

# AFP Surveillance Bulletin - India

Report for week 13, ending 30 March 2019

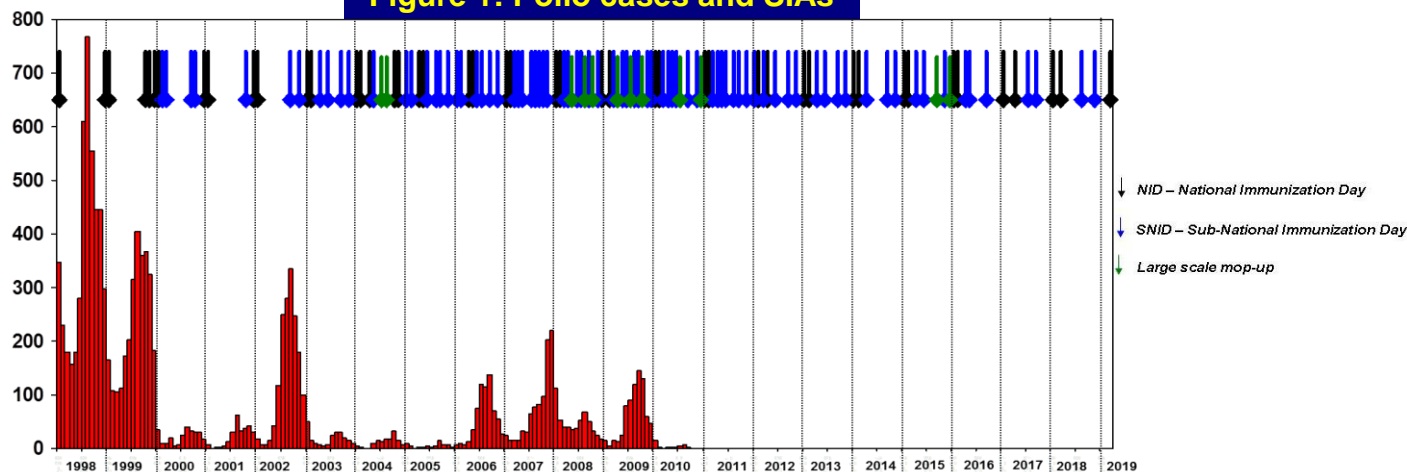
**Table 1: AFP cases by month of paralysis onset, last 13 months**

