

AFP Surveillance Bulletin - India

Report for week 16, ending 20 April 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 16, 2018	AFP cases as on week 16, 2019	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
A&N ISLANDS	8	4	1	0	2	0	0	1	0	1	0	0	1	0	0	0
ANDHRA PRADESH	419	112	93	31	42	24	35	40	32	37	32	43	39	24	29	1
ARUNACHAL PR.	10	1	7	0	0	0	0	1	0	0	5	2	4	0	3	0
ASSAM	271	65	62	18	24	28	29	15	22	17	15	36	23	20	16	3
BIHAR	7068	1837	1624	456	540	581	618	607	690	736	610	504	446	434	588	156
CHANDIGARH	55	15	15	5	3	1	4	5	8	7	3	5	8	3	4	0
CHHATTISGARH	247	62	71	18	15	20	17	22	27	22	15	24	27	24	19	1
D&N HAVELI	3	1	1	0	1	0	0	0	1	0	0	0	1	0	0	0
DAMAN & DIU	4	2	1	0	0	0	0	0	0	0	1	1	0	1	0	0
DELHI	690	171	202	58	70	48	51	52	64	56	63	66	85	50	57	10
GOA	25	2	15	1	1	4	2	1	3	3	1	5	4	4	6	1
GUJARAT	938	295	256	75	67	82	92	83	77	56	50	70	80	84	73	19
HARYANA	821	182	201	48	51	54	59	67	95	111	76	68	75	63	59	4
HIMACHAL PRADESH	74	30	18	6	3	3	3	8	4	2	10	6	7	3	8	0
JAMMU & KASHMIR	209	50	49	20	19	18	14	22	20	8	15	17	16	15	18	0
JHARKHAND	873	212	277	63	64	63	72	88	78	98	70	65	100	71	86	20
KARNATAKA	851	154	203	48	81	62	96	87	82	97	63	83	78	61	58	6
KERALA	301	80	96	23	26	23	33	36	19	20	21	23	33	33	26	4
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1866	443	408	130	161	160	175	180	168	186	152	127	117	136	124	31
MAHARASHTRA	1919	472	399	146	157	145	190	231	185	145	112	112	123	129	130	17
MANIPUR	31	3	9	0	3	6	3	3	4	5	1	3	5	1	3	0
MEGHALAYA	20	4	8	2	2	2	2	2	0	2	1	1	0	0	5	3
MIZORAM	32	4	7	1	0	3	3	5	4	4	6	2	0	2	4	1
NAGALAND	13	3	5	0	1	3	2	0	1	1	1	0	3	1	0	1
ODISHA	957	210	219	76	57	65	101	107	98	113	63	86	78	61	68	12
PONDICHERRY	25	4	3	1	2	0	6	3	1	0	5	3	0	1	2	0
PUNJAB	521	150	216	23	29	24	39	40	46	57	46	60	97	64	49	6
RAJASTHAN	1606	401	406	124	167	137	128	137	145	137	120	133	135	133	120	18
SIKKIM	5	1	3	0	1	0	0	0	0	0	2	1	1	2	0	0
TAMIL NADU	817	219	221	57	73	53	91	67	46	56	81	70	64	80	76	1
TELANGANA	368	78	127	21	24	30	29	28	28	34	51	48	52	35	31	9
TRIPURA	25	8	6	1	4	3	1	3	4	1	0	0	1	2	3	0
UTTAR PRADESH	12951	2659	3195	777	949	1116	1081	1186	1717	1459	1165	989	954	989	1015	237
UTTARAKHAND	256	58	99	12	18	20	23	14	28	27	33	25	22	44	32	1
WEST BENGAL	2173	520	484	162	156	167	215	264	247	174	149	126	126	155	178	25
TOTAL	36452	8512	9007	2403	2813	2945	3214	3405	3944	3672	3038	2804	2805	2725	2890	587

