

# AFP Surveillance Bulletin - India

Report for week 31, ending 4 August 2018

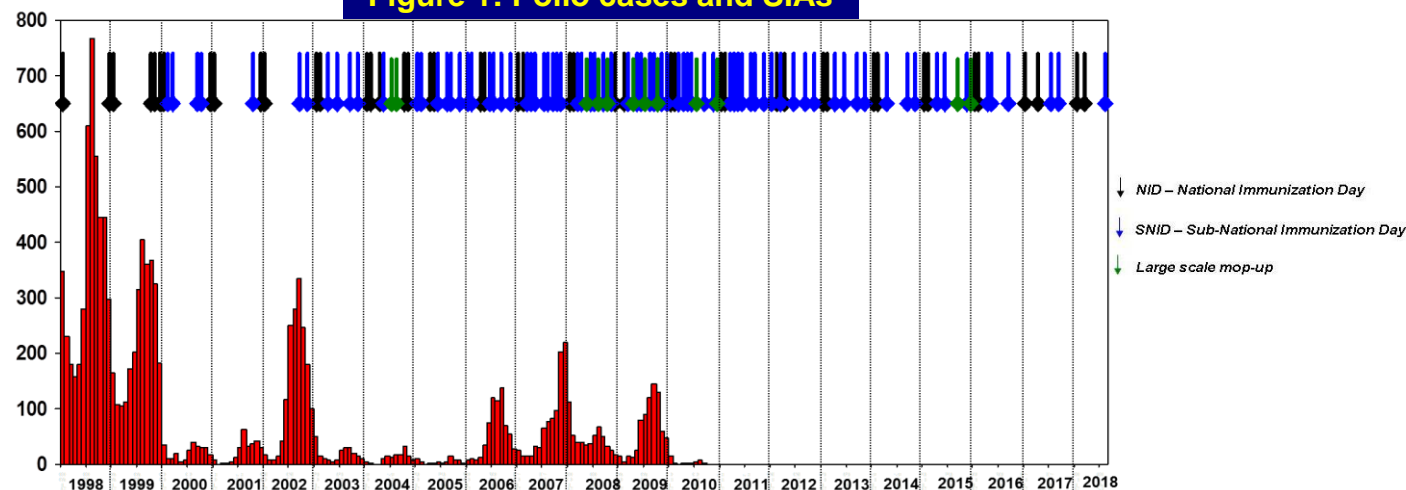
**Table 1: AFP cases by month of paralysis onset, last 13 months**

State/UT's	Total AFP cases in 2017	AFP cases as on week 31, 2017	AFP cases as on week 31, 2018	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
A&N ISLANDS	2	2	6	0	0	0	0	0	1	1	2	0	2	0	0	0
ANDHRA PRADESH	339	177	221	22	32	42	32	26	45	27	32	31	40	24	22	0
ARUNACHAL PR.	11	7	2	1	0	1	1	0	0	0	2	0	0	0	0	0
ASSAM	308	158	155	40	24	25	21	24	19	22	25	18	24	28	19	0
BIHAR	8421	4516	3724	921	769	685	699	640	623	554	560	455	538	563	431	0
CHANDIGARH	63	29	24	10	7	5	4	4	4	4	6	5	3	1	1	0
CHHATTISGARH	332	192	123	39	30	28	20	15	28	21	18	19	15	19	3	0
D&N HAVELI	7	2	2	1	2	0	2	0	0	0	1	0	1	0	0	0
DAMAN & DIU	12	4	2	1	1	2	2	0	2	0	0	0	0	0	0	0
DELHI	706	397	366	75	42	52	51	60	71	37	56	57	66	45	34	0
GOA	27	16	12	4	2	1	2	0	1	4	0	1	2	2	2	0
GUJARAT	994	512	568	146	109	61	75	53	98	93	94	74	68	81	60	0
HARYANA	962	449	344	124	101	80	75	73	62	81	48	51	47	43	12	0
HIMACHAL PRADESH	83	36	43	16	9	9	3	4	9	15	5	6	3	3	2	0
JAMMU & KASHMIR	301	133	115	39	32	28	33	19	18	16	22	20	19	17	3	0
JHARKHAND	910	471	445	105	71	84	73	62	61	67	83	64	65	61	44	0
KARNATAKA	664	357	385	81	60	60	40	45	49	50	53	48	80	62	43	0
KERALA	313	189	147	32	19	15	25	20	27	25	25	23	25	18	4	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1756	898	974	211	170	149	144	139	159	143	126	129	158	151	108	0
MAHARASHTRA	2284	1304	1018	249	183	160	166	140	181	175	145	147	158	138	74	0
MANIPUR	33	14	12	6	3	2	1	2	0	1	2	0	3	6	0	0
MEGHALAYA	27	15	14	5	2	1	1	0	3	1	2	2	2	3	1	0
MIZORAM	30	13	11	8	2	1	3	0	1	1	3	1	0	3	2	0
NAGALAND	11	7	7	0	1	1	2	0	2	2	0	0	1	2	0	0
ODISHA	1225	614	463	207	108	107	87	68	63	68	60	77	57	65	73	0
PONDICHERRY	11	6	11	1	1	1	1	1	2	0	2	1	2	0	4	0
PUNJAB	696	314	238	142	84	41	39	46	77	46	31	22	24	19	19	0
RAJASTHAN	1885	967	838	224	184	155	139	131	128	130	117	124	163	119	57	0
SIKKIM	6	6	2	0	0	0	0	0	0	0	1	0	1	0	0	0
TAMIL NADU	549	268	451	43	60	45	38	64	64	66	92	57	73	52	47	0
TELANGANA	248	124	164	15	11	20	38	30	26	25	25	20	23	28	17	0
TRIPURA	51	27	17	7	6	4	2	3	2	2	4	1	4	3	1	0
UTTAR PRADESH	13123	6735	6120	1646	1395	1085	1002	1039	924	809	823	775	945	1091	753	0
UTTARAKHAND	275	157	119	38	25	15	17	19	17	19	20	11	18	18	16	0
WEST BENGAL	2480	1321	1119	272	182	175	206	163	170	179	164	162	156	162	126	0
<b>TOTAL</b>	<b>39145</b>	<b>20437</b>	<b>18262</b>	<b>4731</b>	<b>3727</b>	<b>3140</b>	<b>3044</b>	<b>2890</b>	<b>2937</b>	<b>2684</b>	<b>2649</b>	<b>2401</b>	<b>2786</b>	<b>2827</b>	<b>1978</b>	<b>0</b>