State/UT's	Total AFP cases in 2018	AFP cases as on week 13, 2018	AFP cases as on week 13, 2019	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
A&N ISLANDS	8	3	1	2	0	2	0	0	1	0	1	0	0	1	0	0
ANDHRA PRADESH	419	91	72	31	31	42	24	35	40	32	37	32	43	39	24	9
ARUNACHAL PR.	10	1	5	2	0	0	0	0	1	0	0	5	2	4	0	1
ASSAM	271	50	48	25	18	24	28	29	15	22	17	15	36	23	18	7
BIHAR	7062	1499	1180	557	456	540	581	618	608	690	734	608	501	442	433	305
CHANDIGARH	55	14	14	6	5	3	1	4	5	8	7	3	5	8	3	3
CHHATTISGARH	246	55	55	17	18	15	20	17	22	27	22	15	23	26	21	8
D&N HAVELI	3	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
DAMAN & DIU	4	2	1	0	0	0	0	0	0	0	0	1	1	0	1	0
DELHI	688	139	162	54	58	70	48	51	52	64	56	63	64	84	47	31
GOA	25	2	11	0	1	1	4	2	1	3	3	1	5	4	4	3
GUJARAT	938	247	203	96	75	67	82	92	83	77	56	50	70	78	84	41
HARYANA	821	145	150	49	48	51	54	59	67	95	111	75	69	74	55	21
HIMACHAL PRADESH	74	25	16	5	6	3	3	3	8	4	2	10	6	7	3	6
JAMMU & KASHMIR	209	44	35	22	20	19	18	14	22	20	8	15	17	16	14	5
JHARKHAND	870	170	211	83	63	64	63	72	88	78	98	69	63	96	65	50
KARNATAKA	851	118	167	53	48	81	62	96	87	82	97	63	83	78	59	30
KERALA	301	59	66	25	23	26	23	33	36	19	20	21	23	32	28	6
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1867	350	290	129	130	161	160	175	181	168	186	152	127	116	130	44
MAHARASHTRA	1918	385	286	143	146	157	145	190	231	185	145	112	111	118	119	49
MANIPUR	31	2	9	2	0	3	6	3	3	4	5	1	3	5	1	3
MEGHALAYA	20	4	3	2	2	2	2	2	2	0	2	1	1	0	0	3
MIZORAM	32	3	1	3	1	0	3	3	5	4	4	6	2	0	1	0
NAGALAND	13	3	4	1	0	1	3	2	0	1	1	1	0	3	1	0
ODISHA	956	168	175	60	76	57	65	101	106	98	113	63	86	77	61	37
PONDICHERRY	25	4	1	2	1	2	0	6	3	1	0	5	3	0	1	0
PUNJAB	521	139	180	31	23	29	24	39	40	46	57	46	60	95	61	24
RAJASTHAN	1606	295	313	119	124	167	137	128	137	145	137	120	133	135	129	49
SIKKIM	5	1	3	1	0	1	0	0	0	0	0	2	1	1	2	0
TAMIL NADU	817	148	149	92	57	73	53	91	67	46	56	81	70	64	71	14
TELANGANA	368	59	100	24	21	24	30	29	28	28	34	51	48	52	33	15
TRIPURA	25	4	4	4	1	4	3	1	3	4	1	0	0	1	2	1
UTTAR PRADESH	12944	2152	2492	812	777	949	1116	1081	1187	1713	1457	1165	988	948	972	572
UTTARAKHAND	255	43	86	20	12	18	20	23	14	28	27	33	24	22	44	20
WEST BENGAL	2172	429	344	164	162	156	167	215	264	247	174	149	125	126	146	72
<b>TOTAL</b>	<b>36430</b>	<b>6853</b>	<b>6837</b>	<b>2637</b>	<b>2403</b>	<b>2813</b>	<b>2945</b>	<b>3214</b>	<b>3407</b>	<b>3940</b>	<b>3668</b>	<b>3034</b>	<b>2793</b>	<b>2775</b>	<b>2633</b>	<b>1429</b>

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

Data from weekly case based reports

**Figure 1: Polio cases and SIAs**



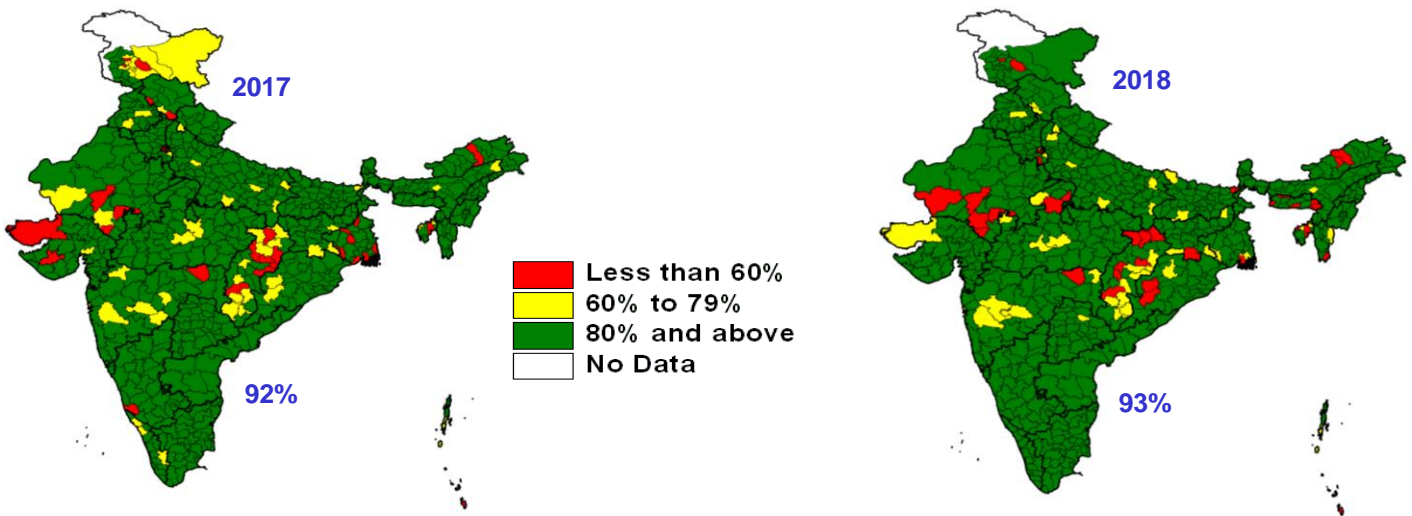
**Table 2: AFP cases key surveillance indicators,2017 - 2019**

