

AFP Surveillance Bulletin - India

Report for week 22, ending 1 June 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 22, 2018	AFP cases as on week 22, 2019	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
A&N ISLANDS	8	6	1	0	0	1	0	1	0	0	1	0	0	0	0	0
ANDHRA PRADESH	417	146	143	24	35	40	32	37	32	43	39	24	33	31	16	0
ARUNACHAL PR.	10	2	8	0	0	1	0	0	5	2	4	0	3	0	1	0
ASSAM	271	94	103	28	29	15	22	17	15	36	23	20	18	26	16	0
BIHAR	7054	2533	2414	581	618	606	690	735	609	505	449	440	606	531	388	0
CHANDIGARH	55	21	23	1	4	5	8	7	3	5	8	3	5	7	0	0
CHHATTISGARH	247	94	123	20	17	22	27	21	15	25	27	24	28	32	12	0
D&N HAVELI	3	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0
DAMAN & DIU	4	2	3	0	0	0	0	0	1	1	0	1	0	1	1	0
DELHI	688	259	288	49	51	52	64	55	62	66	86	53	65	55	29	0
GOA	25	7	17	4	2	1	3	3	1	5	4	4	6	2	1	0
GUJARAT	938	394	336	82	92	83	77	56	50	70	80	85	74	59	38	0
HARYANA	823	241	315	54	59	67	95	111	77	68	75	65	74	78	23	0
HIMACHAL PRADESH	74	37	30	3	3	8	4	2	10	6	7	3	8	3	9	0
JAMMU & KASHMIR	209	86	85	18	14	22	20	8	15	17	16	15	21	25	8	0
JHARKHAND	868	305	373	62	72	88	77	98	70	64	100	72	93	70	38	0
KARNATAKA	849	211	304	62	95	87	82	97	62	83	79	61	66	55	43	0
KERALA	301	111	141	23	33	36	19	20	22	22	34	33	27	35	12	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1865	636	609	159	175	181	168	186	152	128	115	137	136	136	85	0
MAHARASHTRA	1920	720	599	145	190	231	185	145	112	114	125	132	152	126	64	0
MANIPUR	31	4	16	6	3	3	4	5	1	3	5	2	3	4	2	0
MEGHALAYA	20	8	11	2	2	2	0	2	1	1	0	0	5	5	1	0
MIZORAM	32	6	12	3	3	5	4	4	6	2	0	2	4	4	2	0
NAGALAND	13	5	8	3	2	0	1	1	1	0	3	1	0	1	3	0
ODISHA	956	307	312	65	101	107	98	113	63	86	78	61	75	60	38	0
PONDICHERRY	25	7	5	0	6	3	1	0	5	3	0	1	2	0	2	0
PUNJAB	517	171	300	24	39	40	46	56	46	60	97	65	53	41	44	0
RAJASTHAN	1605	557	589	137	128	137	145	137	121	132	136	136	133	117	67	0
SIKKIM	5	1	6	0	0	0	0	0	2	1	1	2	0	1	2	0
TAMIL NADU	817	295	326	53	91	67	47	55	81	70	65	82	83	59	37	0
TELANGANA	365	107	168	29	29	28	28	35	50	48	52	34	32	34	16	0
TRIPURA	25	13	12	3	1	3	4	1	0	0	1	2	4	3	2	0
UTTAR PRADESH	12938	3863	4504	1116	1076	1182	1719	1462	1164	991	962	990	1073	881	598	0
UTTARAKHAND	256	74	139	20	23	14	28	27	33	25	22	45	38	17	17	0
WEST BENGAL	2172	710	698	167	215	263	247	174	149	126	128	155	200	153	62	0
TOTAL	36406	12034	13022	2943	3208	3400	3946	3671	3036	2808	2823	2750	3120	2652	1677	0

