

# AFP Surveillance Bulletin - India

Report for week 28, ending 13 July 2019

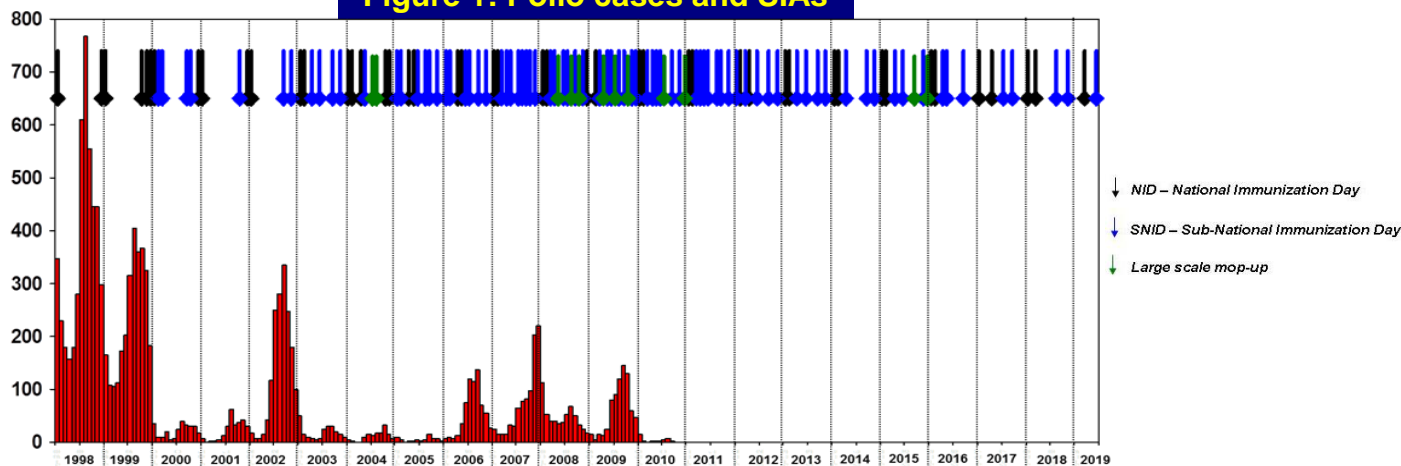
**Table 1: AFP cases by month of paralysis onset, last 13 months**

