

# AFP Surveillance Bulletin - India

Report for week 31, ending 3 August 2019

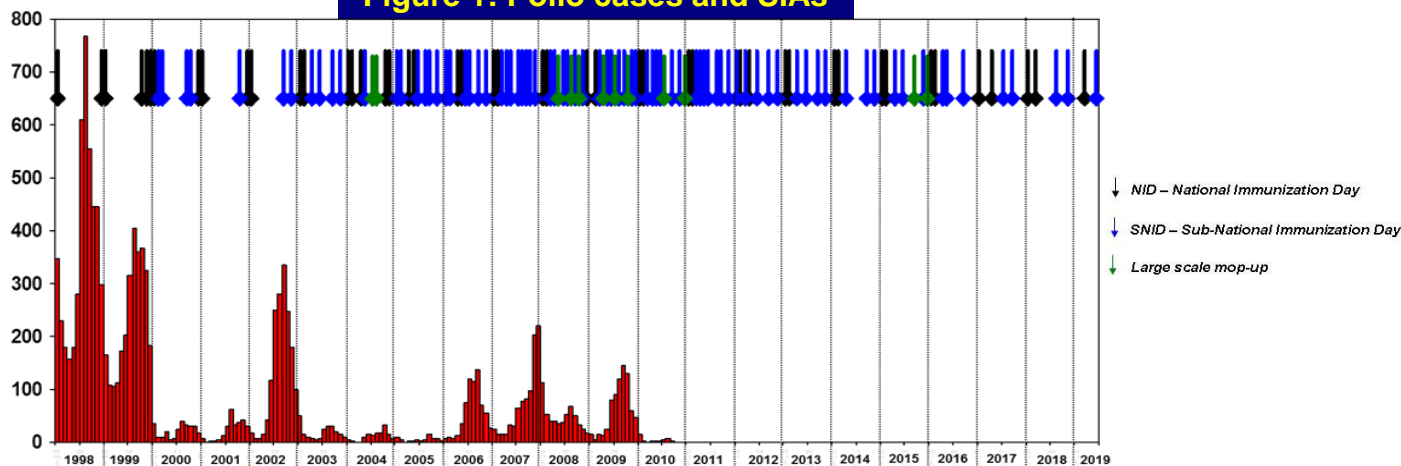
**Table 1: AFP cases by month of paralysis onset, last 13 months**

State/UT's	Total AFP cases in 2018	AFP cases as on week 31, 2018	AFP cases as on week 31, 2019	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19
A&N ISLANDS	8	6	1	1	0	1	0	0	1	0	0	0	0	0	0	0
ANDHRA PRADESH	415	221	230	41	32	37	32	42	39	24	33	30	37	48	19	0
ARUNACHAL PR.	10	2	9	1	0	0	5	2	4	0	3	0	1	0	1	0
ASSAM	271	155	219	15	22	17	15	36	23	20	18	26	34	59	39	0
BIHAR	6999	3724	3839	602	685	730	599	502	448	442	612	540	616	650	531	0
CHANDIGARH	55	24	37	5	8	7	3	5	8	3	5	7	5	3	6	0
CHHATTISGARH	244	123	190	22	26	21	15	25	27	25	28	36	35	23	16	0
D&N HAVELI	3	2	2	0	1	0	0	0	1	0	0	0	0	1	0	0
DAMAN & DIU	4	2	4	0	0	0	1	1	0	1	0	1	2	0	0	0
DELHI	677	366	430	51	63	55	60	64	86	54	67	55	56	67	45	0
GOA	25	12	28	1	3	3	1	5	4	4	7	2	5	3	3	0
GUJARAT	933	568	531	82	76	56	50	70	79	87	76	60	74	81	74	0
HARYANA	809	344	492	65	95	105	74	68	75	67	75	87	78	76	34	0
HIMACHAL PRADESH	74	43	41	8	4	2	10	6	7	3	9	3	13	3	3	0
JAMMU & KASHMIR	209	115	147	22	20	8	15	17	16	15	21	26	17	25	27	0
JHARKHAND	860	445	586	87	76	94	71	63	98	74	96	75	72	96	75	0
KARNATAKA	848	385	477	87	82	97	62	83	79	60	66	58	90	76	48	0
KERALA	300	147	200	36	19	20	22	22	34	33	27	36	33	23	14	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1843	974	1036	180	167	183	150	127	116	139	136	144	158	198	145	0
MAHARASHTRA	1909	1018	1106	230	183	144	112	112	127	133	154	135	166	212	179	0
MANIPUR	31	12	30	3	4	5	1	3	5	2	3	4	4	5	7	0
MEGHALAYA	20	14	14	2	0	2	1	1	0	0	5	5	2	2	0	0
MIZORAM	32	11	30	5	4	4	6	2	0	2	4	5	4	5	10	0
NAGALAND	13	7	14	0	1	1	1	0	3	1	0	1	3	4	2	0
ODISHA	945	463	500	107	98	108	60	85	78	61	75	61	66	84	75	0
PONDICHERRY	25	11	8	3	1	0	5	3	0	1	2	0	2	3	0	0
PUNJAB	498	238	398	36	43	56	43	58	97	66	52	41	59	45	38	0
RAJASTHAN	1596	838	895	137	145	136	120	131	136	135	134	123	149	136	82	0
SIKKIM	5	2	9	0	0	0	2	1	1	2	0	1	4	0	1	0
TAMIL NADU	817	451	483	67	47	55	81	70	65	82	83	61	61	82	49	0
TELANGANA	353	164	242	27	27	35	46	46	52	35	31	36	35	37	16	0
TRIPURA	25	17	15	3	4	1	0	0	1	2	4	3	2	0	3	0
UTTAR PRADESH	12717	6120	7072	1163	1700	1441	1135	980	961	994	1080	891	1043	1091	1012	0
UTTARAKHAND	249	119	221	13	27	28	33	23	22	46	39	17	28	36	33	0
WEST BENGAL	2167	1119	1250	261	246	174	149	126	128	157	200	160	162	227	216	0
<b>TOTAL</b>	<b>35989</b>	<b>18262</b>	<b>20786</b>	<b>3363</b>	<b>3909</b>	<b>3626</b>	<b>2980</b>	<b>2779</b>	<b>2821</b>	<b>2770</b>	<b>3145</b>	<b>2730</b>	<b>3116</b>	<b>3401</b>	<b>2803</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**