State/UT's	2017						2018						2019					
	#	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	2	0	0	2	0	0	8	0	0	8	0	0	1	0	0	0	1	0
ANDHRA PRADESH	339	0	0	339	0	0	419	0	0	405	14	14	72	0	0	63	9	0
ARUNACHAL PR.	11	0	0	11	0	0	10	0	0	10	0	0	5	0	0	3	2	0
ASSAM	308	0	3	305	0	0	271	0	0	266	5	5	48	0	0	40	8	0
BIHAR	8416	0	10	8406	0	0	7062	0	2	6928	132	130	1180	0	0	895	285	0
CHANDIGARH	63	0	0	63	0	0	55	0	0	55	0	0	14	0	0	11	3	0
CHHATTISGARH	332	0	0	332	0	0	246	0	0	235	11	10	55	0	0	29	26	0
D&N HAVELI	7	0	0	7	0	0	3	0	0	3	0	0	0	0	0	0	0	0
DAMAN & DIU	12	0	0	12	0	0	4	0	0	4	0	0	1	0	0	0	1	0
DELHI	707	0	0	707	0	0	688	0	0	648	40	40	162	0	0	111	51	0
GOA	27	0	0	27	0	0	25	0	0	24	1	1	11	0	0	7	4	0
GUJARAT	993	0	1	992	0	0	938	0	0	910	28	27	203	0	0	168	35	0
HARYANA	964	0	0	964	0	0	821	0	0	801	20	19	150	0	0	112	38	0
HIMACHAL PRADESH	83	0	0	83	0	0	74	0	0	71	3	3	16	0	0	11	5	0
JAMMU & KASHMIR	301	0	0	301	0	0	209	0	0	208	1	1	35	0	0	30	5	0
JHARKHAND	909	0	0	909	0	0	870	0	0	837	33	33	211	0	0	132	79	0
KARNATAKA	663	0	1	662	0	0	851	0	0	831	20	20	167	0	0	125	42	0
KERALA	313	0	0	313	0	0	301	0	0	297	4	4	66	0	0	60	6	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1755	0	1	1754	0	0	1867	0	1	1799	67	67	290	0	0	168	122	0
MAHARASHTRA	2284	0	1	2283	0	0	1918	0	0	1877	41	39	286	0	0	156	130	0
MANIPUR	33	0	0	33	0	0	31	0	0	31	0	0	9	0	0	6	3	0
MEGHALAYA	27	0	0	27	0	0	20	0	0	19	1	1	3	0	0	0	3	0
MIZORAM	30	0	0	30	0	0	32	0	0	30	2	2	1	0	0	1	0	0
NAGALAND	11	0	0	11	0	0	13	0	0	13	0	0	4	0	0	4	0	0
ODISHA	1225	0	1	1224	0	0	956	0	0	929	27	25	175	0	0	120	55	0
PONDICHERRY	11	0	0	11	0	0	25	0	0	25	0	0	1	0	0	1	0	0
PUNJAB	696	0	0	696	0	0	521	0	0	498	23	23	180	0	0	157	23	0
RAJASTHAN	1885	0	1	1884	0	0	1606	0	0	1546	60	58	313	0	0	250	63	0
SIKKIM	6	0	0	6	0	0	5	0	0	5	0	0	3	0	0	3	0	0
TAMIL NADU	549	0	0	549	0	0	817	0	0	815	2	2	149	0	0	138	11	0
TELANGANA	248	0	0	248	0	0	368	0	0	351	17	16	100	0	0	66	34	0
TRIPURA	51	0	0	51	0	0	25	0	0	23	2	2	4	0	0	1	3	0
UTTAR PRADESH	13114	0	14	13100	0	0	12944	0	4	12672	268	265	2492	0	0	1822	670	0
UTTARAKHAND	274	0	1	273	0	0	255	0	0	246	9	9	86	0	0	59	27	0
WEST BENGAL	2478	0	3	2475	0	0	2172	0	2	2131	39	38	344	0	0	277	67	0
<b>TOTAL</b>	<b>39127</b>	<b>0</b>	<b>37</b>	<b>39090</b>	<b>0</b>	<b>0</b>	<b>36430</b>	<b>0</b>	<b>9</b>	<b>35551</b>	<b>870</b>	<b>854</b>	<b>6837</b>	<b>0</b>	<b>0</b>	<b>5026</b>	<b>1811</b>	<b>0</b>