State/UT's	Total AFP cases in 2018	AFP cases as on week 28, 2018	AFP cases as on week 28, 2019	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19
A&N ISLANDS	8	6	1	0	1	0	1	0	0	1	0	0	0	0	0	0
ANDHRA PRADESH	415	196	207	34	41	32	37	32	42	39	24	33	31	37	42	1
ARUNACHAL PR.	10	2	8	0	1	0	0	5	2	4	0	3	0	1	0	0
ASSAM	271	135	176	29	15	22	17	15	36	23	20	18	26	34	54	1
BIHAR	7015	3292	3338	614	605	684	731	603	504	448	442	611	538	613	632	54
CHANDIGARH	55	23	31	4	5	8	7	3	5	8	3	5	7	5	3	0
CHHATTISGARH	248	113	164	17	22	27	21	15	26	27	25	28	36	34	13	1
D&N HAVELI	3	2	2	0	0	1	0	0	0	1	0	0	0	0	1	0
DAMAN & DIU	4	2	4	0	0	0	0	1	1	0	1	0	1	2	0	0
DELHI	679	328	383	50	51	63	55	61	65	86	54	68	56	54	59	6
GOA	25	9	24	2	1	3	3	1	5	4	4	7	2	5	2	0
GUJARAT	938	512	442	92	83	77	56	50	70	79	85	74	60	72	71	1
HARYANA	814	305	440	59	67	96	106	74	68	75	67	74	88	77	56	3
HIMACHAL PRADESH	74	42	36	3	8	4	2	10	6	7	3	8	3	13	2	0
JAMMU & KASHMIR	209	107	118	14	22	20	8	15	17	16	15	21	26	17	22	1
JHARKHAND	864	396	497	72	87	77	96	71	63	99	75	95	75	70	80	3
KARNATAKA	849	336	392	95	87	82	97	62	83	79	60	66	58	90	39	0
KERALA	300	142	182	33	36	19	20	22	22	34	33	27	35	33	19	1
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1848	859	884	169	180	168	184	150	127	116	138	135	144	156	182	13
MAHARASHTRA	1909	940	872	189	230	183	144	112	112	127	133	152	132	148	169	11
MANIPUR	31	12	22	3	3	4	5	1	3	5	2	3	4	4	4	0
MEGHALAYA	20	11	14	2	2	0	2	1	1	0	0	5	5	2	2	0
MIZORAM	32	7	20	3	5	4	4	6	2	0	2	4	5	4	5	0
NAGALAND	13	7	13	2	0	1	1	1	0	3	1	0	1	3	4	1
ODISHA	953	395	418	101	107	98	113	61	86	78	61	75	61	63	75	5
PONDICHERRY	25	7	8	6	3	1	0	5	3	0	1	2	0	2	3	0
PUNJAB	506	207	357	39	38	45	56	44	58	97	66	52	41	58	39	4
RAJASTHAN	1601	777	800	128	137	145	137	120	132	136	135	135	123	148	116	7
SIKKIM	5	2	8	0	0	0	0	2	1	1	2	0	1	4	0	0
TAMIL NADU	817	381	412	91	67	47	55	81	70	65	82	83	61	61	60	0
TELANGANA	358	143	226	28	27	28	35	47	47	52	35	31	36	34	36	2
TRIPURA	25	16	12	1	3	4	1	0	0	1	2	4	3	2	0	0
UTTAR PRADESH	12801	5370	6029	1062	1177	1710	1454	1146	983	962	993	1080	890	1034	1009	61
UTTARAKHAND	252	97	186	22	14	28	28	33	24	22	45	38	17	28	34	2
WEST BENGAL	2169	973	999	215	263	246	174	149	126	128	157	200	160	161	185	8
<b>TOTAL</b>	<b>36146</b>	<b>16152</b>	<b>17725</b>	<b>3179</b>	<b>3388</b>	<b>3927</b>	<b>3650</b>	<b>2999</b>	<b>2790</b>	<b>2823</b>	<b>2766</b>	<b>3137</b>	<b>2726</b>	<b>3069</b>	<b>3018</b>	<b>186</b>

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

Data from weekly case based reports

**Figure 1: Polio cases and SIAs**



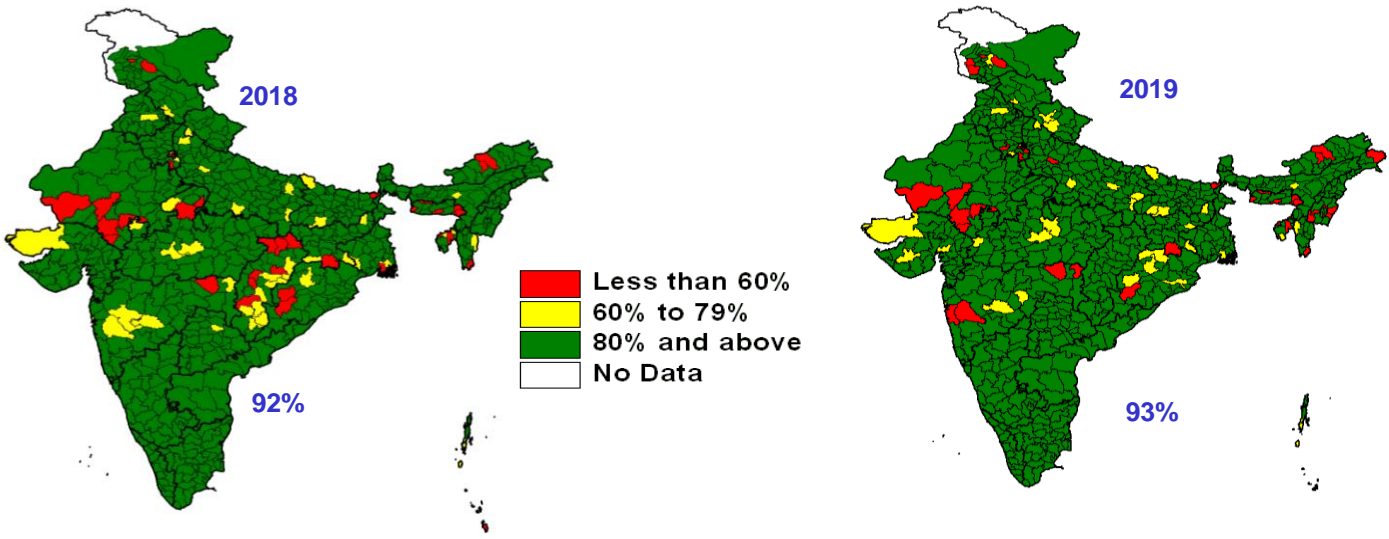
**Table 2: AFP cases key surveillance indicators, 2017 - 2019**