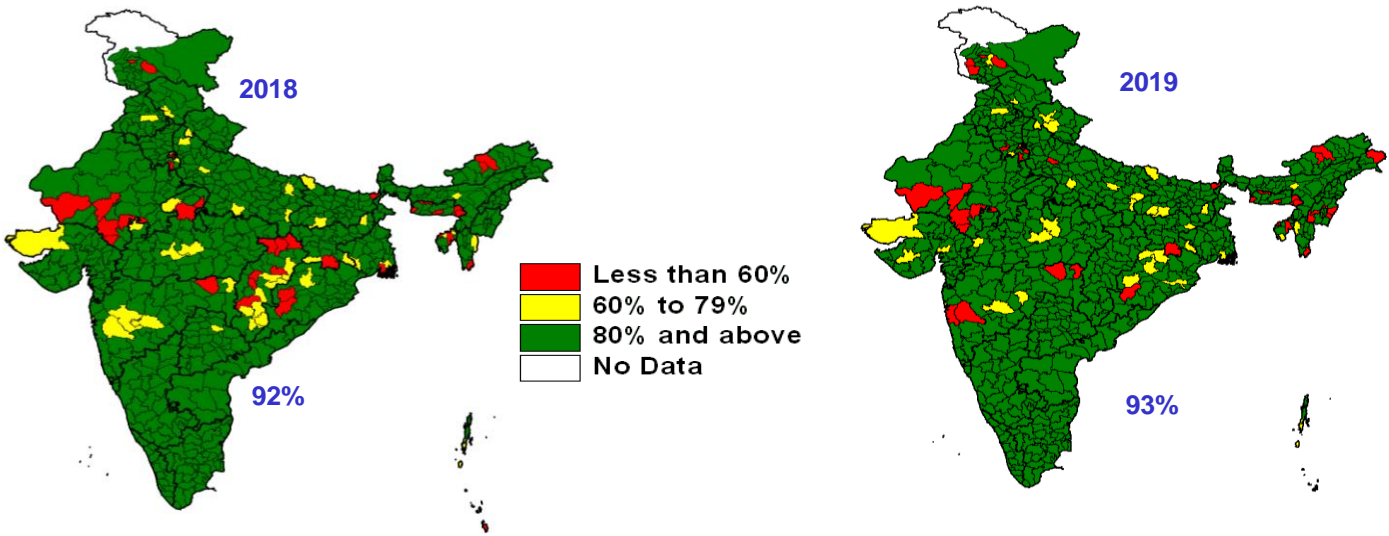
**Table 2: AFP cases key surveillance indicators, 2017 - 2019**