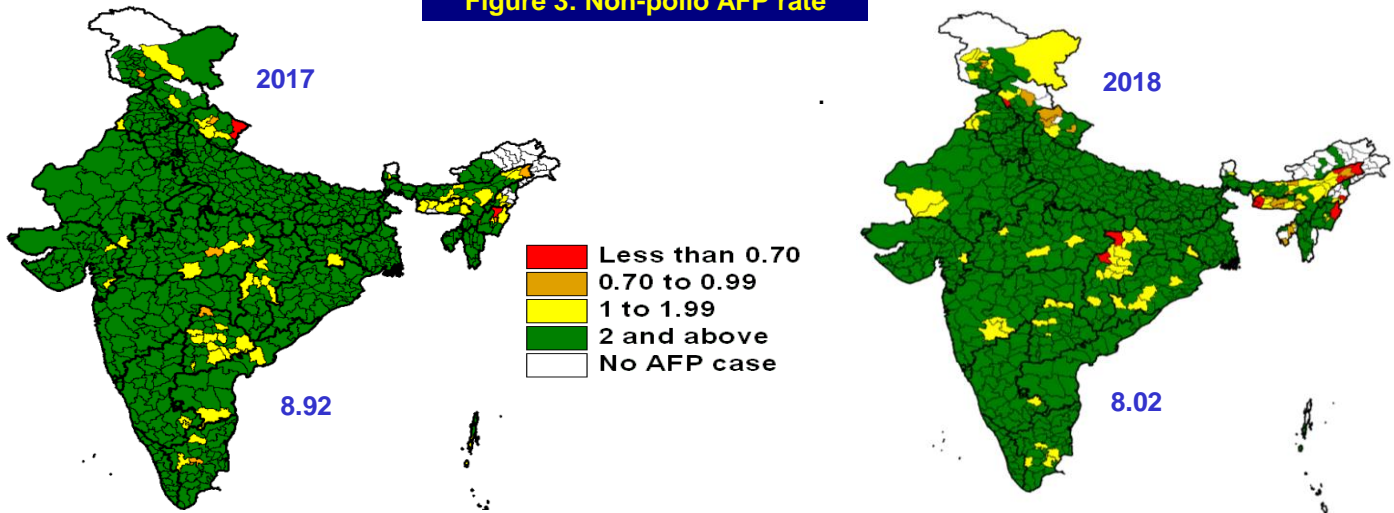
**Table 3: AFP cases key surveillance indicators, 2017 - 2019**

