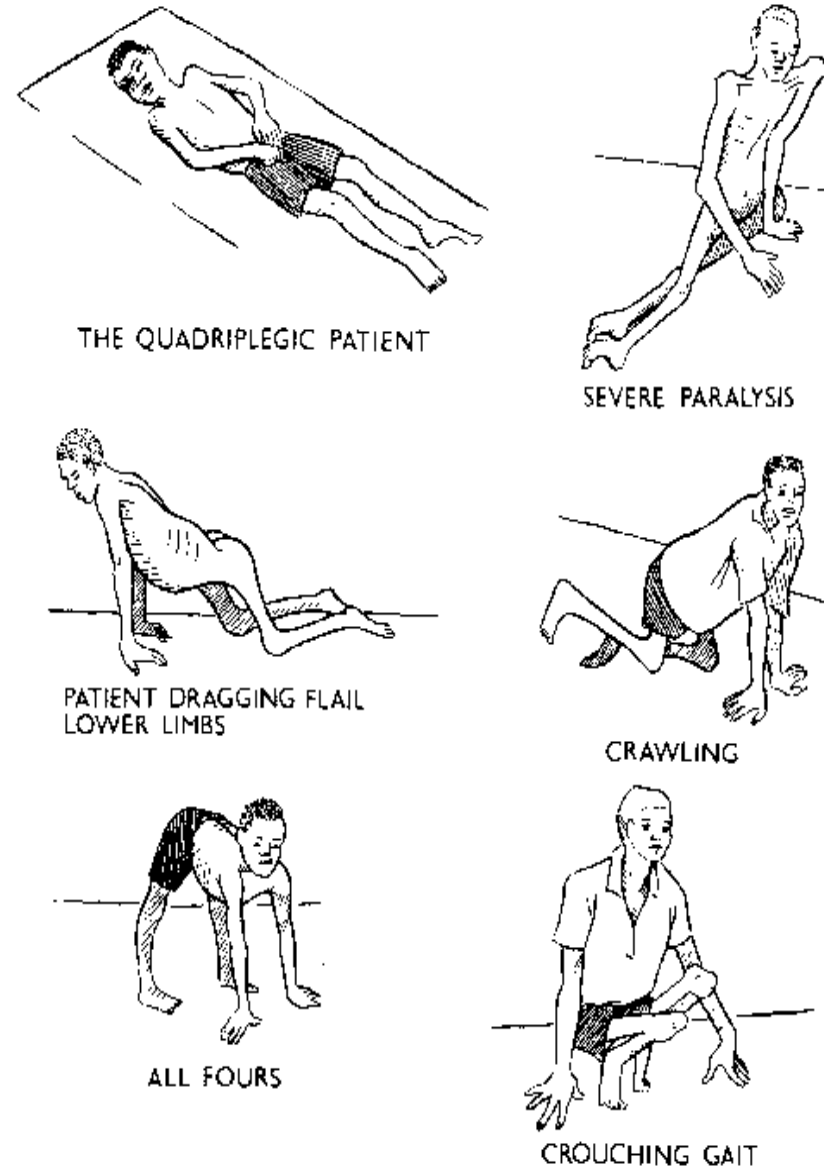


Fig. 2(a)



The Plan differs from previous eradication plans because it addresses paralytic cases associated with both **wild polioviruses** and **vaccine-derived poliovirus/VAPP**

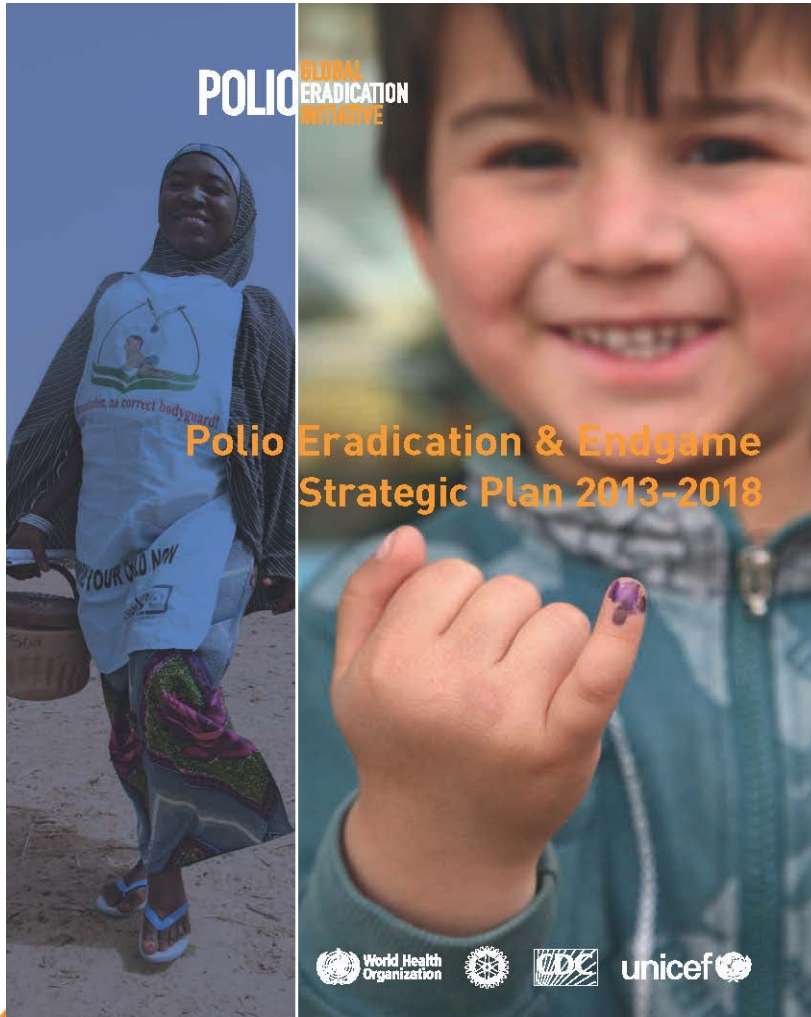
### Eradication

- refers to **wild virus**



### Endgame

- refers to management of **VDPVs and VAPP**



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# Objectives of End Game = RSA