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	415	0	0	230	0	0	179	51	8
ARUNACHAL PR.	11	0	0	11	0	0	10	0	0	10	0	0	9	0	0	7	2	1
ASSAM	308	0	3	305	0	0	271	0	0	271	0	0	219	0	0	174	45	4
BIHAR	8416	0	10	8406	0	0	6999	0	4	6995	0	0	3839	0	0	3239	600	49
CHANDIGARH	63	0	0	63	0	0	55	0	0	55	0	0	37	0	0	33	4	0
CHHATTISGARH	332	0	0	332	0	0	244	0	0	244	0	0	190	0	0	149	41	8
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	677	0	0	677	0	0	430	0	0	368	62	21
GOA	27	0	0	27	0	0	25	0	0	25	0	0	28	0	0	20	8	1
GUJARAT	993	0	1	992	0	0	933	0	0	933	0	0	531	0	0	461	70	12
HARYANA	964	0	0	964	0	0	809	0	0	809	0	0	492	0	0	435	57	17
HIMACHAL PRADESH	83	0	0	83	0	0	74	0	0	74	0	0	41	0	0	37	4	1
JAMMU & KASHMIR	301	0	0	301	0	0	209	0	0	209	0	0	147	0	0	135	12	1
JHARKHAND	909	0	0	909	0	0	860	0	0	860	0	0	586	0	0	480	106	19
KARNATAKA	663	0	1	662	0	0	848	0	1	847	0	0	477	0	0	413	64	9
KERALA	313	0	0	313	0	0	300	0	0	300	0	0	200	0	0	183	17	1
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	1843	0	2	1841	0	0	1036	0	0	686	350	35
MAHARASHTRA	2284	0	1	2283	0	0	1909	0	0	1909	0	0	1106	0	0	682	424	72
MANIPUR	33	0	0	33	0	0	31	0	0	31	0	0	30	0	0	18	12	3
MEGHALAYA	27	0	0	27	0	0	20	0	0	20	0	0	14	0	0	12	2	2
MIZORAM	30	0	0	30	0	0	32	0	0	32	0	0	30	0	0	20	10	0
NAGALAND	11	0	0	11	0	0	13	0	0	13	0	0	14	0	0	12	2	0
ODISHA	1225	0	1	1224	0	0	945	0	0	945	0	0	500	0	0	391	109	18
PONDICHERRY	11	0	0	11	0	0	25	0	0	25	0	0	8	0	0	8	0	0
PUNJAB	696	0	0	696	0	0	498	0	0	498	0	0	398	0	0	347	51	10
RAJASTHAN	1885	0	1	1884	0	0	1596	0	0	1596	0	0	895	0	0	738	157	56
SIKKIM	6	0	0	6	0	0	5	0	0	5	0	0	9	0	0	8	1	0
TAMIL NADU	549	0	0	549	0	0	817	0	0	817	0	0	483	0	0	407	76	7
TELANGANA	248	0	0	248	0	0	353	0	0	353	0	0	242	0	0	196	46	5
TRIPURA	51	0	0	51	0	0	25	0	0	25	0	0	15	0	0	10	5	3
UTTAR PRADESH	13114	0	14	13100	0	0	12717	0	6	12711	0	0	7072	0	0	6141	931	120
UTTARAKHAND	274	0	1	273	0	0	249	0	0	249	0	0	221	0	0	189	32	3
WEST BENGAL	2478	0	3	2475	0	0	2167	0	3	2164	0	0	1250	0	0	1055	195	26
<b>TOTAL</b>	<b>39127</b>	<b>0</b>	<b>37</b>	<b>39090</b>	<b>0</b>	<b>0</b>	<b>35989</b>	<b>0</b>	<b>16</b>	<b>35973</b>	<b>0</b>	<b>0</b>	<b>20786</b>	<b>0</b>	<b>0</b>	<b>17239</b>	<b>3547</b>	<b>513</b>