\*0" means that report was received but no cases were identified

Data from weekly case based reports

**Figure 1: Polio cases and SIAs**



WHO Country Office for India, National Polio Surveillance Project;

email: seinddata@who.int; website: www.searo.who.int/india/topics/poliomyelitis/en/

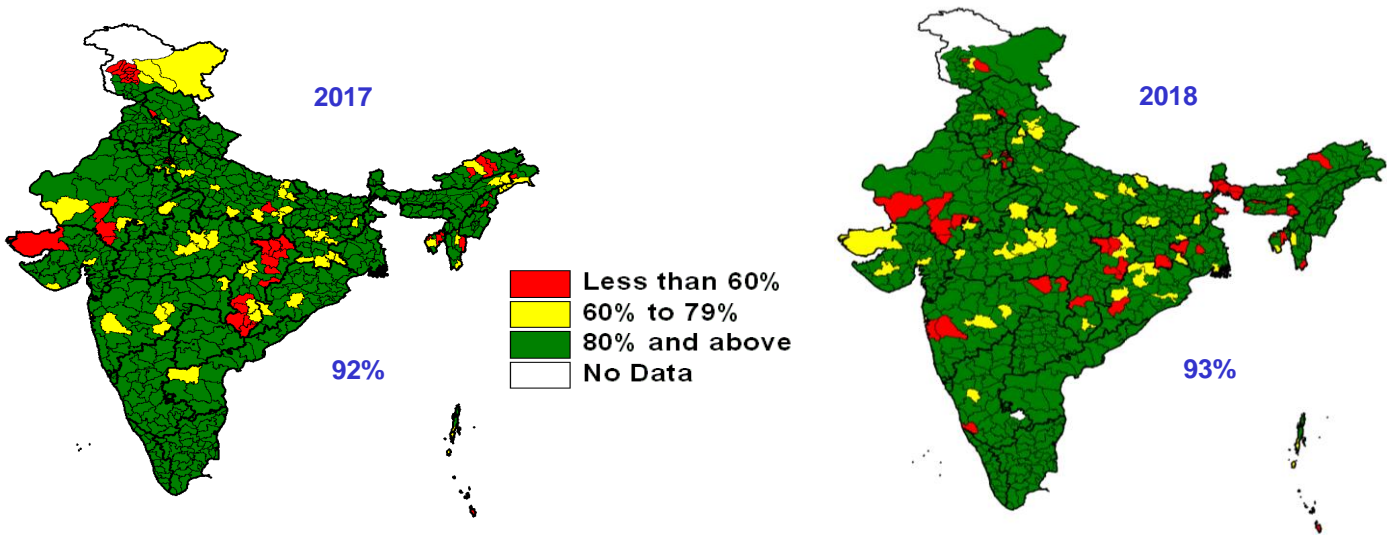
**Table 2: AFP cases key surveillance indicators,2016 - 2018**