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	1
ANDHRA PRADESH	339	0	0	339	0	0	415	0	0	411	4	4	207	0	0	160	47	8
ARUNACHAL PR.	11	0	0	11	0	0	10	0	0	10	0	0	8	0	0	7	1	1
ASSAM	308	0	3	305	0	0	271	0	0	271	0	0	176	0	0	140	36	5
BIHAR	8416	0	10	8406	0	0	7015	0	4	7000	11	11	3338	0	0	2805	533	64
CHANDIGARH	63	0	0	63	0	0	55	0	0	55	0	0	31	0	0	29	2	0
CHHATTISGARH	332	0	0	332	0	0	248	0	0	244	4	4	164	0	0	124	40	15
D&N HAVELI	7	0	0	7	0	0	3	0	0	3	0	0	2	0	0	2	0	0
DAMAN & DIU	12	0	0	12	0	0	4	0	0	4	0	0	4	0	0	4	0	0
DELHI	707	0	0	707	0	0	679	0	0	668	11	11	383	0	0	313	70	33
GOA	27	0	0	27	0	0	25	0	0	25	0	0	24	0	0	20	4	1
GUJARAT	993	0	1	992	0	0	938	0	0	932	6	6	442	0	0	394	48	12
HARYANA	964	0	0	964	0	0	814	0	0	808	6	6	440	0	0	375	65	24
HIMACHAL PRADESH	83	0	0	83	0	0	74	0	0	74	0	0	36	0	0	33	3	0
JAMMU & KASHMIR	301	0	0	301	0	0	209	0	0	209	0	0	118	0	0	113	5	2
JHARKHAND	909	0	0	909	0	0	864	0	0	858	6	6	497	0	0	416	81	26
KARNATAKA	663	0	1	662	0	0	849	0	1	844	4	4	392	0	0	352	40	16
KERALA	313	0	0	313	0	0	300	0	0	300	0	0	182	0	0	165	17	2
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	1848	0	2	1839	7	7	884	0	0	617	267	42
MAHARASHTRA	2284	0	1	2283	0	0	1909	0	0	1909	0	0	872	0	0	599	273	66
MANIPUR	33	0	0	33	0	0	31	0	0	31	0	0	22	0	0	15	7	2
MEGHALAYA	27	0	0	27	0	0	20	0	0	20	0	0	14	0	0	11	3	2
MIZORAM	30	0	0	30	0	0	32	0	0	32	0	0	20	0	0	12	8	1
NAGALAND	11	0	0	11	0	0	13	0	0	13	0	0	13	0	0	10	3	0
ODISHA	1225	0	1	1224	0	0	953	0	0	952	1	1	418	0	0	340	78	18
PONDICHERRY	11	0	0	11	0	0	25	0	0	25	0	0	8	0	0	7	1	0
PUNJAB	696	0	0	696	0	0	506	0	0	503	3	3	357	0	0	314	43	10
RAJASTHAN	1885	0	1	1884	0	0	1601	0	0	1580	21	21	800	0	0	654	146	50
SIKKIM	6	0	0	6	0	0	5	0	0	5	0	0	8	0	0	8	0	0
TAMIL NADU	549	0	0	549	0	0	817	0	0	817	0	0	412	0	0	358	54	6
TELANGANA	248	0	0	248	0	0	358	0	0	356	2	2	226	0	0	177	49	8
TRIPURA	51	0	0	51	0	0	25	0	0	24	1	1	12	0	0	9	3	1
UTTAR PRADESH	13114	0	14	13100	0	0	12801	0	6	12743	52	52	6029	0	0	5170	859	242
UTTARAKHAND	274	0	1	273	0	0	252	0	0	249	3	3	186	0	0	147	39	9
WEST BENGAL	2478	0	3	2475	0	0	2169	0	3	2159	7	7	999	0	0	868	131	23
<b>TOTAL</b>	<b>39127</b>	<b>0</b>	<b>37</b>	<b>39090</b>	<b>0</b>	<b>0</b>	<b>36146</b>	<b>0</b>	<b>16</b>	<b>35981</b>	<b>149</b>	<b>149</b>	<b>17725</b>	<b>0</b>	<b>0</b>	<b>14768</b>	<b>2957</b>	<b>690</b>