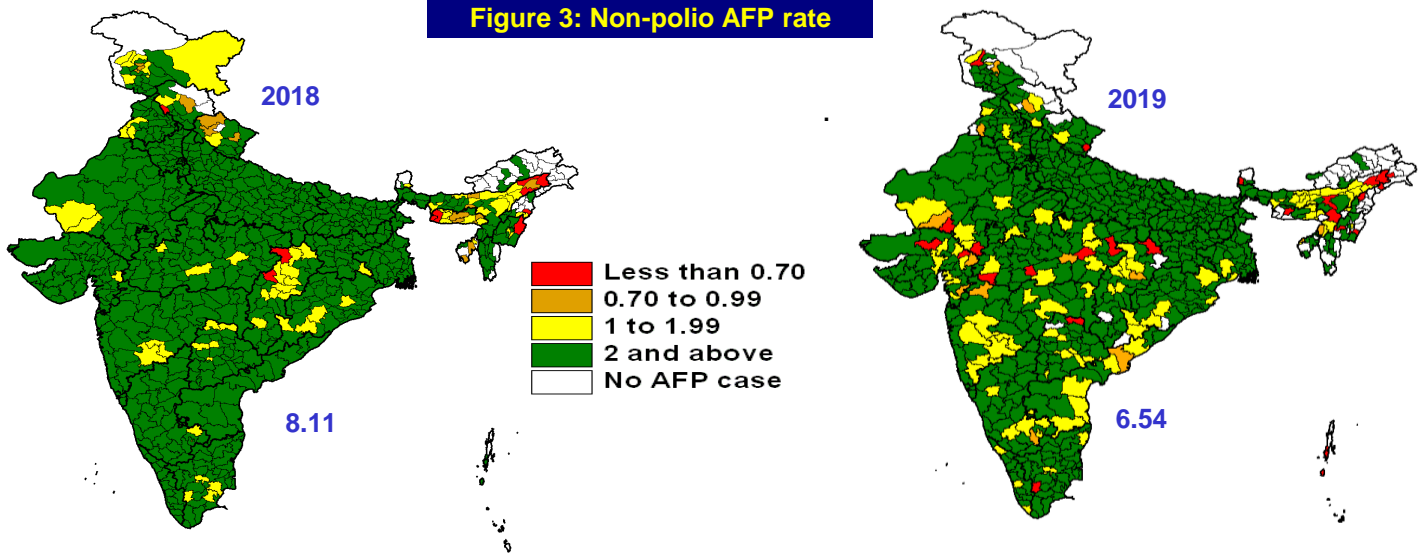
**Table 3: AFP cases key surveillance indicators, 2017 - 2019**