1

- Detect and interrupt all poliovirus transmission

2

- Strengthen immunization systems, withdraw oral polio vaccines (OPV), and introduce inactivated polio vaccine (IPV)

3

- Contain poliovirus and certify interruption of transmission

4

- Plan polio's legacy



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# ***‘If You Fail to Plan, You Plan to Fail’***



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# RSA Progress on Polio Eradication



- **1989:** Last confirmed wild polio virus case reported in SA.
- **1995/1996-2013** : mass SIA campaigns every 3-4 years
- **1997:** Active case based AFP surveillance introduced.
- **2003:** High quality AFP surveillance has met the required surveillance performance indicators at national level.
- **2006:** SA via NCC presented country report accepted ARCC –SA free WPV
- **2012-2015:** WHO / RSA regional Symposia – training and update
- **2016:** Implementation of the Switch from tOPV to bOPV



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# South African Plan



- NDoH- EPI Directorate/ MoH
- There are 3 polio Eradication Committees
  - National Polio Expert Committee (NPEC) since 97
  - National Certification Committee (NCC)
  - National Task Force (NTF) – lab containment
- Longest standing Polio Eradication Committee
- WHO AFRO Region



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# SA/WHO Pillars of Polio Eradication



- **Attaining high routine immunisation coverage**
  - 80% with at least 3 doses of Oral Polio Vaccine (OPV)
  - 80% OPV3/Penta3 coverage at district and 95% coverage at national level
- **Conducting National Immunization Days (NIDS)**
- **Attaining and sustaining high level Acute Flaccid Paralysis (AFP) surveillance indicators**
- **Conducting “Mopping up” Campaign in case of importation of wild poliovirus or high risk.**



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*National Health strategic Plan 2010-2013*





# VACCINATOR'S MANUAL

## “Immunisation That Works”

Expanded Programme on Immunisation in  
South Africa (EPI-SA)



Love them, Protect them, Immunise them

4<sup>th</sup> Edition, October 2012



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# Population Demographics



## South Africa population STATS

- Total population: **53.701 million**
- < 1 yr                      1.059 million
- < 5 yr                        5.259 million
- <15                            15.453 million

**2014 : RSA budget for vaccines = R 1.4 billion**



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# RSA EPI Initiatives 2015



- Highest Priority: EPI target for elimination: measles, polio, tetanus
- Epi monitored through DHIS
- Introduced IPV, limited OPV birth and 6wks
- RTHC booklet cornerstone for monitoring
- Maintain cold chain for polio vaccine
- RED or REC strategy – promote sustainable immunisation



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# RSA Vaccination Coverage %



Indicator (annualized)	2010	2011	2012	2013	2014
DTaP-IPV//Hib 1	69.1	89.0	83.3	92.5	96.0
DTaP-IPV//Hib 3	62.8	87.0	82.9	90.6	95.0
DTaP-IPV//HIB 1 - 3DOR	9.1	2.3	0.5	2.0	1.0
Measles (MCV) 1st dose	84.8	88.5	89.1	87.3	91.0
DTaP-IPV//Hib 1- MCV 1DOR	-35.0	-1.8	-7.6	3.6	5.2
Measles 2nd dose	75.8	75.4	76.9	74.7	81.0
MCV 1- MCV 2	12.5	16.6	15.3	15.7	11
Rotavirus 2nd dose	60.4	85.5	89.3	89.5	94.0
PCV 3 <sup>rd</sup> dose	58.5	80.2	87.9	87.1	90.0
Fully Immunized Child (FIC)	79.9	82.9	84.0	84.1	87.4



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**16 /52 districts in 2011 Target < 80%**

17



# EPI SIA in South Africa



## National and Sub-National Polio Immunisation Campaigns & Coverage: 1995-2010

Year	First round %	Second Round %
1995	90	78
<b>1996</b> Namibia polio outbreak	90	66
1997	82	66
2000	97	72
2002 Western Cape mop-up	85	84
2004	81	65
2007	90	86
<b>2010</b> Measles outbreak vit A, deworm	100	86
2013	86	