State/UT's	2016						2017						2018					
	#	VDPV	Compatible	Discarded (non-polio AFP)	Pending		#	VDPV	Compatible	Discarded (non-polio AFP)	Pending		#	VDPV	Compatible	Discarded (non-polio AFP)	Pending	
					Total	> 90 Days					Total	> 90 Days					Total	> 90 Days
A&N ISLANDS	7	0	0	7	0	0	2	0	0	2	0	0	6	0	0	6	0	0
ANDHRA PRADESH	442	0	0	442	0	0	339	0	0	336	3	3	221	0	0	187	34	8
ARUNACHAL PR.	21	0	0	21	0	0	11	0	0	11	0	0	2	0	0	1	1	1
ASSAM	371	0	0	371	0	0	308	0	3	304	1	1	155	0	0	138	17	3
BIHAR	11072	1	3	11068	0	0	8421	0	9	8389	23	23	3724	0	0	3296	428	92
CHANDIGARH	87	0	0	87	0	0	63	0	0	63	0	0	24	0	0	22	2	0
CHHATTISGARH	373	0	1	372	0	0	332	0	0	330	2	2	123	0	0	93	30	20
D&N HAVELI	6	0	0	6	0	0	7	0	0	7	0	0	2	0	0	2	0	0
DAMAN & DIU	10	0	0	10	0	0	12	0	0	12	0	0	2	0	0	2	0	0
DELHI	824	0	0	824	0	0	706	0	0	703	3	3	366	0	0	310	56	17
GOA	29	0	0	29	0	0	27	0	0	27	0	0	12	0	0	7	5	0
GUJARAT	1082	0	0	1082	0	0	994	0	1	988	5	5	568	0	0	462	106	41
HARYANA	997	0	0	997	0	0	962	0	0	958	4	4	344	0	0	316	28	18
HIMACHAL PRADESH	180	0	0	180	0	0	83	0	0	83	0	0	43	0	0	37	6	2
JAMMU & KASHMIR	196	0	0	196	0	0	301	0	0	300	1	1	115	0	0	111	4	1
JHARKHAND	1019	0	2	1017	0	0	910	0	0	905	5	5	445	0	0	339	106	56
KARNATAKA	943	0	0	943	0	0	664	0	1	662	1	1	385	0	0	313	72	22
KERALA	356	0	0	356	0	0	313	0	0	313	0	0	147	0	0	138	9	5
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	2267	0	0	2267	0	0	1756	0	1	1748	7	7	974	0	0	785	189	71
MAHARASHTRA	2721	0	2	2719	0	0	2284	0	1	2282	1	1	1018	0	0	830	188	90
MANIPUR	21	0	0	21	0	0	33	0	0	33	0	0	12	0	0	11	1	0
MEGHALAYA	26	0	0	26	0	0	27	0	0	27	0	0	14	0	0	10	4	2
MIZORAM	34	0	0	34	0	0	30	0	0	30	0	0	11	0	0	7	4	2
NAGALAND	18	0	0	18	0	0	11	0	0	11	0	0	7	0	0	4	3	1
ODISHA	1620	0	0	1620	0	0	1225	0	1	1218	6	6	463	0	0	370	93	30
PONDICHERRY	17	0	0	17	0	0	11	0	0	11	0	0	11	0	0	8	3	0
PUNJAB	726	0	0	726	0	0	696	0	0	690	6	6	238	0	0	183	55	28
RAJASTHAN	1742	0	1	1741	0	0	1885	0	1	1877	7	7	838	0	0	720	118	40
SIKKIM	4	0	0	4	0	0	6	0	0	6	0	0	2	0	0	2	0	0
TAMIL NADU	727	0	0	727	0	0	549	0	0	547	2	2	451	0	0	427	24	7
TELANGANA	404	0	0	404	0	0	248	0	0	247	1	1	164	0	0	124	40	20
TRIPURA	30	0	0	30	0	0	51	0	0	51	0	0	17	0	0	15	2	2
UTTAR PRADESH	14780	0	6	14774	0	0	13123	0	12	13076	35	35	6120	0	0	5296	824	209
UTTARAKHAND	394	0	0	394	0	0	275	0	1	270	4	4	119	0	0	95	24	5
WEST BENGAL	2953	0	0	2953	0	0	2480	0	3	2459	18	18	1119	0	0	979	140	59
<b>TOTAL</b>	<b>46499</b>	<b>1</b>	<b>15</b>	<b>46483</b>	<b>0</b>	<b>0</b>	<b>39145</b>	<b>0</b>	<b>34</b>	<b>38976</b>	<b>135</b>	<b>135</b>	<b>18262</b>	<b>0</b>	<b>0</b>	<b>15646</b>	<b>2616</b>	<b>852</b>