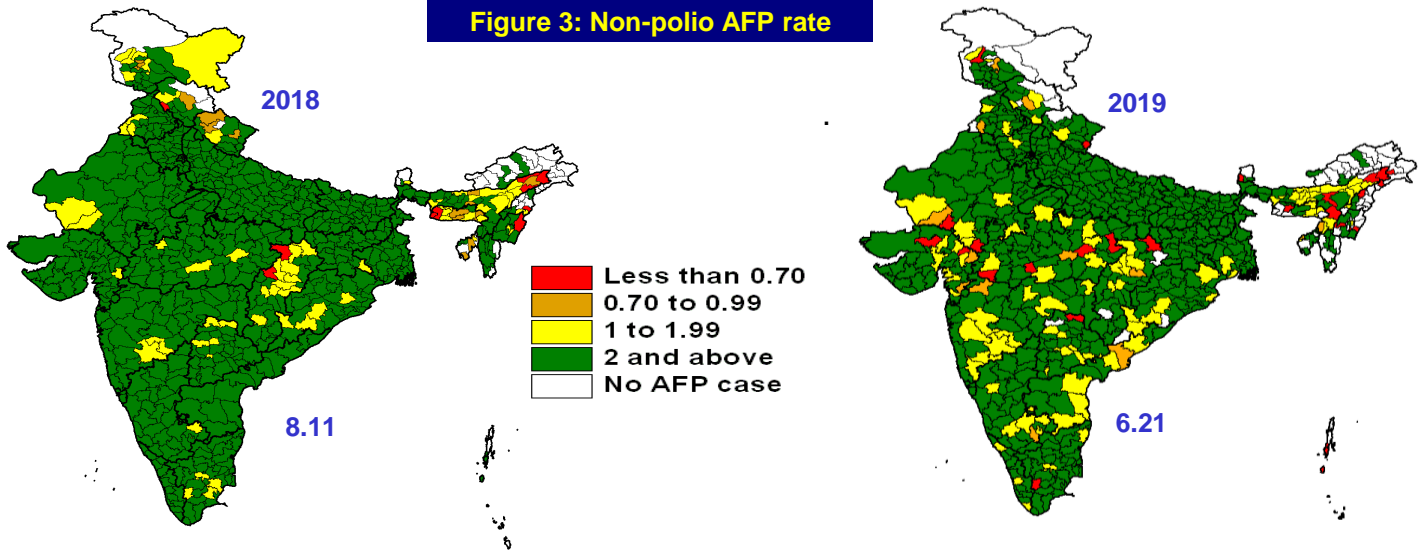
**Table 3: AFP cases key surveillance indicators, 2017 - 2019**