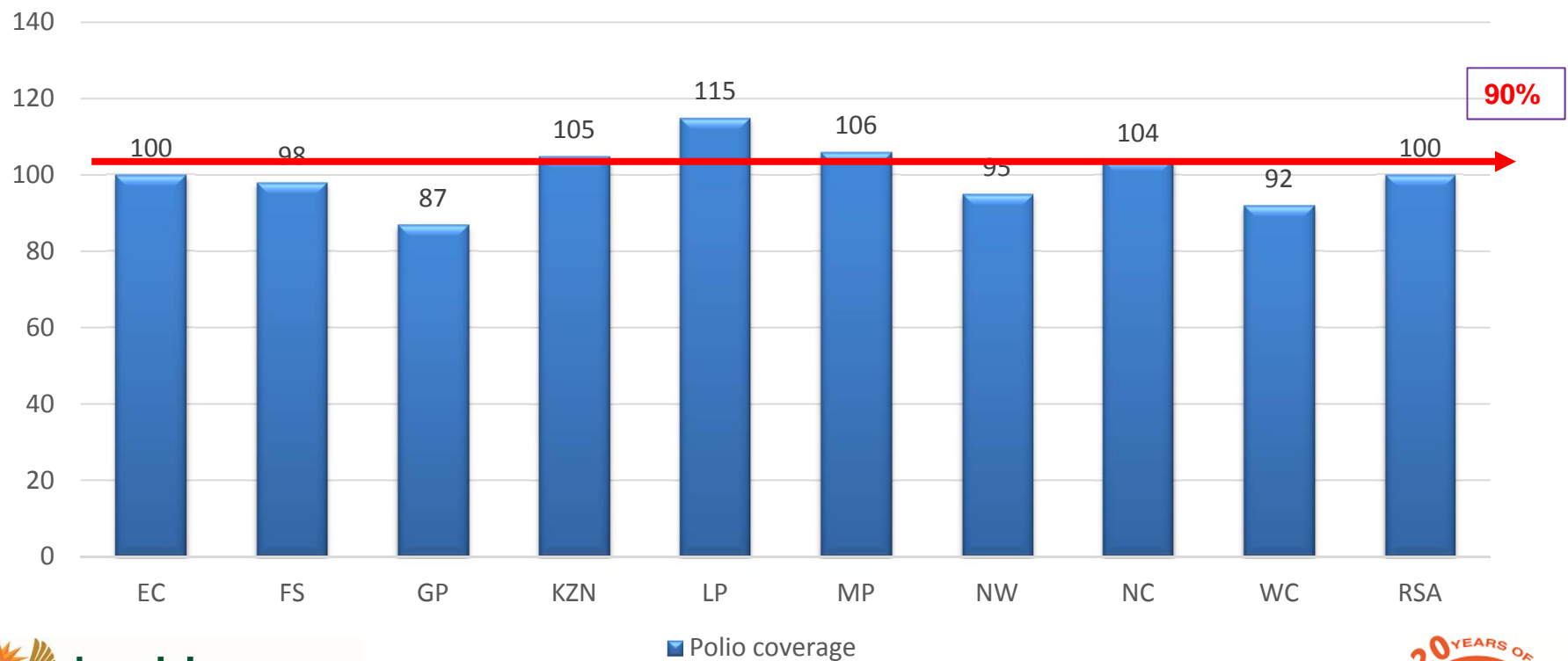
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## RSA 2010 Mass Campaign Oral Immunisation OPV coverage 0-59 months (target = 90%)



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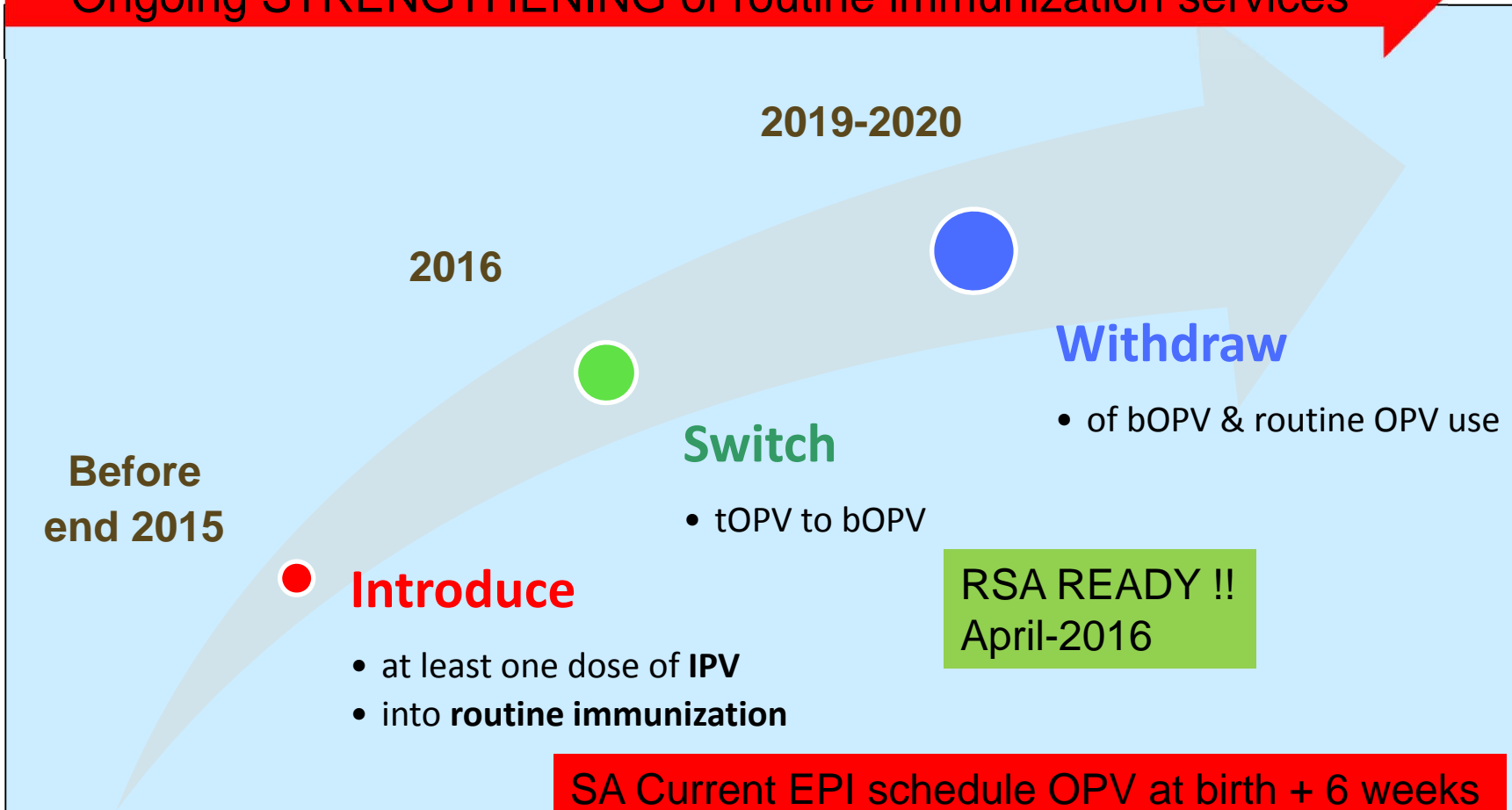
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# Is RSA measuring up?