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

Data from weekly case based reports

Figure 1: Polio cases and SIAs

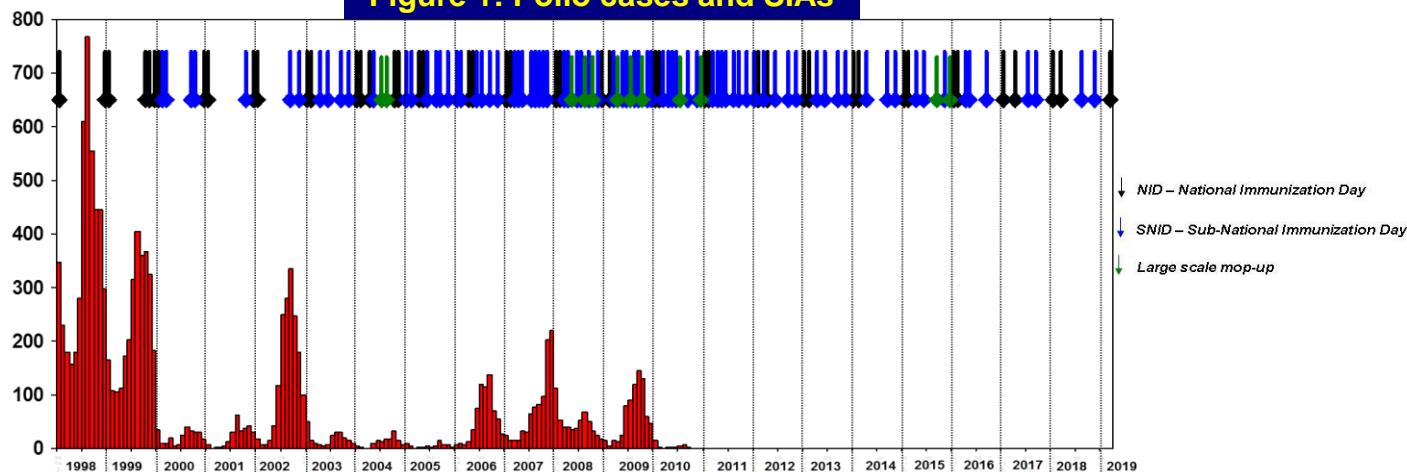


Table 2: AFP cases key surveillance indicators, 2017 - 2019

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	417	0	0	407	10	10	143	0	0	113	30	3
ARUNACHAL PR.	11	0	0	11	0	0	10	0	0	10	0	0	8	0	0	6	2	1
ASSAM	308	0	3	305	0	0	271	0	0	270	1	1	103	0	0	84	19	3
BIHAR	8416	0	10	8406	0	0	7054	0	3	6991	60	60	2414	0	0	2006	408	42
CHANDIGARH	63	0	0	63	0	0	55	0	0	55	0	0	23	0	0	22	1	0
CHHATTISGARH	332	0	0	332	0	0	247	0	0	240	7	7	123	0	0	90	33	11
D&N HAVELI	7	0	0	7	0	0	3	0	0	3	0	0	1	0	0	1	0	0
DAMAN & DIU	12	0	0	12	0	0	4	0	0	4	0	0	3	0	0	3	0	0
DELHI	707	0	0	707	0	0	688	0	0	664	24	24	288	0	0	215	73	20
GOA	27	0	0	27	0	0	25	0	0	25	0	0	17	0	0	16	1	1
GUJARAT	993	0	1	992	0	0	938	0	0	922	16	16	336	0	0	284	52	13
HARYANA	964	0	0	964	0	0	823	0	0	810	13	13	315	0	0	264	51	17
HIMACHAL PRADESH	83	0	0	83	0	0	74	0	0	74	0	0	30	0	0	23	7	0
JAMMU & KASHMIR	301	0	0	301	0	0	209	0	0	209	0	0	85	0	0	78	7	1
JHARKHAND	909	0	0	909	0	0	868	0	0	855	13	13	373	0	0	307	66	22
KARNATAKA	663	0	1	662	0	0	849	0	1	840	8	8	304	0	0	243	61	10
KERALA	313	0	0	313	0	0	301	0	0	299	2	2	141	0	0	123	18	3
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	1865	0	1	1829	35	35	609	0	0	481	128	28
MAHARASHTRA	2284	0	1	2283	0	0	1920	0	0	1909	11	11	599	0	0	453	146	43
MANIPUR	33	0	0	33	0	0	31	0	0	31	0	0	16	0	0	11	5	1
MEGHALAYA	27	0	0	27	0	0	20	0	0	19	1	1	11	0	0	8	3	0
MIZORAM	30	0	0	30	0	0	32	0	0	31	1	1	12	0	0	8	4	0
NAGALAND	11	0	0	11	0	0	13	0	0	13	0	0	8	0	0	5	3	0
ODISHA	1225	0	1	1224	0	0	956	0	0	944	12	12	312	0	0	258	54	9
PONDICHERRY	11	0	0	11	0	0	25	0	0	25	0	0	5	0	0	3	2	0
PUNJAB	696	0	0	696	0	0	517	0	0	501	16	16	300	0	0	249	51	7
RAJASTHAN	1885	0	1	1884	0	0	1605	0	0	1560	45	45	589	0	0	478	111	38
SIKKIM	6	0	0	6	0	0	5	0	0	5	0	0	6	0	0	4	2	0
TAMIL NADU	549	0	0	549	0	0	817	0	0	816	1	1	326	0	0	293	33	5
TELANGANA	248	0	0	248	0	0	365	0	0	356	9	9	168	0	0	131	37	8
TRIPURA	51	0	0	51	0	0	25	0	0	23	2	2	12	0	0	9	3	0
UTTAR PRADESH	13114	0	14	13100	0	0	12938	0	5	12783	150	150	4504	0	0	3685	819	131
UTTARAKHAND	274	0	1	273	0	0	256	0	0	249	7	7	139	0	0	107	32	6
WEST BENGAL	2478	0	3	2475	0	0	2172	0	2	2142	28	28	698	0	0	623	75	16
TOTAL	39127	0	37	39090	0	0	36406	0	12	35922	472	472	13022	0	0	10684	2338	440