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	1.64	0.00	0	100
ANDHRA PRADESH	2.57	2.57	86	96	3.14	3.14	79	94	3.53	2.75	85	97
ARUNACHAL PR.	1.74	1.74	82	100	1.49	1.49	90	100	2.17	1.69	78	100
ASSAM	2.56	2.53	94	99	2.21	2.21	93	98	2.97	2.36	94	100
BIHAR	17.65	17.63	89	98	14.21	14.21	89	98	12.85	10.84	90	98
CHANDIGARH	13.64	13.64	89	100	11.7	11.7	96	98	19.04	16.98	95	100
CHHATTISGARH	2.99	2.99	73	96	2.22	2.22	68	95	3.91	3.06	65	95
D&N HAVELI	8.05	8.05	86	100	3.33	3.33	100	100	3.65	3.65	50	50
DAMAN & DIU	15.58	15.58	100	100	6.9	6.9	100	100	10.48	10.48	75	100
DELHI	12.72	12.72	83	97	11.61	11.61	81	97	12.11	10.37	82	96
GOA	6.46	6.46	74	96	5.9	5.9	60	96	10.95	7.82	86	96
GUJARAT	5.02	5.02	83	95	4.9	4.9	83	95	4.58	3.98	86	95
HARYANA	8.58	8.58	85	98	7.06	7.06	86	99	7.07	6.25	83	98
HIMACHAL PRADESH	4.02	4.02	84	98	3.53	3.53	84	99	3.24	2.92	90	100
JAMMU & KASHMIR	5.44	5.44	93	100	3.74	3.74	96	99	4.3	3.95	97	100
JHARKHAND	7.33	7.33	79	96	6.69	6.69	78	96	7.92	6.49	78	94
KARNATAKA	3.76	3.75	82	97	4.73	4.72	83	96	4.39	3.80	83	97
KERALA	3.63	3.63	91	100	3.46	3.46	91	99	3.85	3.52	92	100
LAKSHADWEEP	0.00	0.00	NA	NA	0	0	NA	NA	0	0.00	NA	NA
MADHYA PRADESH	5.38	5.38	81	97	5.55	5.54	82	98	5.14	3.40	82	97
MAHARASHTRA	6.85	6.85	83	98	5.65	5.65	81	98	5.43	3.35	79	96
MANIPUR	2.51	2.51	97	100	2.9	2.9	94	97	4.67	2.80	90	93
MEGHALAYA	1.85	1.85	85	100	1.33	1.33	80	100	1.52	1.30	79	100
MIZORAM	6.59	6.59	80	100	7.31	7.31	72	100	11.79	7.86	73	97
NAGALAND	1.51	1.51	73	91	1.99	1.99	62	85	3.21	2.75	93	100
ODISHA	9.38	9.37	88	99	7.24	7.24	88	99	6.26	4.89	85	97
PONDICHERRY	3.41	3.41	91	100	7.65	7.65	96	100	4.04	4.04	100	100
PUNJAB	9.00	9.00	84	97	6.35	6.35	83	96	8.41	7.33	86	97
RAJASTHAN	7.63	7.63	83	97	6.35	6.35	86	96	5.88	4.84	83	97
SIKKIM	2.62	2.62	83	100	2.16	2.16	100	100	6.37	5.66	100	100
TAMIL NADU	3.11	3.11	95	99	4.61	4.61	94	99	4.62	3.89	95	99
TELANGANA	2.36	2.36	72	96	3.42	3.42	72	98	3.88	3.14	75	98
TRIPURA	3.96	3.96	86	100	2.51	2.51	92	100	2.49	1.66	80	100
UTTAR PRADESH	14.72	14.70	86	98	14.01	14.01	85	98	12.83	11.15	88	98
UTTARAKHAND	6.09	6.06	84	98	5.43	5.43	75	95	7.94	6.79	84	93
WEST BENGAL	8.05	8.04	91	99	7.01	7	91	99	7.23	6.10	92	100
<b>TOTAL</b>	<b>8.93</b>	<b>8.92</b>	<b>86</b>	<b>98</b>	<b>8.12</b>	<b>8.11</b>	<b>86</b>	<b>98</b>	<b>7.89</b>	<b>6.54</b>	<b>87</b>	<b>97</b>

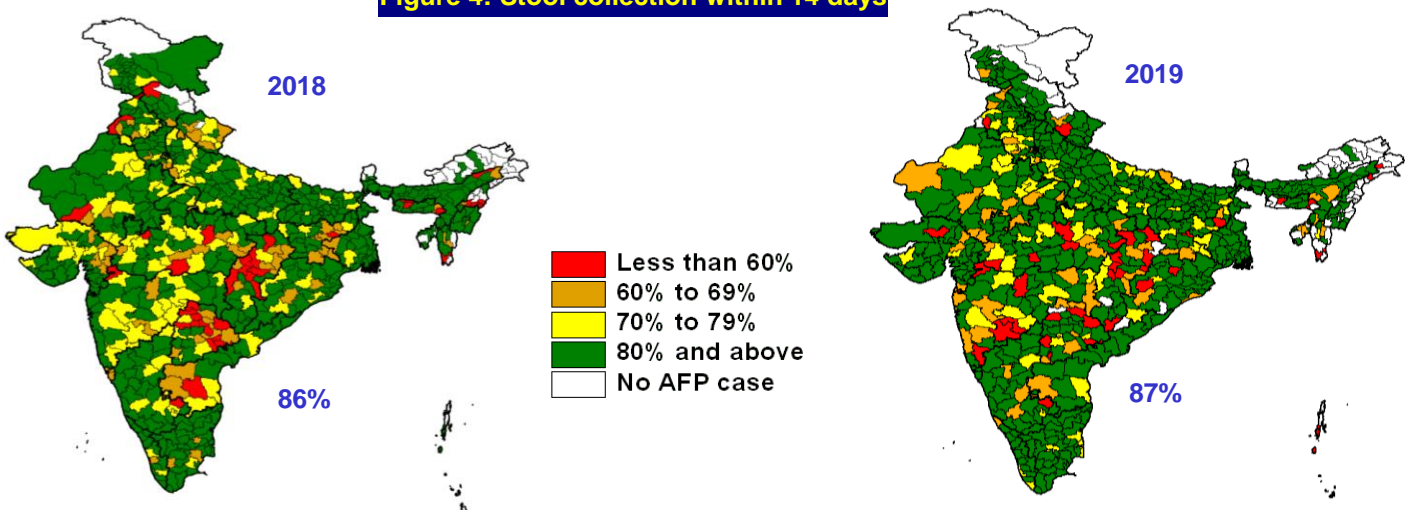
**Figure 2: Timeliness of Reporting Units**