Ongoing **STRENGTHENING** of routine immunization services



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# RSA - AFP Surveillance Milestones



- **1989** – Last WPV lab confirmed case
- **1995**: AFP notifiable disease
- **1997**: Active AFP surveillance implemented
- **1997**: PEC constituted
- **2001**: Switch to virological classification
- **2006**: Polio Free Certification Report accepted
- **2015**: Laboratory Containment : NTF



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# AFP Case Definition



- Any child under 15 years of age with Acute (sudden onset) Flaccid Paralysis (weakness of the limb – arm, leg or both),
- or any person of any age when paralytic illness of Polio is suspected by a clinician.

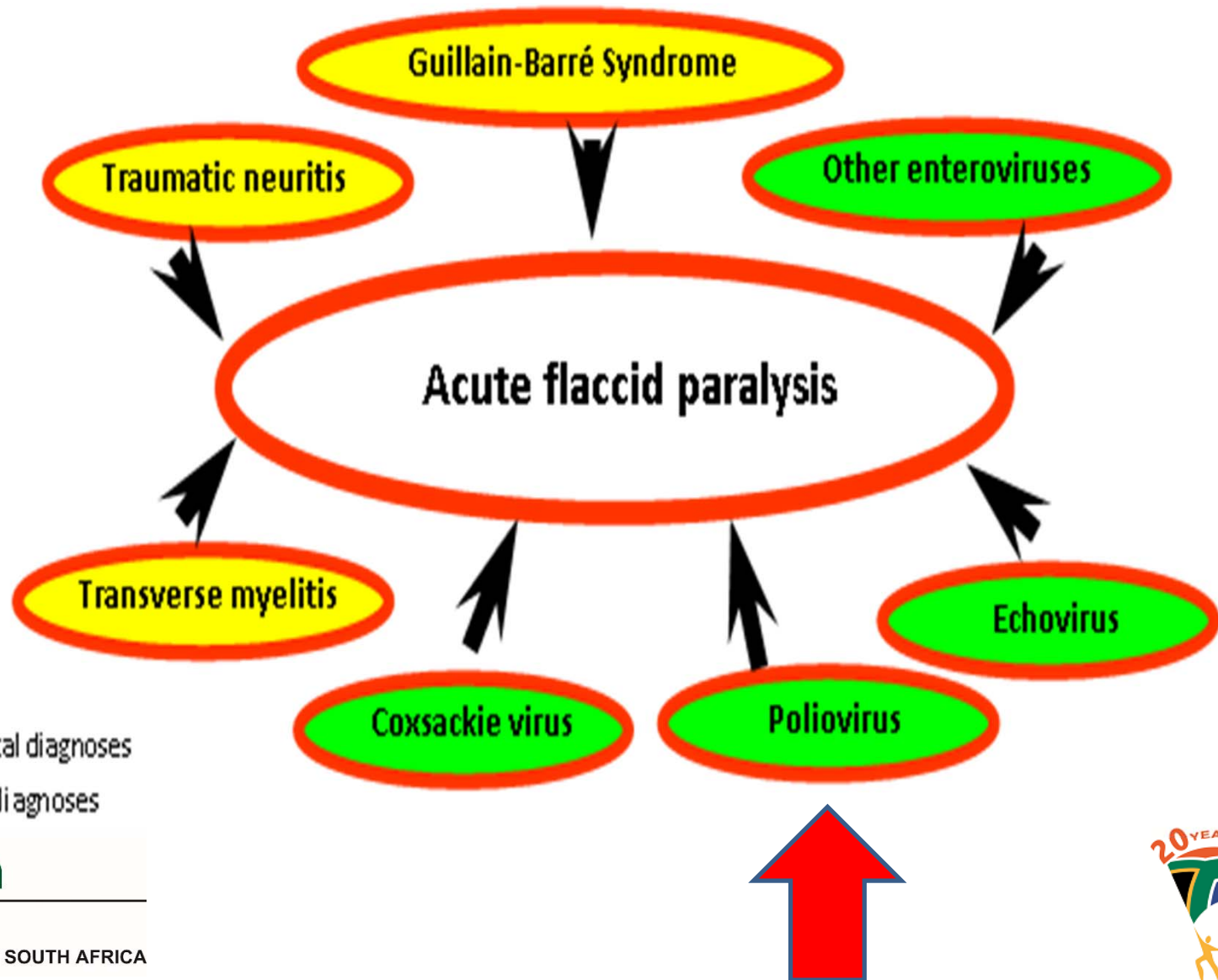


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# Differential Diagnoses for AFP