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	2.32	0.00	0	100
ANDHRA PRADESH	2.57	2.57	86	96	3.15	3.08	79	94	3.09	2.44	85	97
ARUNACHAL PR.	1.74	1.74	82	100	1.49	1.49	90	100	2.72	2.04	75	100
ASSAM	2.56	2.53	94	99	2.21	2.2	93	98	1.97	1.60	94	100
BIHAR	17.65	17.63	89	98	14.33	14.2	88	98	11.39	9.46	90	98
CHANDIGARH	13.64	13.64	89	100	11.7	11.7	96	98	16.68	15.95	96	100
CHHATTISGARH	2.99	2.99	73	96	2.25	2.19	67	94	3.56	2.61	70	95
D&N HAVELI	8.05	8.05	86	100	3.33	3.33	100	100	2.57	2.57	0	0
DAMAN & DIU	15.58	15.58	100	100	6.9	6.9	100	100	11.08	11.08	67	100
DELHI	12.72	12.72	83	97	11.8	11.39	80	97	11.43	8.53	80	95
GOA	6.46	6.46	74	96	5.9	5.9	60	96	9.37	8.82	94	100
GUJARAT	5.02	5.02	83	95	4.93	4.84	82	95	4.08	3.45	88	96
HARYANA	8.58	8.58	85	98	7.19	7.07	85	99	6.38	5.35	84	98
HIMACHAL PRADESH	4.02	4.02	84	98	3.53	3.53	84	99	3.34	2.56	97	100
JAMMU & KASHMIR	5.44	5.44	93	100	3.74	3.74	96	99	3.5	3.21	94	99
JHARKHAND	7.33	7.33	79	96	6.76	6.65	77	96	7.1	5.84	80	96
KARNATAKA	3.76	3.75	82	97	4.73	4.68	83	97	3.94	3.15	86	98
KERALA	3.63	3.63	91	100	3.47	3.45	90	99	3.82	3.34	91	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	5.62	5.51	81	97	4.26	3.36	83	97
MAHARASHTRA	6.85	6.85	83	98	5.69	5.65	81	97	4.14	3.13	75	95
MANIPUR	2.51	2.51	97	100	2.9	2.9	94	97	3.51	2.41	94	94
MEGHALAYA	1.85	1.85	85	100	1.33	1.26	80	100	1.68	1.22	82	100
MIZORAM	6.59	6.59	80	100	7.31	7.08	72	100	6.64	4.43	75	92
NAGALAND	1.51	1.51	73	91	1.99	1.99	62	85	2.58	1.61	100	100
ODISHA	9.38	9.37	88	99	7.32	7.23	87	99	5.5	4.55	85	96
PONDICHERRY	3.41	3.41	91	100	7.65	7.65	96	100	3.56	2.14	80	80
PUNJAB	9.00	9.00	84	97	6.6	6.39	80	96	8.93	7.41	87	97
RAJASTHAN	7.63	7.63	83	97	6.38	6.21	85	96	5.45	4.42	85	97
SIKKIM	2.62	2.62	83	100	2.16	2.16	100	100	5.98	3.99	100	100
TAMIL NADU	3.11	3.11	95	99	4.61	4.61	94	99	4.39	3.95	94	98
TELANGANA	2.36	2.36	72	96	3.54	3.45	70	97	3.79	2.96	73	97
TRIPURA	3.96	3.96	86	100	2.51	2.3	92	100	2.8	2.10	83	100
UTTAR PRADESH	14.72	14.70	86	98	14.26	14.09	84	97	11.52	9.42	88	98
UTTARAKHAND	6.09	6.06	84	98	5.58	5.43	73	95	7.04	5.42	87	97
WEST BENGAL	8.05	8.04	91	99	7.03	6.93	91	99	5.69	5.08	92	100
TOTAL	8.93	8.92	86	98	8.21	8.10	85	97	6.96	5.71	87	98