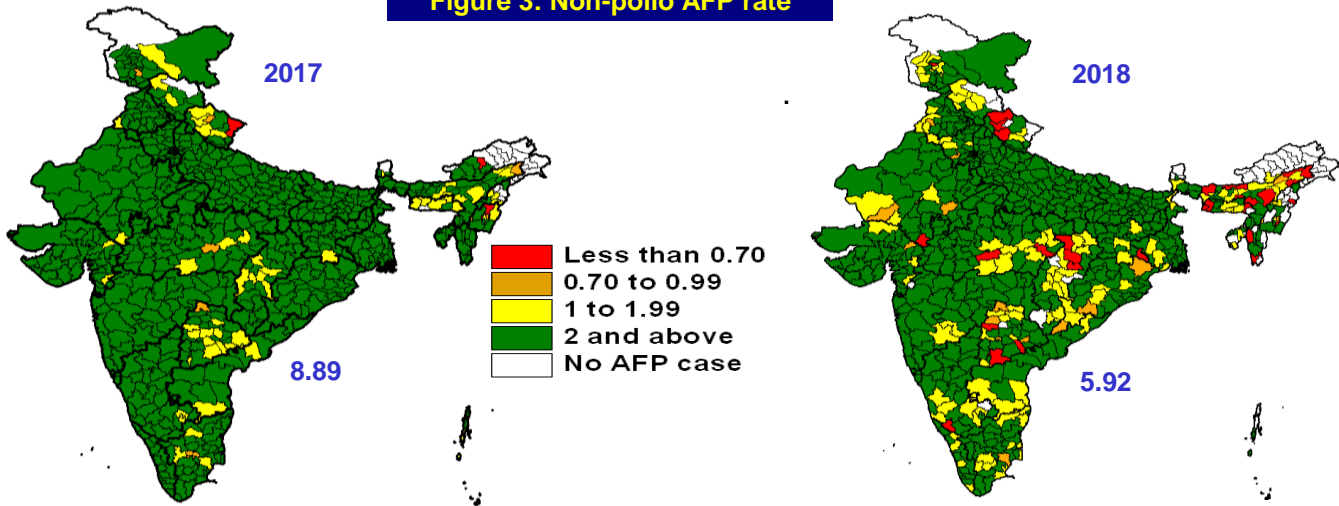
**Table 3: AFP cases key surveillance indicators, 2016 - 2018**