State/UT's	2017				2018				2019			
	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	2.11	2.11	100	100	8.25	8.25	100	100	3.92	0.00	0	100
ANDHRA PRADESH	2.57	2.57	86	96	3.17	3.06	79	95	2.64	2.31	89	94
ARUNACHAL PR.	1.74	1.74	82	100	1.49	1.49	90	100	2.88	1.73	80	100
ASSAM	2.56	2.53	94	99	2.21	2.17	93	98	1.55	1.29	98	100
BIHAR	17.65	17.63	89	98	14.34	14.07	88	98	9.42	7.14	90	98
CHANDIGARH	13.64	13.64	89	100	11.70	11.70	96	98	17.18	13.50	86	86
CHHATTISGARH	2.99	2.99	73	96	2.24	2.14	67	95	2.70	1.42	69	95
D&N HAVELI	8.05	8.05	86	100	3.33	3.33	100	100	0.00	0.00	NA	NA
DAMAN & DIU	15.58	15.58	100	100	6.90	6.90	100	100	6.25	0.00	0	100
DELHI	12.72	12.72	83	97	11.80	11.11	80	97	10.88	7.46	85	97
GOA	6.46	6.46	74	96	5.90	5.66	60	96	10.26	6.53	82	91
GUJARAT	5.02	5.02	83	95	4.93	4.78	82	95	4.18	3.46	90	96
HARYANA	8.58	8.58	85	98	7.17	6.99	85	99	5.14	3.84	83	97
HIMACHAL PRADESH	4.02	4.02	84	98	3.53	3.38	84	99	3.01	2.07	88	88
JAMMU & KASHMIR	5.44	5.44	93	100	3.74	3.72	96	99	2.44	2.09	97	100
JHARKHAND	7.33	7.33	79	96	6.77	6.51	77	96	6.80	4.25	80	95
KARNATAKA	3.76	3.75	82	97	4.75	4.63	83	97	3.66	2.74	87	98
KERALA	3.63	3.63	91	100	3.47	3.43	90	99	3.03	2.75	98	100
LAKSHADWEEP	0.00	0.00	NA	NA	0.00	0.00	NA	NA	0.00	0.00	NA	NA
MADHYA PRADESH	5.38	5.38	81	97	5.62	5.42	81	97	3.43	1.99	82	99
MAHARASHTRA	6.85	6.85	83	98	5.68	5.56	81	97	3.35	1.83	77	95
MANIPUR	2.51	2.51	97	100	2.90	2.90	94	97	3.34	2.23	100	100
MEGHALAYA	1.85	1.85	85	100	1.33	1.26	80	100	0.78	0.00	100	100
MIZORAM	6.59	6.59	80	100	7.31	6.85	72	100	0.94	0.94	100	100
NAGALAND	1.51	1.51	73	91	1.99	1.99	62	85	2.19	2.19	100	100
ODISHA	9.38	9.37	88	99	7.32	7.11	86	99	5.22	3.58	84	95
PONDICHERRY	3.41	3.41	91	100	7.65	7.65	96	100	1.20	1.20	100	100
PUNJAB	9.00	9.00	84	97	6.65	6.35	80	96	9.07	7.91	92	99
RAJASTHAN	7.63	7.63	83	97	6.39	6.15	85	96	4.90	3.91	87	98
SIKKIM	2.62	2.62	83	100	2.16	2.16	100	100	5.06	5.06	100	100
TAMIL NADU	3.11	3.11	95	99	4.61	4.60	94	99	3.40	3.15	95	98
TELANGANA	2.36	2.36	72	96	3.57	3.40	69	97	3.82	2.52	73	100
TRIPURA	3.96	3.96	86	100	2.51	2.30	92	100	1.58	0.40	50	100
UTTAR PRADESH	14.72	14.70	86	98	14.26	13.96	84	97	10.78	7.89	88	98
UTTARAKHAND	6.09	6.06	84	98	5.56	5.37	74	95	7.37	5.05	91	99
WEST BENGAL	8.05	8.04	91	99	7.03	6.90	91	99	4.75	3.82	90	99
<b>TOTAL</b>	<b>8.93</b>	<b>8.92</b>	<b>86</b>	<b>98</b>	<b>8.21</b>	<b>8.02</b>	<b>85</b>	<b>98</b>	<b>6.19</b>	<b>4.55</b>	<b>87</b>	<b>98</b>