Figure 2: Timeliness of Reporting Units

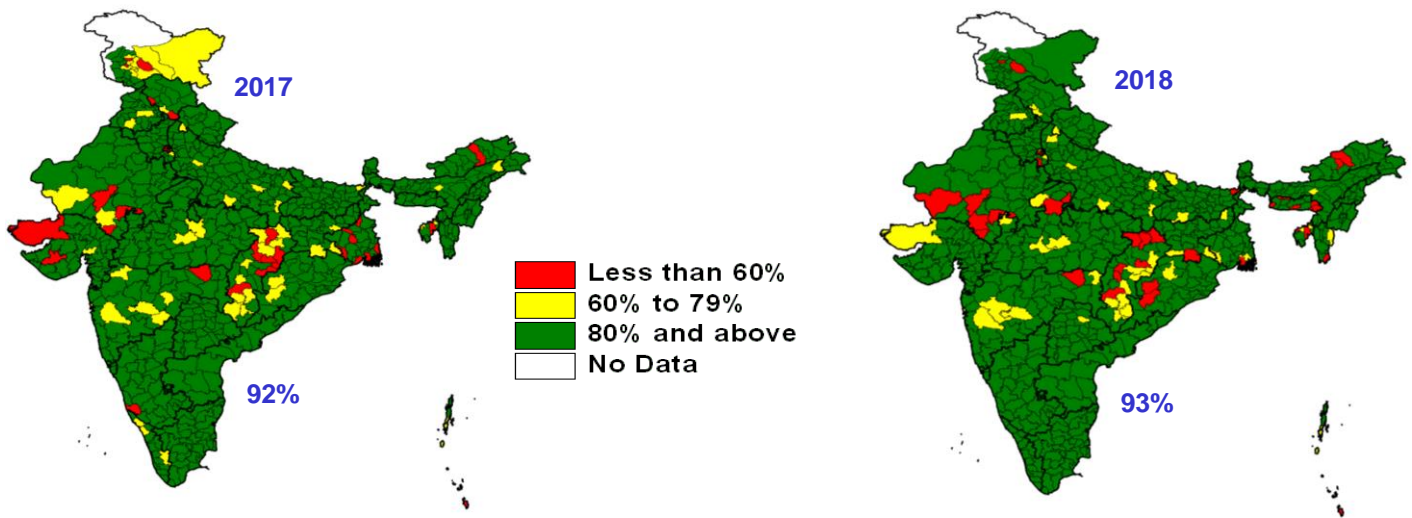


Figure 3: Non-polio AFP rate

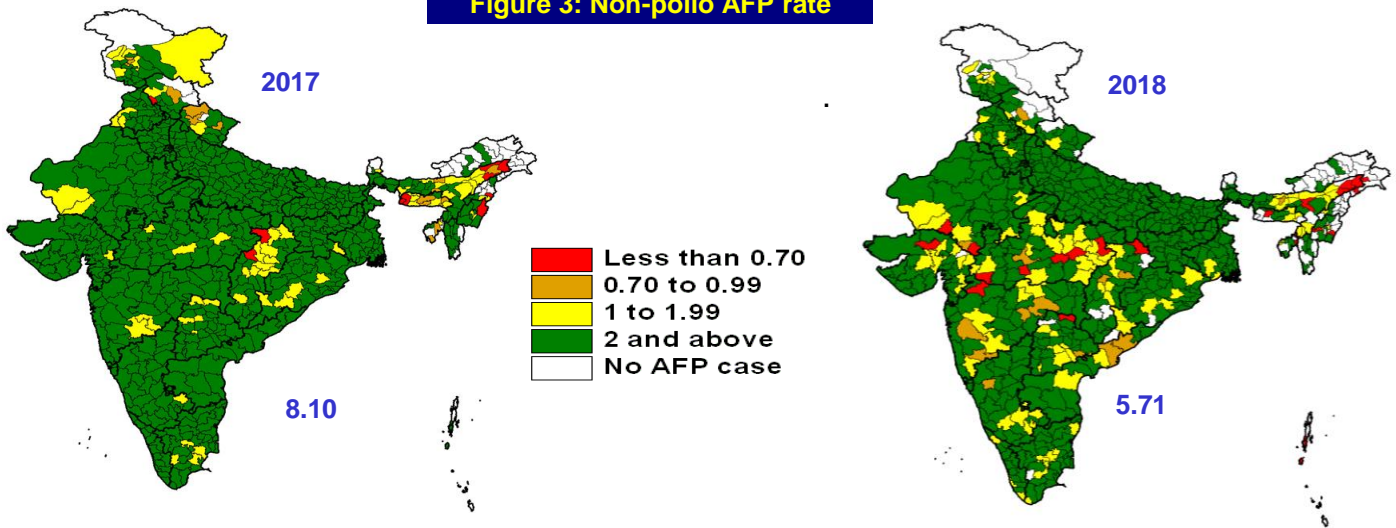


Figure 4: Stool collection within 14 days

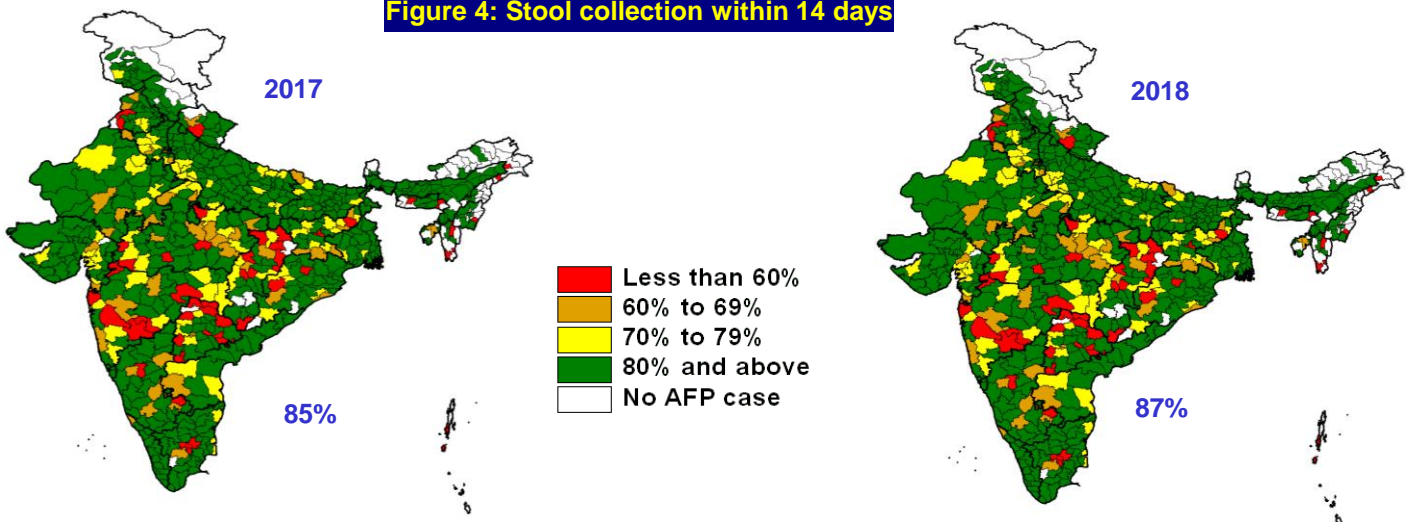


Table 4: Primary isolation results of AFP cases

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	1760	64	6	222	1322	146	0	3524
NIV, Bangalore	1000	34	2	133	771	60	0	1993
ERC, Mumbai	1087	43	1	113	929	1	0	2161
IoS, Kolkata	1709	60	3	147	1440	58	1	3413
NCDC, Delhi	2135	115	6	167	1738	97	12	4220
CRI, Kasauli	542	7	1	37	467	30	0	1085
KIPM, Chennai	1273	24	0	145	1074	29	1	2540
SGPGI, Lucknow	2651	144	2	244	2062	199	0	5302
TOTAL	12157	491	21	1208	9803	620	14	24238

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	4712	186	26	940	3560	0	0	9433
NIV, Bangalore	3104	102	13	816	2173	0	0	6227
ERC, Mumbai	3714	113	11	798	2792	0	0	7432
IoS, Kolkata	4991	153	12	847	3979	0	0	9976
NCDC, Delhi	6142	143	15	858	5126	0	0	12274
CRI, Kasauli	1778	19	1	202	1556	0	0	3561
KIPM, Chennai	3777	82	4	624	3067	0	0	7544
SGPGI, Lucknow	7230	133	16	1292	5789	0	0	14688
TOTAL	35448	931	98	6377	28042	0	0	71135