State/UT's	2016				2017				2018			
	Surveillance Indicators				Surveillance Indicators				Surveillance Indicators			
	Annualized Rates		Specimen		Annualized Rates		Specimen		Annualized Rates		Specimen	
	AFP rate	Non-polio AFP rate	% with 2 spec. w/in 14 days	% with any specimen	AFP rate	Non-polio AFP rate	% with 2 spec. w/in 14 days	% with any specimen	AFP rate	Non-polio AFP rate	% with 2 spec. w/in 14 days	% with any specimen
A&N ISLANDS	7.61	7.61	86	86	2.11	2.11	100	100	10.38	10.38	100	100
ANDHRA PRADESH	3.38	3.38	89	96	2.57	2.55	86	96	2.8	2.37	78	96
ARUNACHAL PR.	3.37	3.37	71	100	1.74	1.74	82	100	0.5	0.25	50	100
ASSAM	2.81	2.81	96	99	2.56	2.52	94	99	2.12	1.89	92	99
BIHAR	23.83	23.83	88	99	17.66	17.6	89	98	12.69	11.23	88	98
CHANDIGARH	19.16	19.16	95	100	13.64	13.64	89	100	8.57	7.85	96	96
CHHATTISGARH	3.40	3.39	63	94	2.99	2.97	73	96	1.88	1.42	68	97
D&N HAVELI	7.14	7.14	83	100	8.05	8.05	86	100	3.73	3.73	100	100
DAMAN & DIU	14.93	14.93	100	100	15.58	15.58	100	100	5.78	5.78	100	100
DELHI	15.08	15.08	81	97	12.7	12.65	83	97	10.53	8.92	84	98
GOA	7.04	7.04	93	100	6.46	6.46	74	96	4.75	2.77	58	100
GUJARAT	4.67	4.67	84	94	5.03	5	83	94	5.01	4.07	83	96
HARYANA	9.04	9.04	84	98	8.56	8.52	85	98	5.04	4.63	87	99
HIMACHAL PRADESH	7.93	7.93	87	97	4.02	4.02	84	98	3.44	2.96	81	98
JAMMU & KASHMIR	3.44	3.44	93	99	5.44	5.42	93	100	3.45	3.33	97	99
JHARKHAND	8.37	8.35	81	96	7.34	7.3	79	96	5.81	4.43	80	97
KARNATAKA	5.43	5.43	82	97	3.76	3.75	82	97	3.6	2.93	83	97
KERALA	4.15	4.15	90	100	3.63	3.63	91	100	2.85	2.67	92	99
LAKSHADWEEP	0.00	0.00	NA	NA	0	0	NA	NA	0	0.00	NA	NA
MADHYA PRADESH	7.08	7.08	83	98	5.38	5.36	81	97	4.92	3.97	81	98
MAHARASHTRA	8.27	8.26	84	97	6.85	6.84	83	98	5.06	4.12	81	97
MANIPUR	1.99	1.99	62	100	2.51	2.51	97	100	1.88	1.73	92	92
MEGHALAYA	1.95	1.95	85	96	1.85	1.85	85	100	1.56	1.12	79	100
MIZORAM	6.71	6.71	91	97	6.59	6.59	80	100	4.21	2.68	73	100
NAGALAND	2.82	2.82	67	89	1.51	1.51	73	91	1.8	1.03	43	86
ODISHA	12.82	12.82	88	99	9.38	9.33	88	99	5.95	4.75	89	98
PONDICHERRY	4.17	4.17	94	94	3.41	3.41	91	100	5.64	4.10	73	82
PUNJAB	9.51	9.51	84	98	9	8.92	84	97	5.09	3.92	78	94
RAJASTHAN	7.12	7.11	82	95	7.63	7.6	83	97	5.59	4.80	84	96
SIKKIM	1.77	1.77	100	100	2.62	2.62	83	100	1.45	1.45	100	100
TAMIL NADU	3.94	3.94	95	99	3.11	3.1	95	99	4.27	4.04	95	99
TELANGANA	3.97	3.97	80	94	2.36	2.35	72	96	2.67	2.02	71	99
TRIPURA	1.85	1.85	77	100	3.96	3.96	84	100	2.86	2.52	94	100
UTTAR PRADESH	16.89	16.89	88	98	14.73	14.67	86	98	11.31	9.79	85	98
UTTARAKHAND	8.91	8.91	87	98	6.11	6	83	98	4.35	3.48	79	96
WEST BENGAL	9.43	9.43	93	99	8.06	7.99	91	99	6.07	5.31	90	99
<b>TOTAL</b>	<b>10.60</b>	<b>10.60</b>	<b>87</b>	<b>98</b>	<b>8.93</b>	<b>8.89</b>	<b>86</b>	<b>98</b>	<b>6.91</b>	<b>5.92</b>	<b>85</b>	<b>98</b>

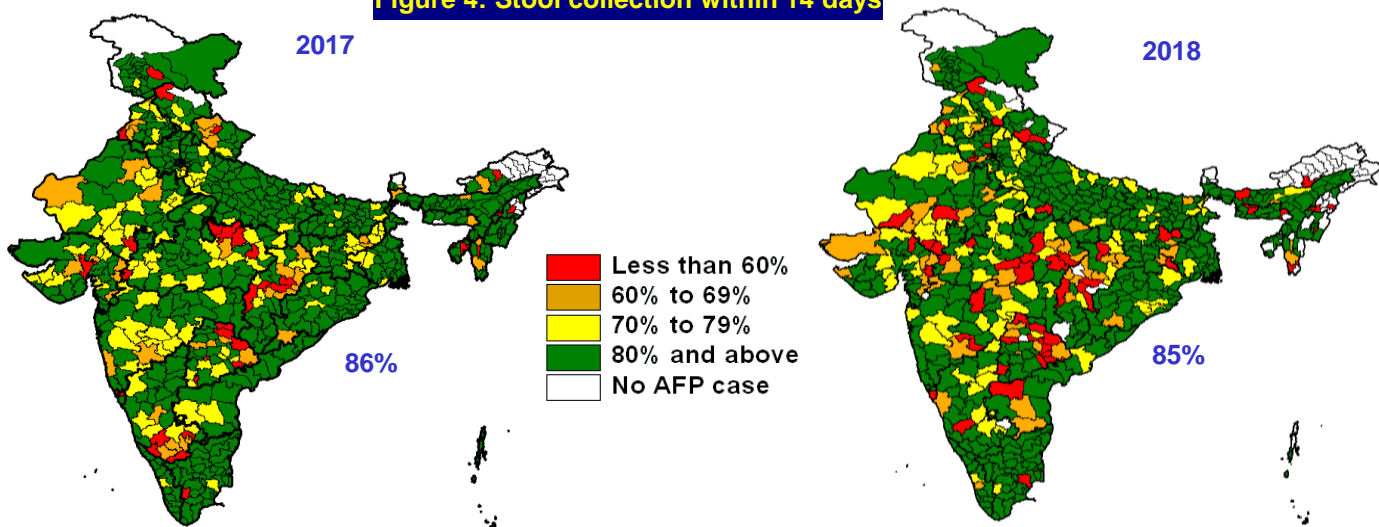
**Figure 2: Timeliness of Reporting Units**