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



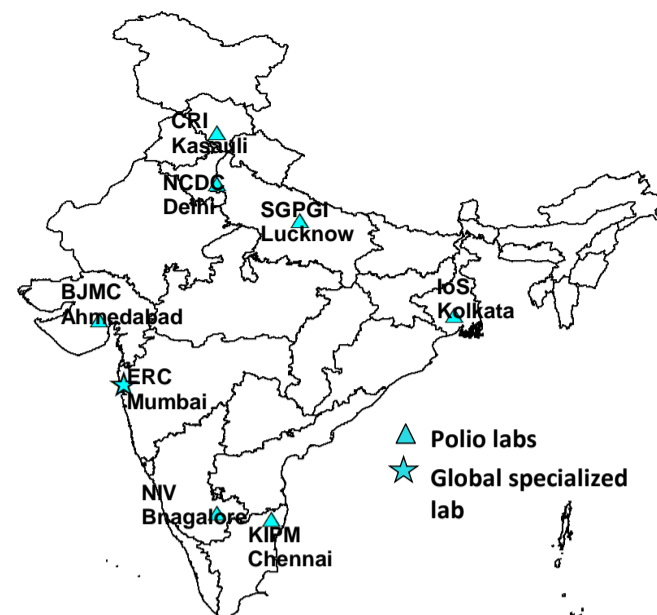
**Figure 4: Stool collection within 14 days**



**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	2786	109	12	498	2024	142	1	5552
NIV, Bangalore	1516	55	6	267	1134	54	0	3022
ERC, Mumbai	1955	52	2	179	1230	71	421	3903
IoS, Kolkata	2753	78	4	333	2276	62	0	5449
NCDC, Delhi	3376	154	18	408	2708	88	0	6707
CRI, Kasauli	778	11	1	68	664	34	0	1564
KIPM, Chennai	1776	44	1	252	1471	8	0	3503
SGPGI, Lucknow	4284	189	13	628	3143	310	1	8559
<b>TOTAL</b>	<b>19224</b>	<b>692</b>	<b>57</b>	<b>2633</b>	<b>14650</b>	<b>769</b>	<b>423</b>	<b>38259</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	4681	178	25	934	3544	0	0	9372
NIV, Bangalore	3099	100	12	816	2171	0	0	6217
ERC, Mumbai	3690	113	11	792	2774	0	0	7384
IoS, Kolkata	4974	152	12	845	3965	0	0	9942
NCDC, Delhi	6013	134	11	834	5034	0	0	12018
CRI, Kasauli	1753	18	1	194	1540	0	0	3507
KIPM, Chennai	3756	82	4	623	3047	0	0	7502
SGPGI, Lucknow	7171	132	16	1283	5740	0	0	14568
<b>TOTAL</b>	<b>35137</b>	<b>909</b>	<b>92</b>	<b>6321</b>	<b>27815</b>	<b>0</b>	<b>0</b>	<b>70510</b>