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

Data from weekly case based reports

Figure 1: Polio cases and SIAs

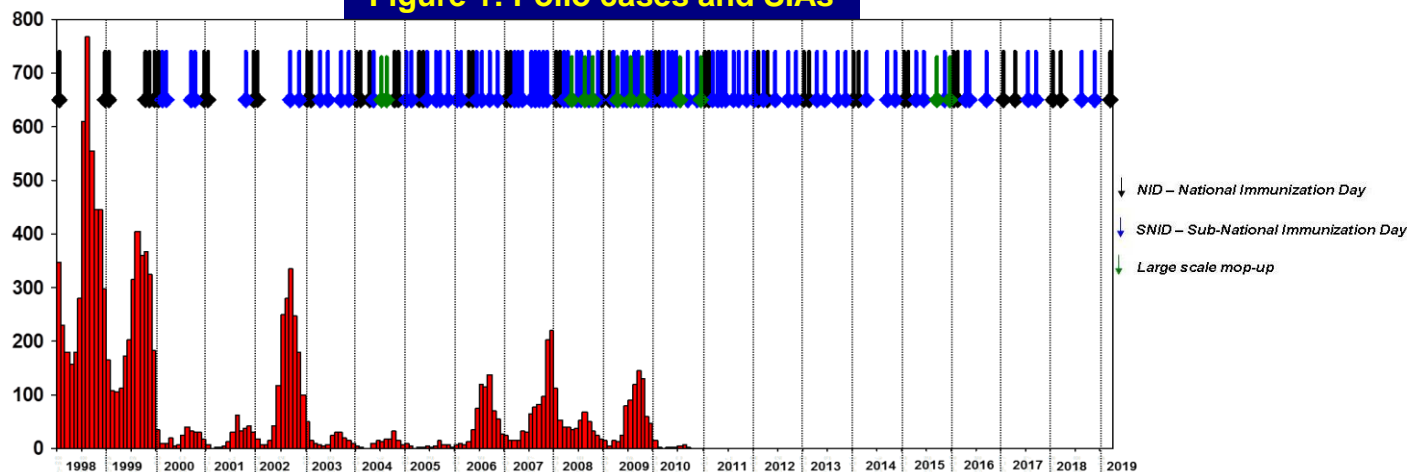


Table 2: AFP cases key surveillance indicators, 2017 - 2019

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	406	13	13	93	0	0	81	12	2
ARUNACHAL PR.	11	0	0	11	0	0	10	0	0	10	0	0	7	0	0	4	3	1
ASSAM	308	0	3	305	0	0	271	0	0	267	4	4	62	0	0	48	14	2
BIHAR	8416	0	10	8406	0	0	7068	0	2	6935	131	131	1624	0	0	1263	361	22
CHANDIGARH	63	0	0	63	0	0	55	0	0	55	0	0	15	0	0	14	1	0
CHHATTISGARH	332	0	0	332	0	0	247	0	0	236	11	11	71	0	0	47	24	6
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	1	0	0	0	1	0
DELHI	707	0	0	707	0	0	690	0	0	653	37	37	202	0	0	144	58	12
GOA	27	0	0	27	0	0	25	0	0	24	1	1	15	0	0	12	3	0
GUJARAT	993	0	1	992	0	0	938	0	0	911	27	27	256	0	0	207	49	3
HARYANA	964	0	0	964	0	0	821	0	0	803	18	18	201	0	0	157	44	6
HIMACHAL PRADESH	83	0	0	83	0	0	74	0	0	73	1	1	18	0	0	17	1	0
JAMMU & KASHMIR	301	0	0	301	0	0	209	0	0	208	1	1	49	0	0	42	7	1
JHARKHAND	909	0	0	909	0	0	873	0	0	838	35	35	277	0	0	204	73	14
KARNATAKA	663	0	1	662	0	0	851	0	0	836	15	15	203	0	0	167	36	6
KERALA	313	0	0	313	0	0	301	0	0	298	3	3	96	0	0	84	12	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	1866	0	1	1807	58	58	408	0	0	285	123	12
MAHARASHTRA	2284	0	1	2283	0	0	1919	0	0	1882	37	37	399	0	0	255	144	15
MANIPUR	33	0	0	33	0	0	31	0	0	31	0	0	9	0	0	9	0	0
MEGHALAYA	27	0	0	27	0	0	20	0	0	19	1	1	8	0	0	3	5	0
MIZORAM	30	0	0	30	0	0	32	0	0	31	1	1	7	0	0	3	4	0
NAGALAND	11	0	0	11	0	0	13	0	0	13	0	0	5	0	0	4	1	0
ODISHA	1225	0	1	1224	0	0	957	0	0	936	21	21	219	0	0	167	52	4
PONDICHERRY	11	0	0	11	0	0	25	0	0	25	0	0	3	0	0	3	0	0
PUNJAB	696	0	0	696	0	0	521	0	0	501	20	20	216	0	0	188	28	1
RAJASTHAN	1885	0	1	1884	0	0	1606	0	0	1550	56	56	406	0	0	325	81	16
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	221	0	0	209	12	2
TELANGANA	248	0	0	248	0	0	368	0	0	351	17	17	127	0	0	86	41	10
TRIPURA	51	0	0	51	0	0	25	0	0	23	2	2	6	0	0	4	2	0
UTTAR PRADESH	13114	0	14	13100	0	0	12951	0	4	12686	261	261	3195	0	0	2522	673	40
UTTARAKHAND	274	0	1	273	0	0	256	0	0	246	10	10	99	0	0	84	15	1
WEST BENGAL	2478	0	3	2475	0	0	2173	0	2	2136	35	35	484	0	0	413	71	6
TOTAL	39127	0	37	39090	0	0	36452	0	9	35625	818	818	9007	0	0	7055	1952	183