**Figure 3: Non-polio AFP rate**



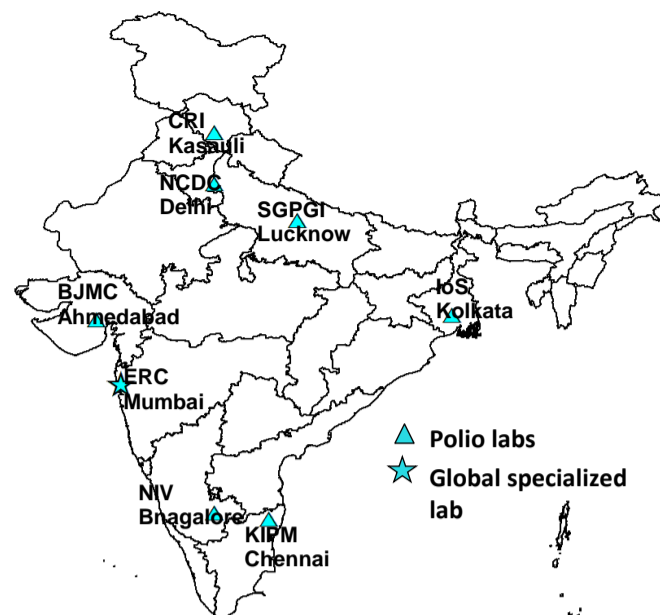
**Figure 4: Stool collection within 14 days**



**Table 4: Primary isolation results of AFP cases**

2018								
Polio Laboratories	Number of AFP cases with stool specimens	Number of AFP cases with laboratory result as				Number of cases pending for		Number of specimens received by lab
		Culture positive for poliovirus	Culture positive for polio virus and NPEV	NPEV	No polio virus or NPEV	<=14 days	>14 days	
BJMC, Ahmedabad	2601	117	10	453	1892	129	0	5193
NIV, Bangalore	1511	64	7	411	946	83	0	3014
ERC, Mumbai	1934	91	6	305	1439	93	0	3860
IoS, Kolkata	2386	105	5	437	1837	2	0	4741
NCDC, Delhi	2842	96	10	352	2224	160	0	5683
CRI, Kasauli	714	15	0	71	615	13	0	1432
KIPM, Chennai	1878	53	2	308	1515	0	0	3751
SGPGI, Lucknow	3568	108	10	626	2663	161	0	7127
<b>TOTAL</b>	<b>17434</b>	<b>649</b>	<b>50</b>	<b>2963</b>	<b>13131</b>	<b>641</b>	<b>0</b>	<b>34801</b>

**Figure 5: Polio laboratory network**



2017								
Polio Laboratories	Number of AFP cases with stool specimens	Number of AFP cases with laboratory result as				Number of cases pending for		Number of specimens received by lab
		Culture positive for poliovirus	Culture positive for polio virus and NPEV	NPEV	No polio virus or NPEV	<=14 days	>14 days	
BJMC, Ahmedabad	5430	201	30	1059	4140	0	0	10870
NIV, Bangalore	3505	123	24	950	2408	0	0	7024
ERC, Mumbai	2891	142	13	498	2238	0	0	5808
IoS, Kolkata	5875	161	19	1309	4386	0	0	11754
NCDC, Delhi	5994	179	21	824	4970	0	0	11994
CRI, Kasauli	1981	19	1	297	1664	0	0	3977
KIPM, Chennai	3642	43	7	671	2921	0	0	7259
SGPGI, Lucknow	8955	250	34	2060	6611	0	0	17917
<b>TOTAL</b>	<b>38273</b>	<b>1118</b>	<b>149</b>	<b>7668</b>	<b>29338</b>	<b>0</b>	<b>0</b>	<b>76603</b>