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	1.82	0.00	0	100
ANDHRA PRADESH	2.57	2.57	86	96	3.14	3.11	79	94	3.52	2.72	85	97
ARUNACHAL PR.	1.74	1.74	82	100	1.49	1.49	90	100	2.14	1.87	75	100
ASSAM	2.56	2.53	94	99	2.21	2.21	93	98	2.64	2.10	94	100
BIHAR	17.65	17.63	89	98	14.25	14.22	89	98	12.37	10.39	90	98
CHANDIGARH	13.64	13.64	89	100	11.7	11.7	96	98	17.66	16.52	94	100
CHHATTISGARH	2.99	2.99	73	96	2.26	2.22	67	94	3.73	2.82	65	94
D&N HAVELI	8.05	8.05	86	100	3.33	3.33	100	100	4.04	4.04	50	50
DAMAN & DIU	15.58	15.58	100	100	6.9	6.9	100	100	11.61	11.61	75	100
DELHI	12.72	12.72	83	97	11.64	11.46	81	97	11.94	9.76	80	94
GOA	6.46	6.46	74	96	5.9	5.9	60	96	10.39	8.66	88	96
GUJARAT	5.02	5.02	83	95	4.93	4.9	82	95	4.22	3.76	88	96
HARYANA	8.58	8.58	85	98	7.11	7.05	86	99	7	5.97	82	98
HIMACHAL PRADESH	4.02	4.02	84	98	3.53	3.53	84	99	3.15	2.89	94	100
JAMMU & KASHMIR	5.44	5.44	93	100	3.74	3.74	96	99	3.82	3.66	97	100
JHARKHAND	7.33	7.33	79	96	6.72	6.68	78	96	7.43	6.22	79	95
KARNATAKA	3.76	3.75	82	97	4.73	4.71	83	96	3.99	3.58	85	98
KERALA	3.63	3.63	91	100	3.46	3.46	91	99	3.88	3.52	90	99
LAKSHADWEEP	0.00	0.00	NA	NA	0	0	NA	NA	0	0.00	NA	NA
MADHYA PRADESH	5.38	5.38	81	97	5.56	5.54	82	98	4.86	3.39	82	97
MAHARASHTRA	6.85	6.85	83	98	5.65	5.65	81	98	4.74	3.25	77	96
MANIPUR	2.51	2.51	97	100	2.9	2.9	94	97	3.79	2.59	100	100
MEGHALAYA	1.85	1.85	85	100	1.33	1.33	80	100	1.68	1.32	79	100
MIZORAM	6.59	6.59	80	100	7.31	7.31	72	100	8.7	5.22	70	95
NAGALAND	1.51	1.51	73	91	1.99	1.99	62	85	3.3	2.54	85	92
ODISHA	9.38	9.37	88	99	7.3	7.29	87	99	5.79	4.71	85	97
PONDICHERRY	3.41	3.41	91	100	7.65	7.65	96	100	4.48	3.92	88	88
PUNJAB	9.00	9.00	84	97	6.45	6.42	82	96	8.35	7.34	87	98
RAJASTHAN	7.63	7.63	83	97	6.37	6.28	86	96	5.81	4.75	83	97
SIKKIM	2.62	2.62	83	100	2.16	2.16	100	100	6.27	6.27	100	100
TAMIL NADU	3.11	3.11	95	99	4.61	4.61	94	99	4.36	3.79	95	99
TELANGANA	2.36	2.36	72	96	3.47	3.45	71	97	4.01	3.14	74	99
TRIPURA	3.96	3.96	86	100	2.51	2.4	92	100	2.2	1.65	83	100
UTTAR PRADESH	14.72	14.70	86	98	14.11	14.04	85	97	12.11	10.39	87	98
UTTARAKHAND	6.09	6.06	84	98	5.5	5.43	75	95	7.4	5.85	87	96
WEST BENGAL	8.05	8.04	91	99	7.02	6.99	91	99	6.4	5.56	92	99
<b>TOTAL</b>	<b>8.93</b>	<b>8.92</b>	<b>86</b>	<b>98</b>	<b>8.15</b>	<b>8.11</b>	<b>85</b>	<b>98</b>	<b>7.45</b>	<b>6.21</b>	<b>87</b>	<b>98</b>