Figure 5: Polio laboratory network

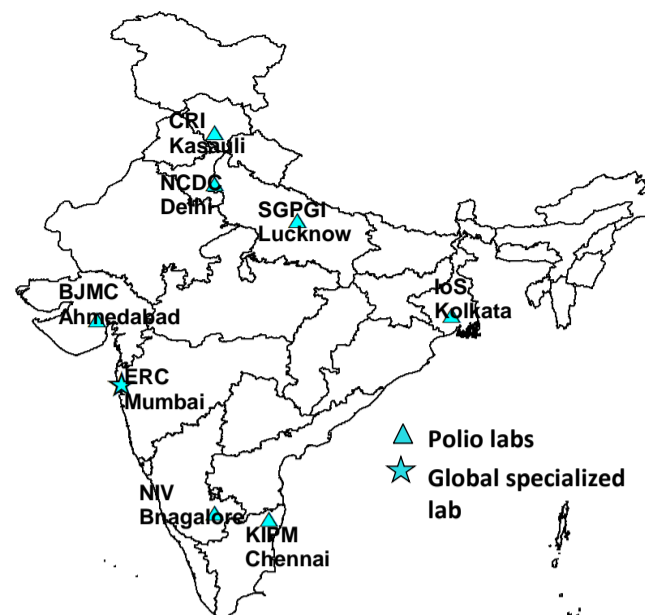


Table 5: Intratypic differentiation (ITD) of isolates from AFP cases

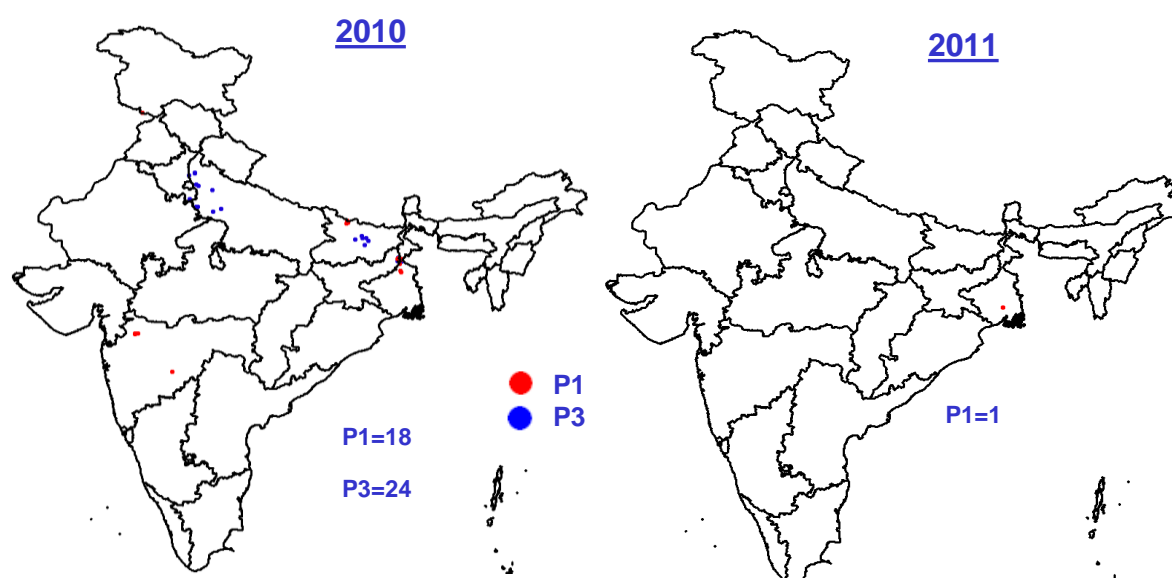
2019																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	70	0	0	0	0	14	0	20	33	0	0	0	3	0	0	0	0	0
NIV, Bangalore	36	0	0	0	0	9	0	13	10	0	0	0	2	1	0	1	0	0
ERC, Mumbai	44	0	0	0	0	16	0	15	12	0	0	0	1	0	0	0	0	0
IoS, Kolkata	63	0	0	0	0	24	0	19	20	0	0	0	0	0	0	0	0	0
NCDC, Delhi	121	0	0	0	0	24	0	47	43	0	0	0	4	0	0	0	0	3
CRI, Kasauli	8	0	0	0	0	2	0	3	3	0	0	0	0	0	0	0	0	0
KIPM, Chennai	24	0	0	0	0	10	0	8	6	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	146	0	0	0	0	40	0	47	57	0	0	0	1	1	0	0	0	0