**Table 5: Intratypic differentiation (ITD) of isolates from AFP cases**

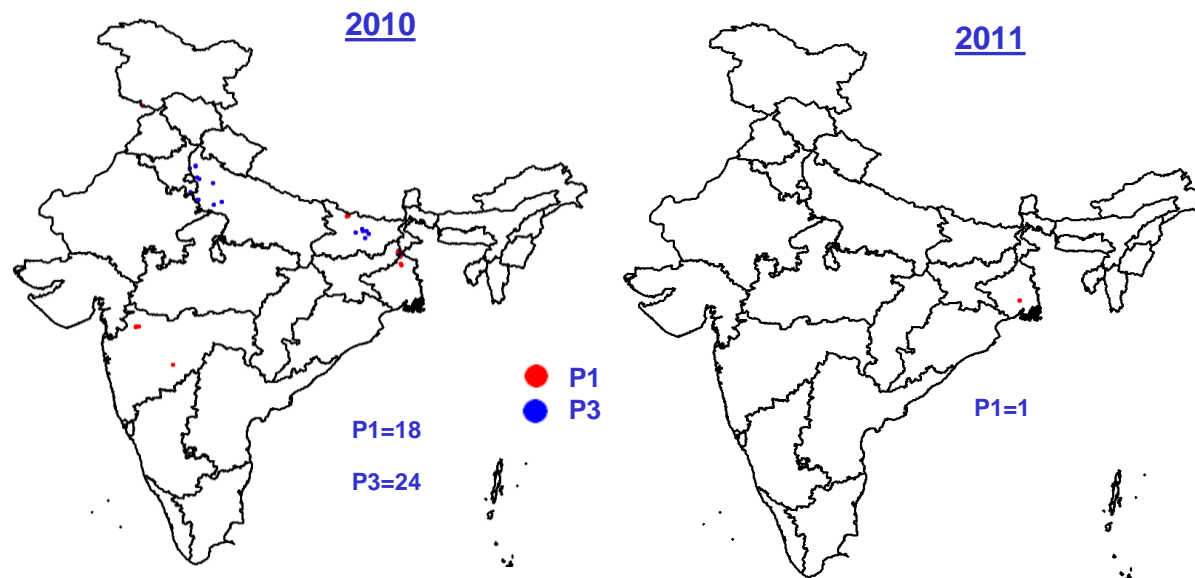
2018																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	128	0	0	0	0	26	0	41	58	0	0	0	3	0	0	0	0	0
NIV, Bangalore	71	0	0	0	0	17	0	22	29	0	0	0	3	0	0	0	0	0
ERC, Mumbai	97	0	0	0	0	20	0	36	27	0	0	0	14	0	0	0	0	0
IoS, Kolkata	110	0	0	0	0	29	0	33	41	0	0	0	3	1	0	3	0	0
NCDC, Delhi	105	0	0	0	0	33	0	39	32	0	0	0	0	0	0	1	0	0
CRI, Kasauli	15	0	0	0	0	4	0	3	8	0	0	0	0	0	0	0	0	0
KIPM, Chennai	54	0	0	0	0	15	0	18	21	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	119	0	0	0	0	34	0	45	37	0	0	0	1	0	1	1	0	0
<b>TOTAL</b>	<b>699</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>178</b>	<b>0</b>	<b>237</b>	<b>253</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>

2017																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	231	0	0	0	0	80	0	63	79	0	0	0	9	0	0	0	0	0
NIV, Bangalore	148	0	0	0	0	55	0	33	45	0	0	0	15	0	0	0	0	0
ERC, Mumbai	159	0	0	0	0	51	0	48	39	0	0	0	21	0	0	0	0	0
IoS, Kolkata	173	0	0	0	0	54	0	41	56	0	0	0	19	3	0	0	0	0
NCDC, Delhi	200	0	0	0	0	55	0	88	49	0	0	0	8	0	0	0	0	0
CRI, Kasauli	21	0	0	0	0	11	0	5	5	0	0	0	0	0	0	0	0	0
KIPM, Chennai	49	0	0	0	0	10	0	25	14	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	286	0	0	0	0	58	0	99	63	0	0	0	25	41	0	0	0	0
<b>TOTAL</b>	<b>1267</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>374</b>	<b>0</b>	<b>402</b>	<b>350</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>97</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Table 6: Most recent Wild Polio Virus case by State