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# AFP Indicators



Indicators	Target
Non-Polio AFP rate per 100,000 of the $\leq 15$ Yr old target population	<b>4.0/100,000</b>
Stool adequacy: <b>cases with 2 adequate stools collected 24 to 48 hours apart within 14 days of onset of paralysis</b>	<b>80%</b>
Specimens arriving at lab $\leq 3$ days of being collected	<b>80%</b>
Specimens arriving at lab in good condition ( $\pm 5g$ , on ice, not leaking)	<b>90%</b>
Non-polio Enterovirus isolation rate	<b>10%</b>
Lab results available within 14 days of receipt	<b>80%</b>



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# AFP surveillance



There are 3 polio Eradication Committees

- National Polio Expert Committee (NPEC) since 97
- National Certification Committee (NCC)
- National Task Force (NTF) – lab containment
- Longest standing Polio Eradication Committee
- Surveillance Officers
- Secretariat – EPI Directorate



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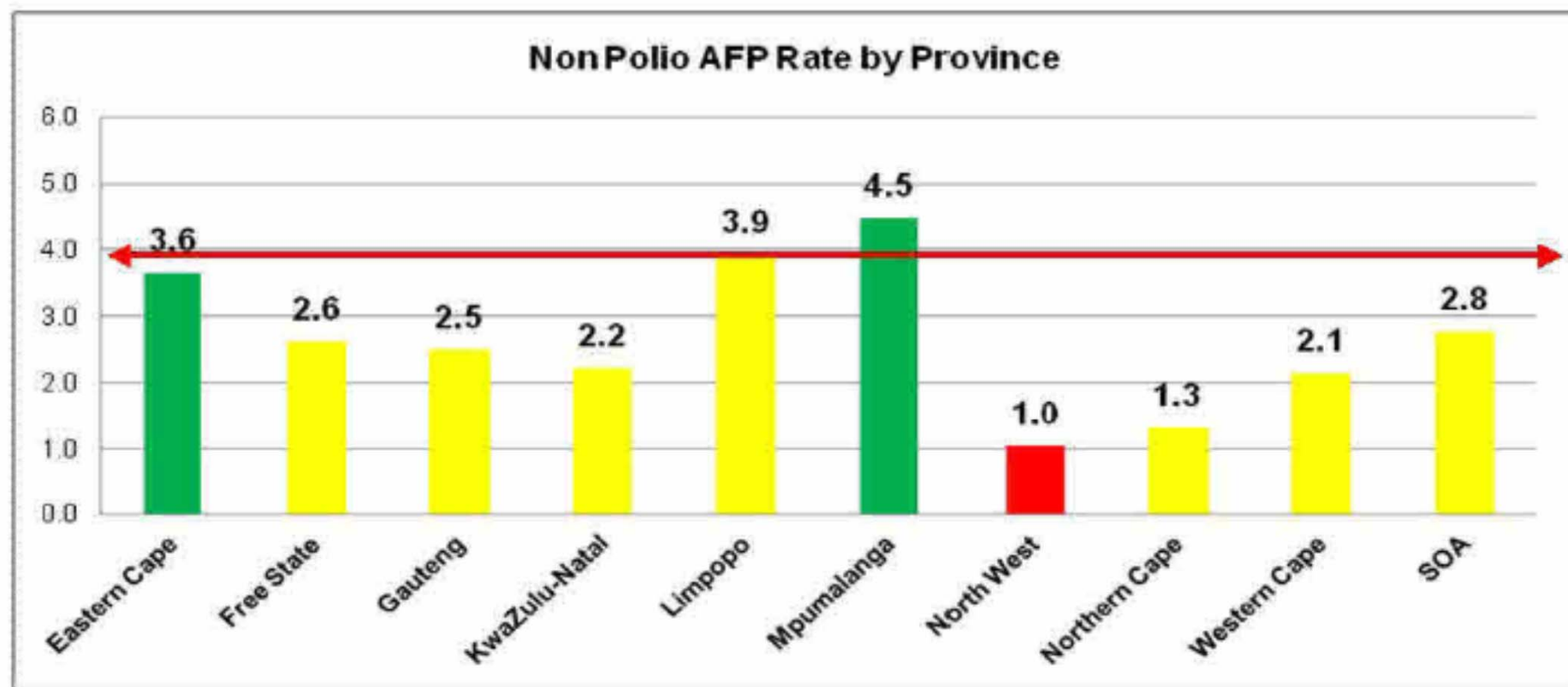
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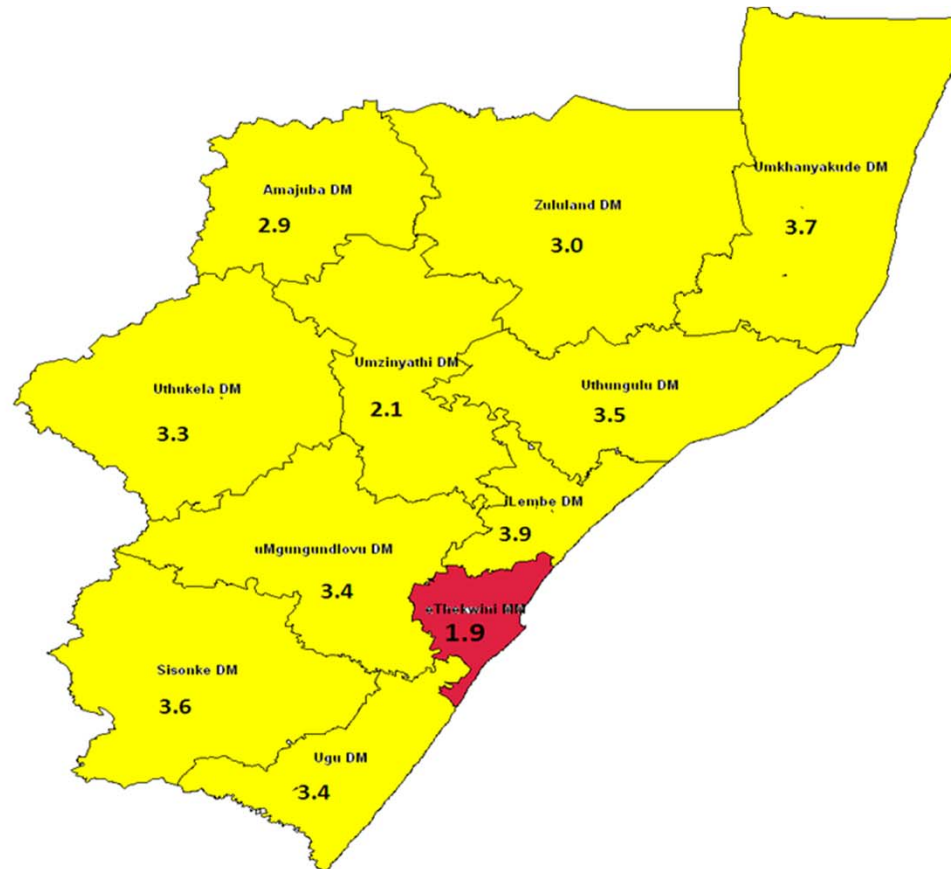
## AFP Indicators analysis as of week 46, data source 2015 NDoH AFP database