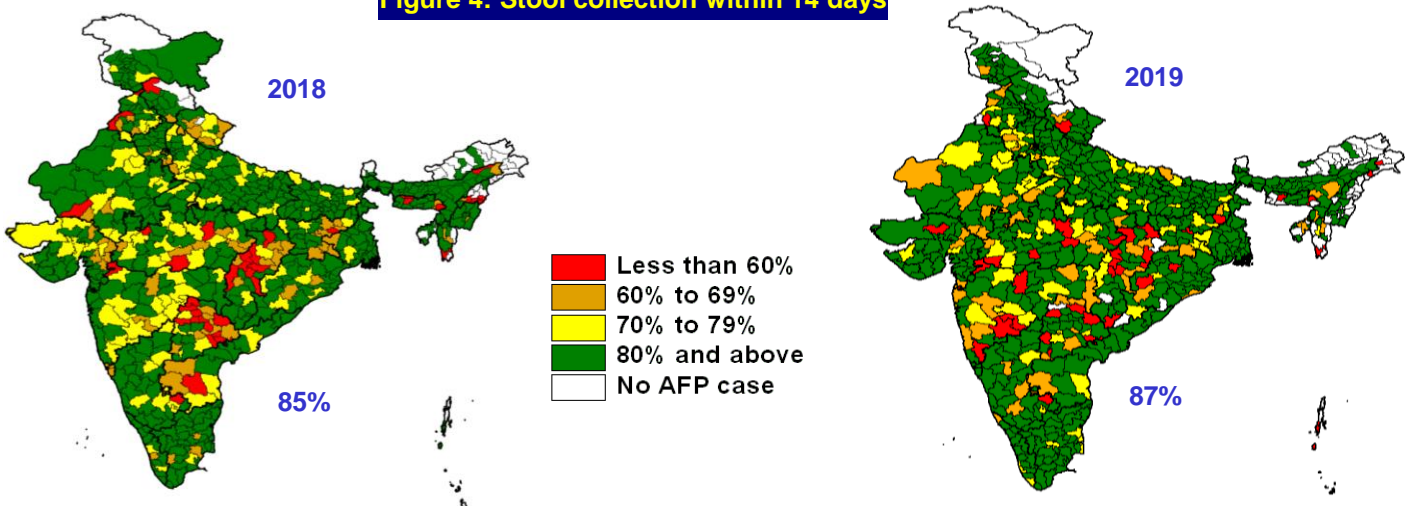
**Figure 2: Timeliness of Reporting Units**



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



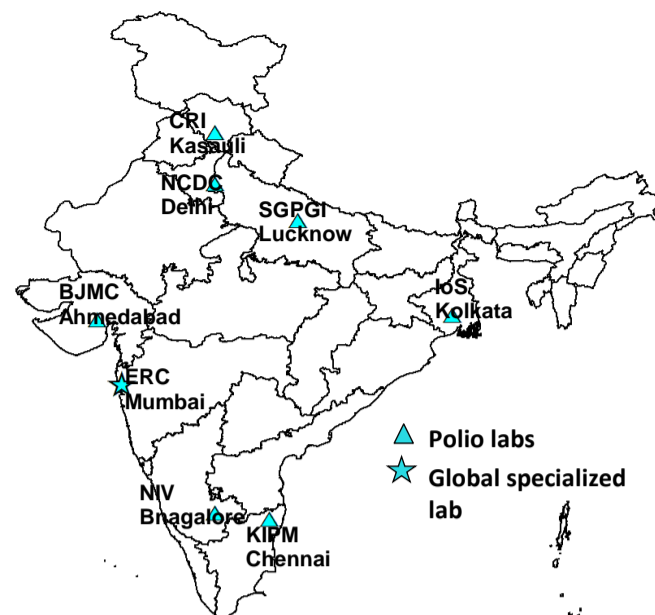
**Figure 4: Stool collection within 14 days**