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	3.19	0.00	0	100
ANDHRA PRADESH	2.57	2.57	86	96	3.17	3.07	79	95	2.77	2.41	89	99
ARUNACHAL PR.	1.74	1.74	82	100	1.49	1.49	90	100	3.27	1.87	71	100
ASSAM	2.56	2.53	94	99	2.21	2.18	93	98	1.63	1.26	97	100
BIHAR	17.65	17.63	89	98	14.35	14.08	88	98	10.53	8.19	91	98
CHANDIGARH	13.64	13.64	89	100	11.7	11.70	96	98	14.95	13.96	100	100
CHHATTISGARH	2.99	2.99	73	96	2.25	2.15	67	95	2.83	1.87	70	93
D&N HAVELI	8.05	8.05	86	100	3.33	3.33	100	100	3.53	3.53	0	0
DAMAN & DIU	15.58	15.58	100	100	6.9	6.90	100	100	5.08	0.00	0	100
DELHI	12.72	12.72	83	97	11.83	11.20	80	97	11.02	7.86	83	96
GOA	6.46	6.46	74	96	5.9	5.66	60	96	11.36	9.09	93	100
GUJARAT	5.02	5.02	83	95	4.93	4.79	82	95	4.28	3.46	88	96
HARYANA	8.58	8.58	85	98	7.17	7.01	85	99	5.60	4.37	83	98
HIMACHAL PRADESH	4.02	4.02	84	98	3.53	3.48	84	99	2.75	2.60	100	100
JAMMU & KASHMIR	5.44	5.44	93	100	3.74	3.72	96	99	2.78	2.38	94	100
JHARKHAND	7.33	7.33	79	96	6.79	6.52	77	96	7.25	5.34	80	95
KARNATAKA	3.76	3.75	82	97	4.75	4.66	83	97	3.62	2.98	86	98
KERALA	3.63	3.63	91	100	3.47	3.44	90	99	3.58	3.13	95	100
LAKSHADWEEP	0.00	0.00	NA	NA	0	0.00	NA	NA	0.00	0.00	NA	NA
MADHYA PRADESH	5.38	5.38	81	97	5.62	5.44	81	97	3.92	2.74	82	98
MAHARASHTRA	6.85	6.85	83	98	5.68	5.57	81	97	3.79	2.42	75	97
MANIPUR	2.51	2.51	97	100	2.9	2.90	94	97	2.72	2.72	100	100
MEGHALAYA	1.85	1.85	85	100	1.33	1.26	80	100	1.68	0.63	88	100
MIZORAM	6.59	6.59	80	100	7.31	7.08	72	100	5.33	2.28	86	100
NAGALAND	1.51	1.51	73	91	1.99	1.99	62	85	2.22	1.78	80	80
ODISHA	9.38	9.37	88	99	7.33	7.17	86	99	5.31	4.05	86	96
PONDICHERRY	3.41	3.41	91	100	7.65	7.65	96	100	2.94	2.94	100	100
PUNJAB	9.00	9.00	84	97	6.65	6.39	80	96	8.84	7.69	91	98
RAJASTHAN	7.63	7.63	83	97	6.39	6.17	85	96	5.16	4.13	86	98
SIKKIM	2.62	2.62	83	100	2.16	2.16	100	100	4.11	4.11	100	100
TAMIL NADU	3.11	3.11	95	99	4.61	4.60	94	99	4.10	3.87	97	100
TELANGANA	2.36	2.36	72	96	3.57	3.40	69	97	3.94	2.67	70	98
TRIPURA	3.96	3.96	86	100	2.51	2.30	92	100	1.93	1.28	67	100
UTTAR PRADESH	14.72	14.70	86	98	14.27	13.98	84	97	11.23	8.87	88	98
UTTARAKHAND	6.09	6.06	84	98	5.58	5.37	73	95	6.89	5.85	92	99
WEST BENGAL	8.05	8.04	91	99	7.03	6.91	91	99	5.42	4.63	92	99
TOTAL	8.93	8.92	86	98	8.22	8.03	85	97	6.62	5.19	87	98