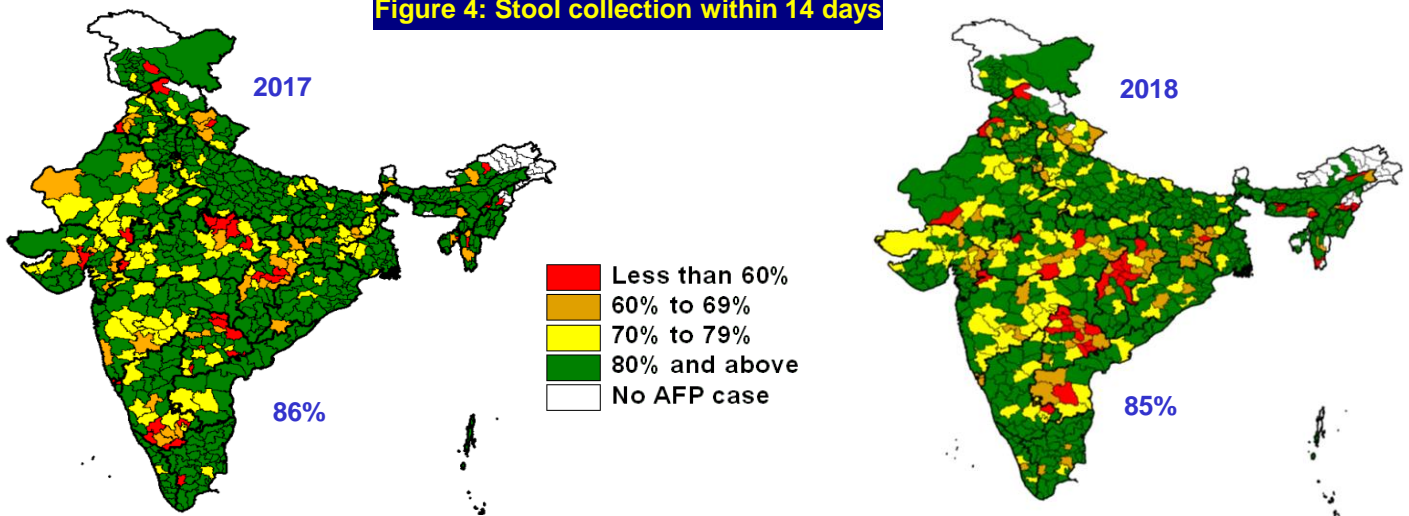
**Figure 2: Timeliness of Reporting Units**



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



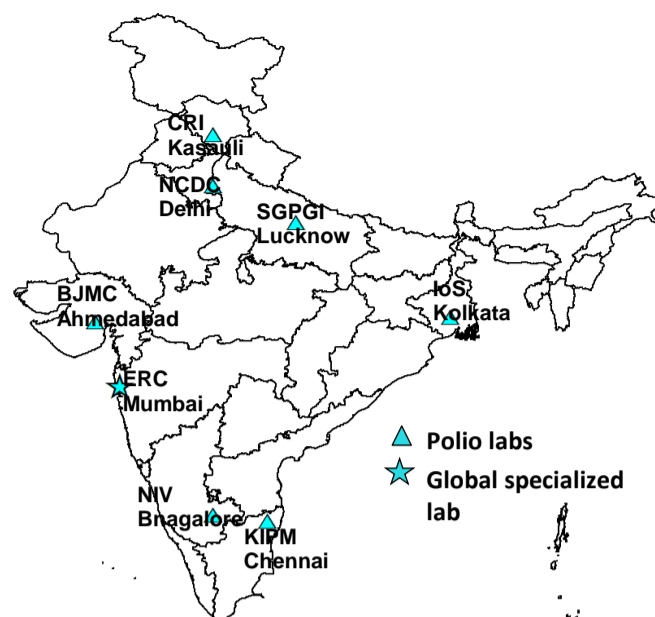
**Figure 4: Stool collection within 14 days**