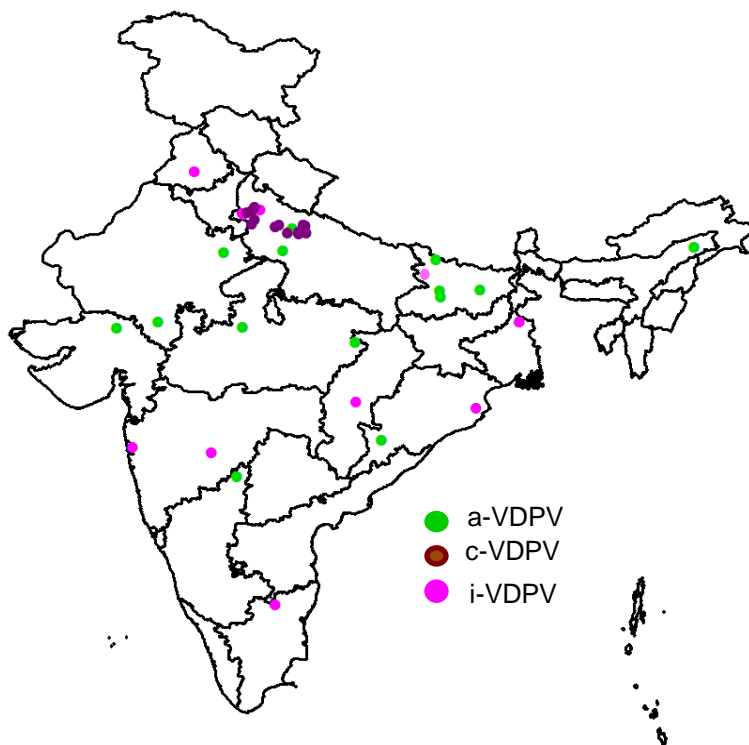
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09	P3
Delhi	28-Jun-09	P3
Madhya Pradesh	04-Aug-08	P3
Odisha	22-Jul-08	P3
Andhra Pradesh	16-Jul-08	P3
Assam	09-Jun-08	P1
Karnataka	03-Nov-07	P3
Gujarat	16-Mar-07	P1
Telangana	03-Jul-07	P1
Chandigarh	02-Aug-06	P1
Tamil Nadu	18-Feb-04	P1
Chhattisgarh	18-Jul-02	P1
Kerala	29-Sep-00	P1
Pondicherry	26-Nov-98	P1
Goa	28-Oct-98	P1
Daman & Diu	22-Oct-98	P1
D & N Haveli	31-Jan-98	P1
Nagaland	10-Dec-97	P1&P3
Meghalaya	15-Oct-97	P1
Tripura	10-Oct-97	P1
A&N Islands	Before 1997	
Arunachal Pradesh	Before 1997	
Lakshadweep	Before 1997	
Manipur	Before 1997	
Mizoram	Before 1997	
Sikkim	Before 1997	

Figure 6: Wild Polio cases, India



Month	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	112	36	36	7	18	51	4	10	8	24	112	14	16	1	0	0	0	0	0	0	0
February	32	22	10	1	8	16	3	5	9	14	53	5	3	0	0	0	0	0	0	0	0
March	42	11	10	3	7	9	1	1	8	14	40	16	0	0	0	0	0	0	0	0	0
April	26	8	20	3	16	7	1	2	13	14	40	13	2	0	0	0	0	0	0	0	0
May	49	39	6	4	42	5	9	2	36	32	34	24	2	0	0	0	0	0	0	0	0
June	118	69	8	13	117	7	14	6	76	30	38	79	2	0	0	0	0	0	0	0	0
July	324	142	25	30	251	25	13	3	121	64	53	89	5	0	0	0	0	0	0	0	0
August	418	187	39	62	280	29	18	6	114	78	67	119	7	0	0	0	0	0	0	0	0
September	283	193	32	33	334	30	18	14	137	82	49	145	3	0	0	0	0	0	0	0	0
October	170	195	31	38	247	20	32	7	71	98	32	129	1	0	0	0	0	0	0	0	0
November	226	155	31	43	180	16	14	7	55	203	24	60	0	0	0	0	0	0	0	0	0
December	134	69	17	31	100	10	7	3	28	221	17	48	1	0	0	0	0	0	0	0	0
Total	1934	1126	265	268	1600	225	134	66	676	874	559	741	42	1	0	0	0	0	0	0	0

Figure 7: Vaccine-derived Poliovirus in AFP cases, India, 2009 - 2018



Year	type 1		type 2			type 3
	a	i	a	c	i	i
2009	1	1	4	15		
2010			1	3	1	
2011			4		2	1
2012					1	
2013			2		3	
2014			3			
2015			1		1	
2016					1	
2017						
2018						
Total	1	1	15	18	9	1