**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	2456	100	10	399	1795	152	0	4919
NIV, Bangalore	1341	45	4	223	1004	65	0	2683
ERC, Mumbai	1546	46	1	166	1127	34	172	3082
IoS, Kolkata	2424	71	4	256	1961	130	2	4825
NCDC, Delhi	2787	146	9	311	2321	0	0	5526
CRI, Kasauli	693	10	1	63	591	28	0	1393
KIPM, Chennai	1584	40	0	200	1344	0	0	3135
SGPGI, Lucknow	3632	168	8	462	2781	211	2	7258
<b>TOTAL</b>	<b>16463</b>	<b>626</b>	<b>37</b>	<b>2080</b>	<b>12924</b>	<b>620</b>	<b>176</b>	<b>32821</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	4691	179	25	935	3552	0	0	9391
NIV, Bangalore	3102	101	13	816	2172	0	0	6223
ERC, Mumbai	3695	113	11	794	2777	0	0	7394
IoS, Kolkata	4987	152	12	845	3978	0	0	9968
NCDC, Delhi	6063	136	11	844	5072	0	0	12117
CRI, Kasauli	1765	18	1	198	1548	0	0	3533
KIPM, Chennai	3765	82	4	623	3056	0	0	7520
SGPGI, Lucknow	7197	133	16	1289	5759	0	0	14624
<b>TOTAL</b>	<b>35265</b>	<b>914</b>	<b>93</b>	<b>6344</b>	<b>27914</b>	<b>0</b>	<b>0</b>	<b>70770</b>

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

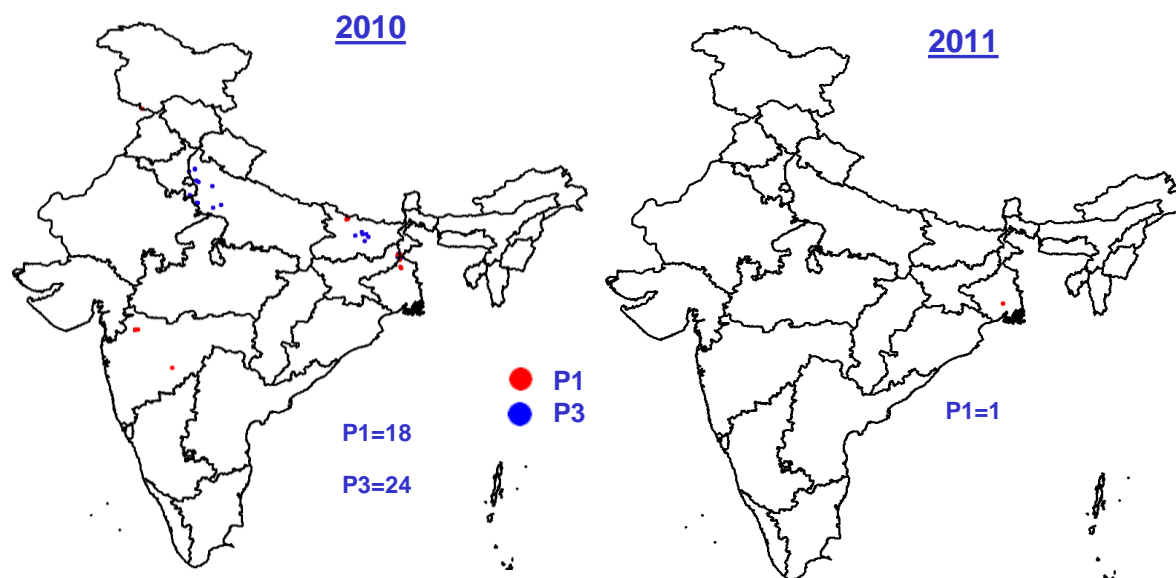
2019																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	110	0	0	0	0	24	0	27	49	0	0	0	4	0	0	6	0	0
NIV, Bangalore	49	0	0	0	0	15	0	15	13	0	0	0	3	1	0	2	0	0
ERC, Mumbai	47	0	0	0	0	16	0	15	13	0	0	0	1	0	0	2	0	0
IoS, Kolkata	75	0	0	0	0	27	0	25	22	0	0	0	0	0	0	0	0	1
NCDC, Delhi	156	0	0	0	0	30	0	57	51	0	0	0	3	0	0	15	0	0
CRI, Kasauli	10	0	0	0	0	2	0	3	5	0	0	0	0	0	0	0	0	0
KIPM, Chennai	40	0	0	0	0	13	0	12	10	0	0	0	0	0	0	5	0	0
SGPGI, Lucknow	176	0	0	0	0	48	0	52	65	0	0	0	1	1	0	9	0	0
<b>TOTAL</b>	<b>663</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>175</b>	<b>0</b>	<b>206</b>	<b>228</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>1</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	205	0	0	0	0	47	0	66	86	0	0	0	6	0	0	0	0	0
NIV, Bangalore	114	0	0	0	0	29	0	40	39	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	164	0	0	0	0	47	0	46	60	0	0	0	10	1	0	0	0	0
NCDC, Delhi	146	0	0	0	0	37	0	66	41	0	0	0	2	0	0	0	0	0
CRI, Kasauli	19	0	0	0	0	5	0	5	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	150	0	0	0	0	44	1	55	48	0	0	0	1	0	1	0	0	0
<b>TOTAL</b>	<b>1007</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>262</b>	<b>1</b>	<b>350</b>	<b>348</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**