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

2019								
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	892	24	0	57	710	101	0	1786
NIV, Bangalore	539	6	1	45	426	61	0	1081
ERC, Mumbai	415	10	0	38	367	0	0	809
IoS, Kolkata	810	19	0	44	684	63	0	1597
NCDC, Delhi	1078	42	0	71	965	0	0	2128
CRI, Kasauli	290	2	0	13	256	18	1	584
KIPM, Chennai	620	6	0	49	557	8	0	1236
SGPGI, Lucknow	1407	47	0	110	1085	165	0	2817
<b>TOTAL</b>	<b>6051</b>	<b>156</b>	<b>1</b>	<b>427</b>	<b>5050</b>	<b>416</b>	<b>1</b>	<b>12038</b>

**Figure 5: Polio laboratory network**



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	4722	191	27	942	3562	0	0	9450
NIV, Bangalore	3106	104	13	816	2173	0	0	6231
ERC, Mumbai	3715	113	11	801	2790	0	0	7433
IoS, Kolkata	4996	155	12	847	3982	0	0	9988
NCDC, Delhi	6143	143	15	857	5128	0	0	12275
CRI, Kasauli	1778	19	1	201	1557	0	0	3563
KIPM, Chennai	3782	82	4	625	3071	0	0	7554
SGPGI, Lucknow	7235	136	16	1294	5789	0	0	14704
<b>TOTAL</b>	<b>35477</b>	<b>943</b>	<b>99</b>	<b>6383</b>	<b>28052</b>	<b>0</b>	<b>0</b>	<b>71198</b>

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

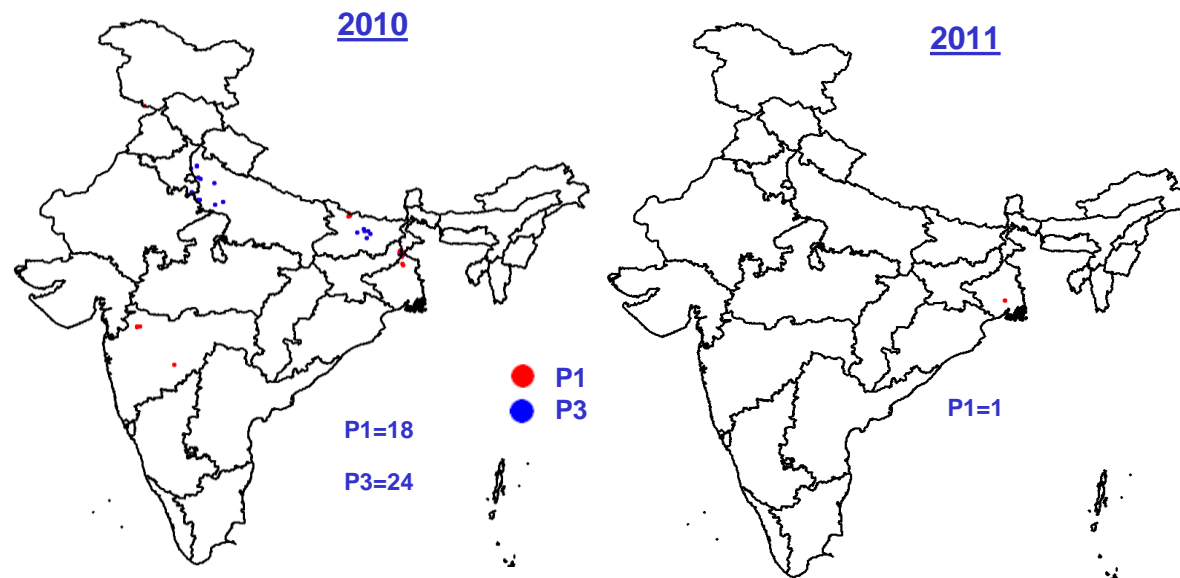
2019																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	24	0	0	0	0	4	0	5	13	0	0	0	2	0	0	0	0	0
NIV, Bangalore	7	0	0	0	0	3	0	2	1	0	0	0	0	0	0	1	0	0
ERC, Mumbai	10	0	0	0	0	0	0	3	0	0	0	0	1	0	0	6	0	0
IoS, Kolkata	19	0	0	0	0	6	0	2	8	0	0	0	0	0	0	3	0	0
NCDC, Delhi	42	0	0	0	0	2	0	9	14	0	0	0	1	0	0	16	0	0
CRI, Kasauli	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
KIPM, Chennai	6	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	47	0	0	0	0	0	0	3	3	0	0	0	0	1	0	38	2	0
<b>TOTAL</b>	<b>157</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>27</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>65</b>	<b>2</b>	<b>0</b>