TOTAL	512	0	0	0	0	139	0	172	184	0	0	0	11	2	0	1	0	3

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	213	0	0	0	0	50	0	68	89	0	0	0	6	0	0	0	0	0
NIV, Bangalore	115	0	0	0	0	29	0	41	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	165	0	0	0	0	47	0	47	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	150	0	0	0	0	44	1	55	48	0	0	0	1	0	1	0	0	0
TOTAL	1029	0	0	0	0	269	1	360	353	0	0	0	44	1	1	0	0	0

Table 6: Most recent Wild Polio Virus case by State

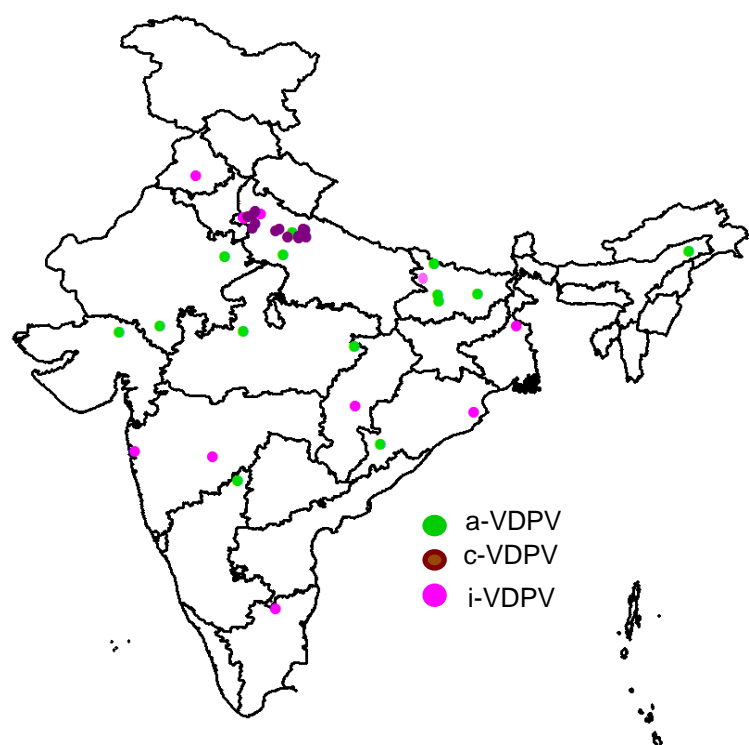
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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