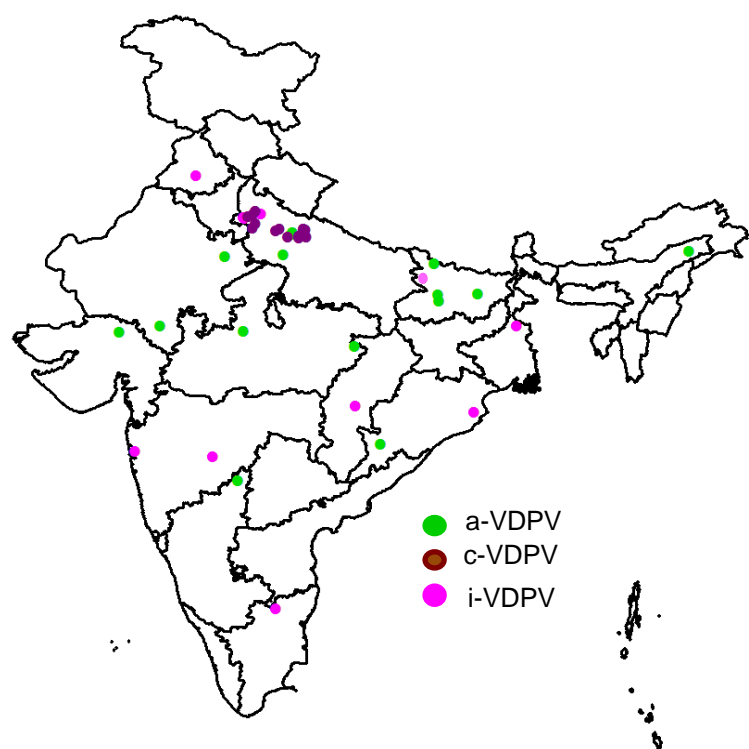
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09	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
<b>Total</b>	<b>1934</b>	<b>1126</b>	<b>265</b>	<b>268</b>	<b>1600</b>	<b>225</b>	<b>134</b>	<b>66</b>	<b>676</b>	<b>874</b>	<b>559</b>	<b>741</b>	<b>42</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**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						
<b>Total</b>	<b>1</b>	<b>1</b>	<b>15</b>	<b>18</b>	<b>9</b>	<b>1</b>