Legend	Non Polio AFP detection Rate	Stool Adequacy %
	0.0-1.99	0.00-59.99
	2.00-3.99	60.00-79.99
	$\geq 4.0$	$\geq 80$

### NPAFP Rate as of week 1-46, 2015



# KZN: Non Polio AFP Rate week 1-52, 2015

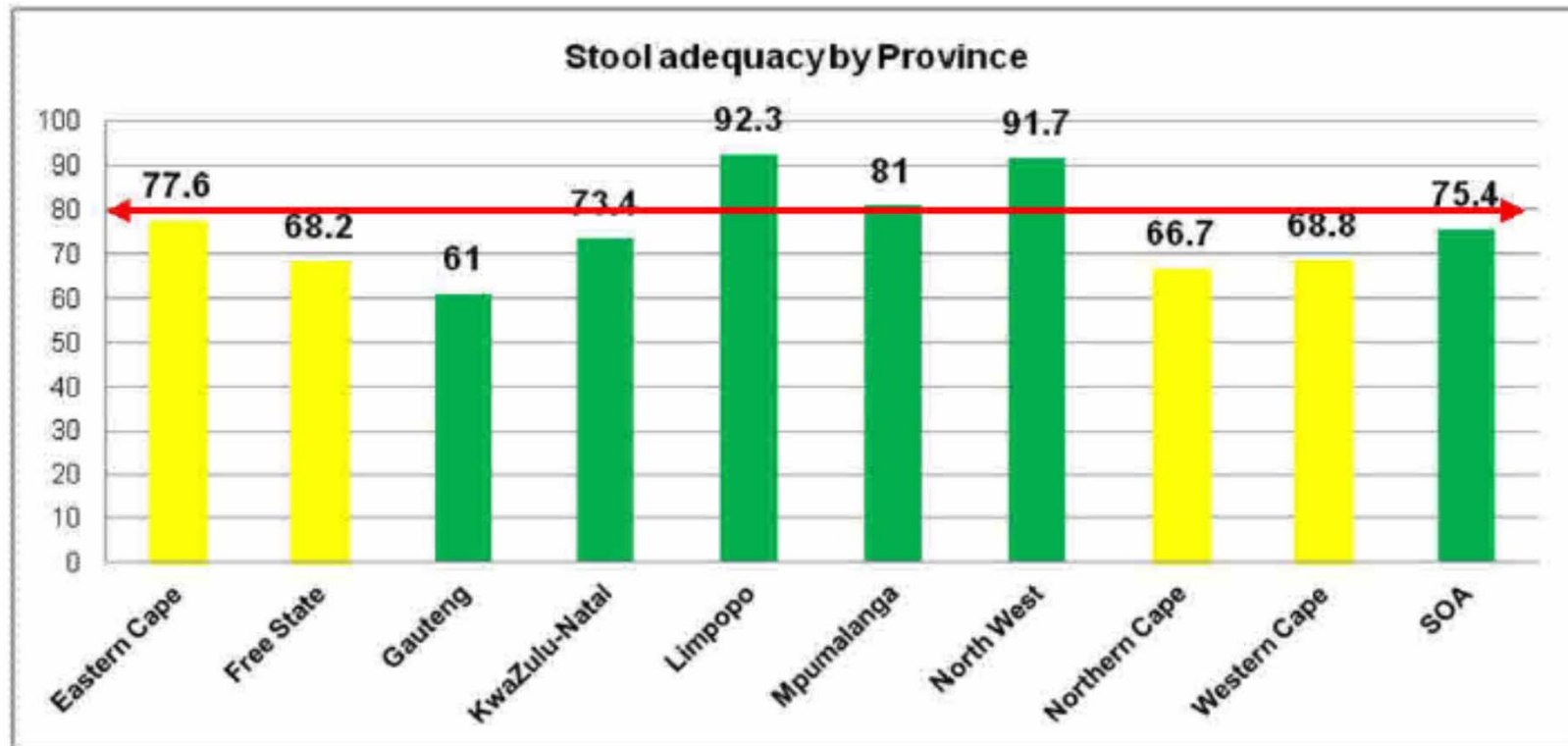


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## Stool adequacy percentage as of week 1-46, 2015

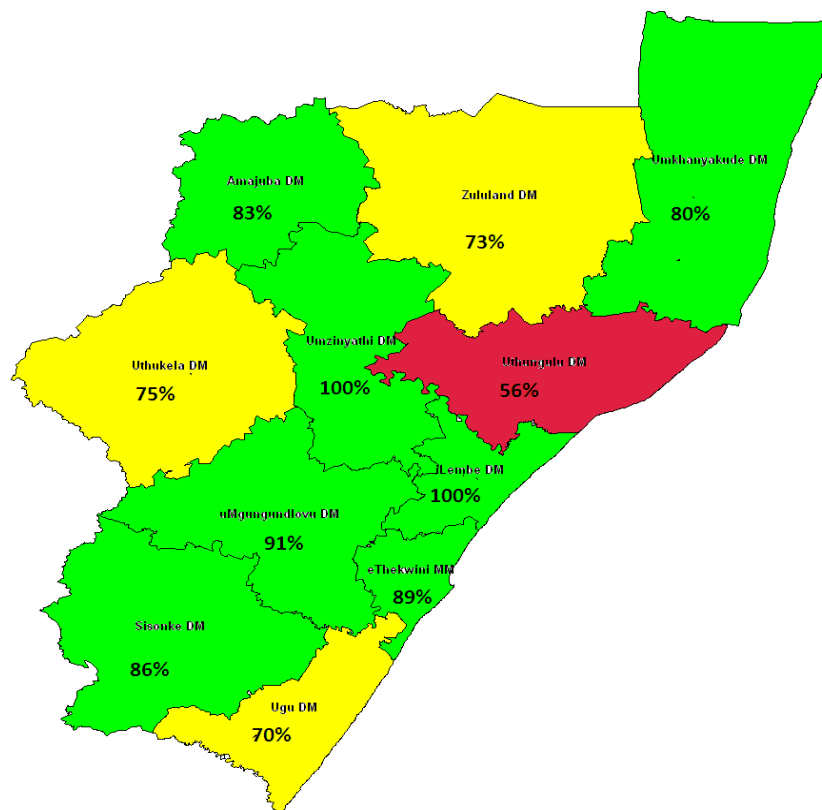


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# KZN: Stool adequacy week 1-52, 2015