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	219	0	0	0	0	50	0	70	93	0	0	0	6	0	0	0	0	0
NIV, Bangalore	117	0	0	0	0	29	0	42	40	0	0	0	6	0	0	0	0	0
ERC, Mumbai	124	0	0	0	0	30	0	41	34	0	0	0	19	0	0	0	0	0
IoS, Kolkata	167	0	0	0	0	48	0	48	60	0	0	0	10	1	0	0	0	0
NCDC, Delhi	157	0	0	0	0	41	0	71	43	0	0	0	2	0	0	0	0	0
CRI, Kasauli	20	0	0	0	0	5	0	6	9	0	0	0	0	0	0	0	0	0
KIPM, Chennai	85	0	0	0	0	23	0	31	31	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	153	0	0	0	0	45	1	56	49	0	0	0	1	0	1	0	0	0
<b>TOTAL</b>	<b>1042</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>271</b>	<b>1</b>	<b>365</b>	<b>359</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 6: Most recent Wild Polio Virus case by State**

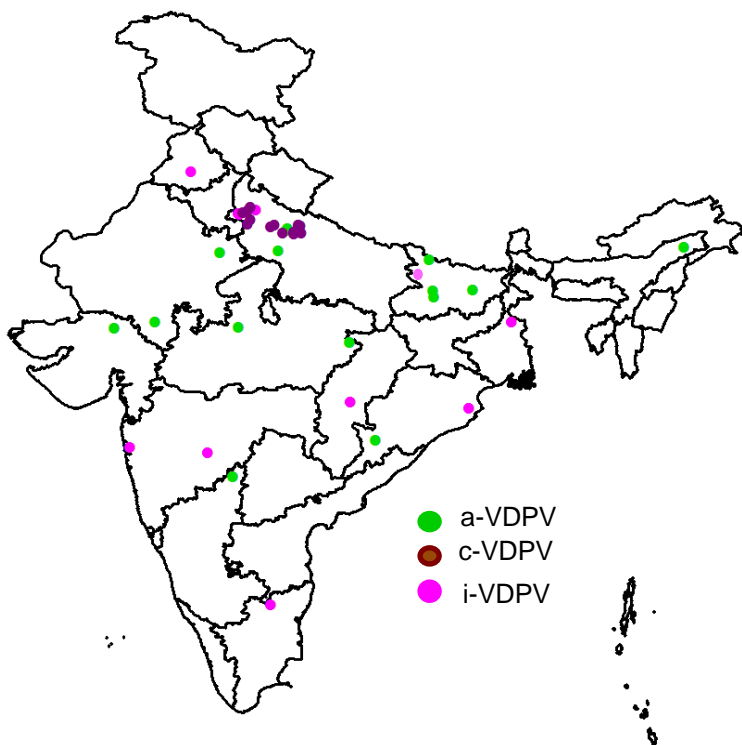
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09	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	2019
January	112	36	36	7	18	51	4	10	8	24	112	14	16	1	0	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	0
March	42	11	10	3	7	9	1	1	8	14	40	16	0	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	0
May	49	39	6	4	42	5	9	2	36	32	34	24	2	0	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	0
July	324	142	25	30	251	25	13	3	121	64	53	89	5	0	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	0
September	283	193	32	33	334	30	18	14	137	82	49	145	3	0	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	0
November	226	155	31	43	180	16	14	7	55	203	24	60	0	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	0
Total	1934	1126	265	268	1600	225	134	66	676	874	559	741	42	1	0	0	0	0	0	0	0	0

**Figure 7: Vaccine-derived Poliovirus in AFP cases, India, 2009 - 2019**



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						
2019						
Total	1	1	15	18	9	1