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

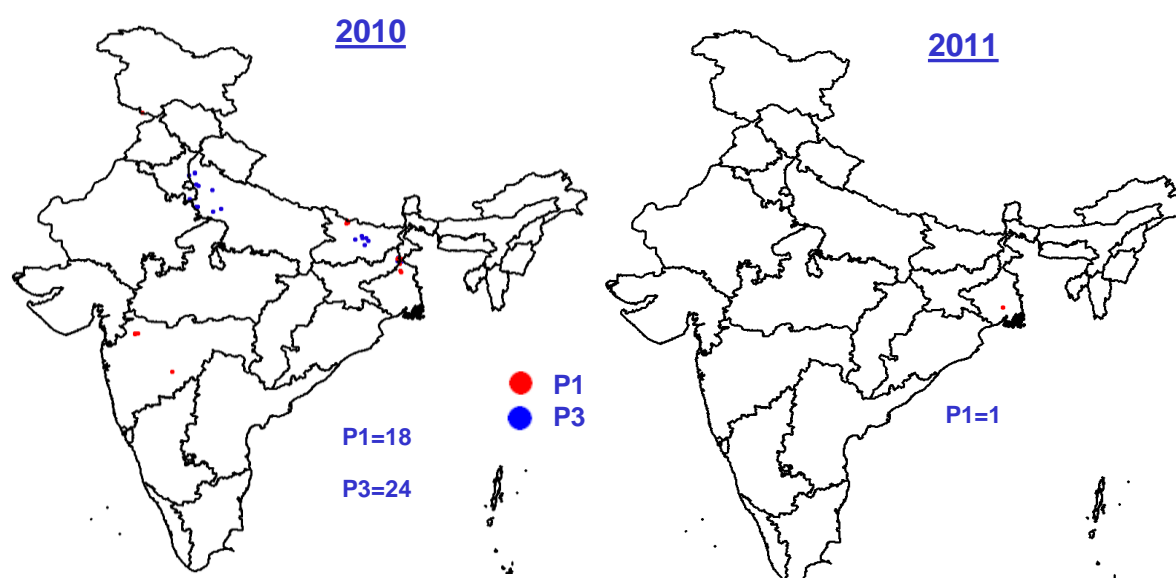
2019																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	121	0	0	0	0	30	0	35	52	0	0	0	4	0	0	0	0	0
NIV, Bangalore	61	0	0	0	0	20	0	20	14	0	0	0	3	1	0	3	0	0
ERC, Mumbai	54	0	0	0	0	17	0	15	19	0	0	0	1	0	0	0	1	1
IoS, Kolkata	82	0	0	0	0	29	0	28	24	0	0	0	0	0	0	1	0	0
NCDC, Delhi	173	0	0	0	0	36	0	70	61	0	0	0	6	0	0	0	0	0
CRI, Kasauli	11	0	0	0	0	3	0	3	5	0	0	0	0	0	0	0	0	0
KIPM, Chennai	45	0	0	0	0	16	0	17	12	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	202	0	0	0	0	58	0	66	74	0	0	0	2	1	0	1	0	0
<b>TOTAL</b>	<b>749</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>209</b>	<b>0</b>	<b>254</b>	<b>261</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>1</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	204	0	0	0	0	47	0	65	86	0	0	0	6	0	0	0	0	0
NIV, Bangalore	112	0	0	0	0	28	0	39	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	144	0	0	0	0	37	0	65	41	0	0	0	1	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	149	0	0	0	0	43	1	55	48	0	0	0	1	0	1	0	0	0
<b>TOTAL</b>	<b>1001</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>260</b>	<b>1</b>	<b>347</b>	<b>348</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>43</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**

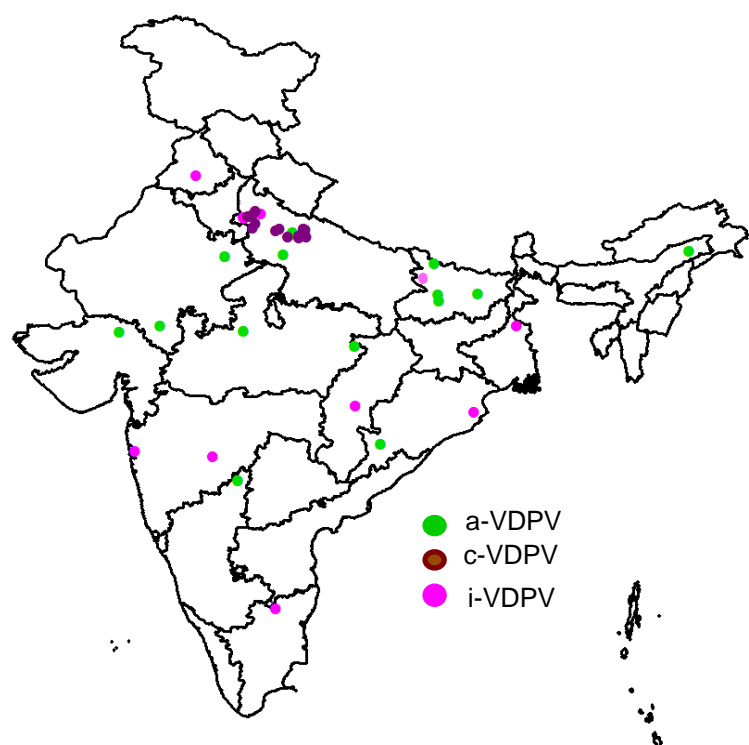
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09	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>