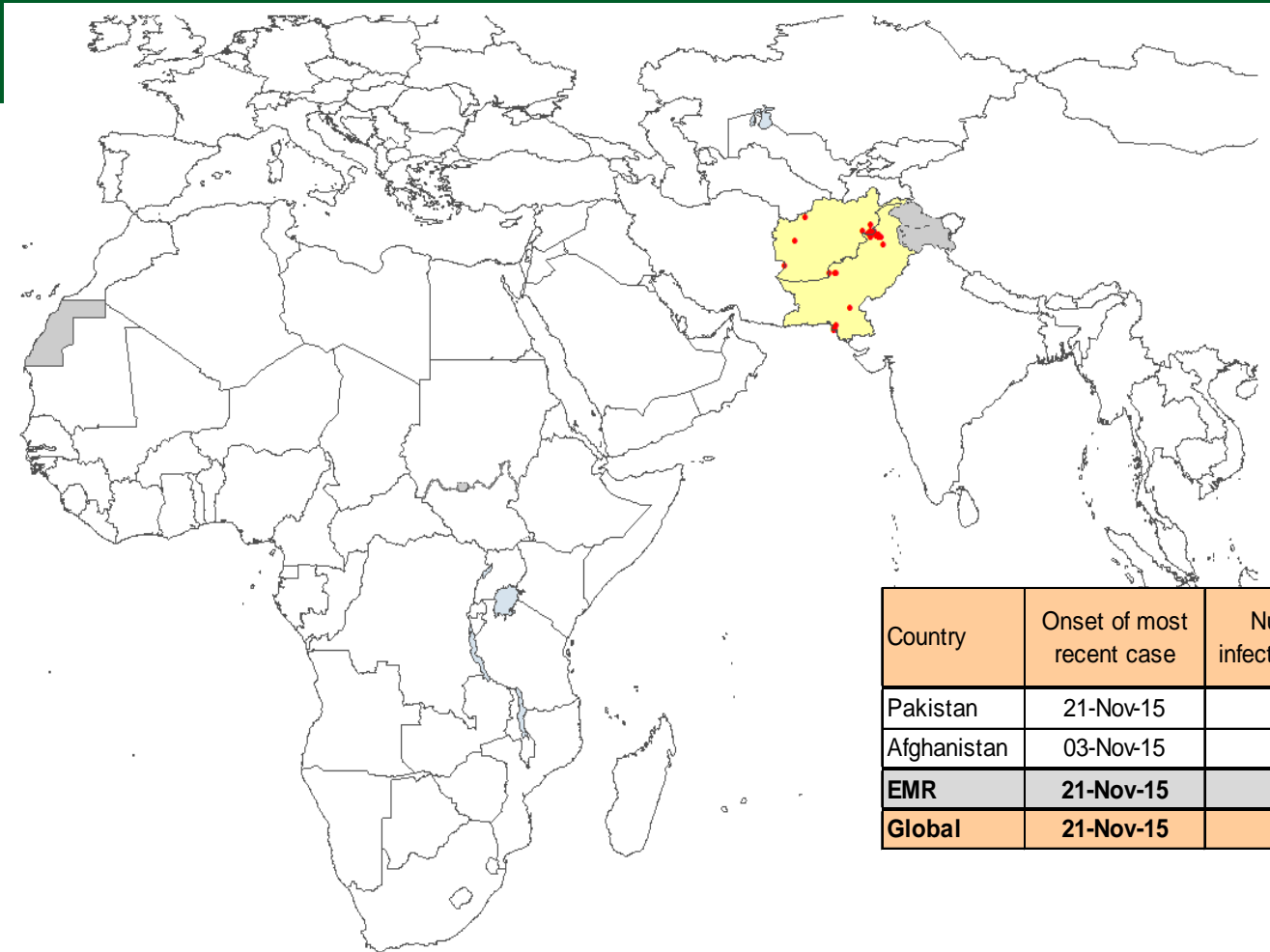
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Province	Districts	Total Population	<15 yrs Population	Target AFP Cases	Total AFP Cases reported	Non-Polio AFP Cases Detected(< 15Yrs of Age)	Non-Polio AFP Detection Rate(<15 Yrs of Age)	AFP cases with two adequate stools 24-48 hrs apart within 14 days	AFP Stool Adequacy (%)
KwaZulu-Natal	Amajuba DM	522 638	174 586	7	6	5	2.9	5	83
	eThekweni MM	3 520 558	963 624	39	19	18	1.9	17	89
	iLembe DM	485 309	178 497	7	7	7	3.9	6	86
	Harry Gwala DM	651 445	196 118	8	7	7	3.6	6	86
	Ugu DM	750 215	264 219	11	10	9	3.4	7	70
	uMgungundlovu DM	1 087 086	321 593	13	11	11	3.4	10	91
	Umkhanyakude DM	649 644	243 945	10	10	9	3.7	8	80
	Umzinyathi DM	522 804	186 532	7	4	4	2.1	4	100
	Uthukela DM	695 671	240 302	10	8	8	3.3	6	75
	Uthungulu DM	958 267	354 331	14	9	8	2.3	5	56
	Zululand DM	844 531	301 261	12	11	9	3.0	8	73
		<b>10 688 168</b>	<b>3 425 008</b>	<b>137</b>	<b>102</b>	<b>95</b>	<b>2.8</b>	<b>82</b>	<b>80</b>
Mpumalanga	Ehlanzeni DM	1 751 531	620 876	25	28	28	4.5	24	86
	G Sibande DM	1 076 612	300 467	12	16	16	5.3	13	81
	Nkangala DM	1 407 465	364 056	15	23	21	5.8	21	91
			<b>4 235 608</b>	<b>1 285 399</b>	<b>51</b>	<b>67</b>	<b>65</b>	<b>5.1</b>	<b>58</b>
South Africa		<b>54 432 253</b>	<b>15 454 330</b>	<b>618</b>	<b>505</b>	<b>487</b>	<b>3.2</b>	<b>399</b>	<b>79</b>

# Wild Poliovirus Cases<sup>1</sup>, Previous 6 Months<sup>2</sup>



Country	Onset of most recent case	Number of infected districts	Total WPV (All type1)
Pakistan	21-Nov-15	10	22
Afghanistan	03-Nov-15	9	12
<b>EMR</b>	<b>21-Nov-15</b>	<b>19</b>	<b>34</b>
<b>Global</b>	<b>21-Nov-15</b>	<b>19</b>	<b>34</b>

● Wild poliovirus type 1

■ Endemic country



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<sup>1</sup>Excludes viruses detected from environmental surveillance.

<sup>2</sup>Onset of paralysis 09 June – 08 December 2015

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Data in WHO HQ as of 08 December 2015



# Role of the clinician



- Case detection and notification
- Comprehensive examination and clinical notes
- Legal mandate to notify cases and provide clinical notes if requested
- Follow up of indicated cases
- CME, curriculum ,Supportive to EPI



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# KEY CHALLENGES TO PEI



- Real threat of regional polio importations
- Declining population immunity to sub-optimal routine immunization services
- Sub-national AFP surveillance gaps manpower shortage- surveillance officers
- Gaps in the quality of polio SIAs and other child survival interventions to which OPV is added (measles)



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# Polio Stakeholder Symposium



- Commitment to transition from TOPV to bOPV
- NDoH to improve AFP surveillance, sensitise and train clinicians= CPD activities
- Coordinate PEI with regulatory bodies HPCSA
- Undergraduate relevant curriculum change
- Engage with private sector and NGO
- Continuous Laboratory update status and database



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# South Africa



- RSA is a REAL success Story
- Planned not FAIL
- No Complacency!



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Polio Eradication Symposium :: Garden Court OR Tambo :: 10-11 September 2015



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- Thank You



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