Figure 2: Timeliness of Reporting Units

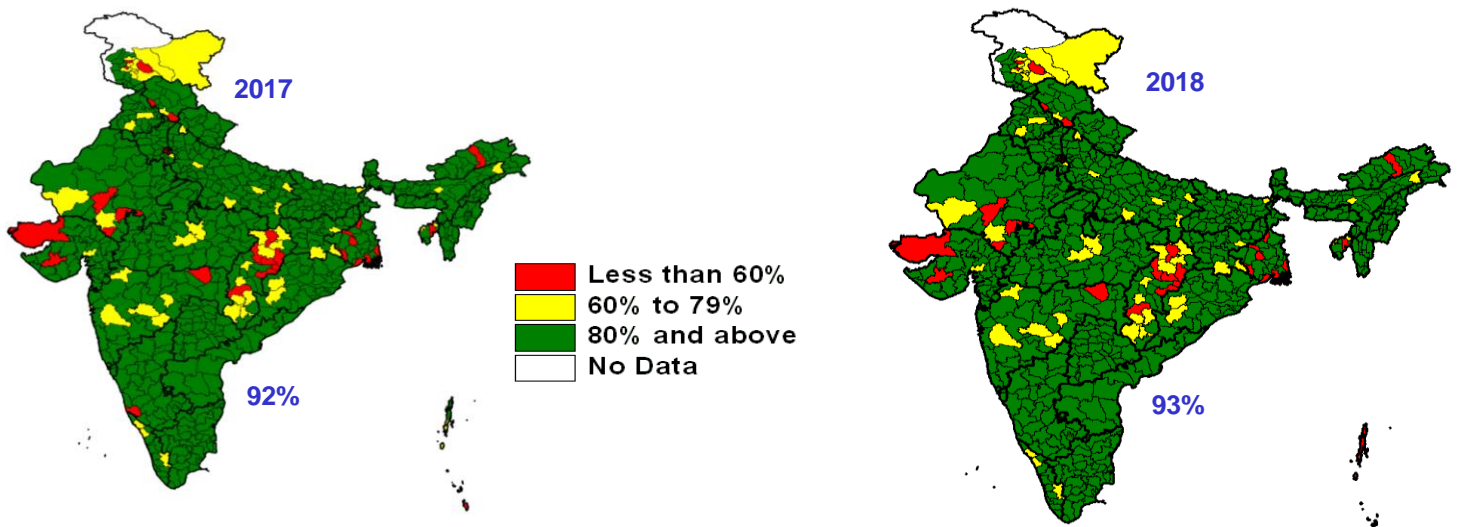


Figure 3: Non-polio AFP rate

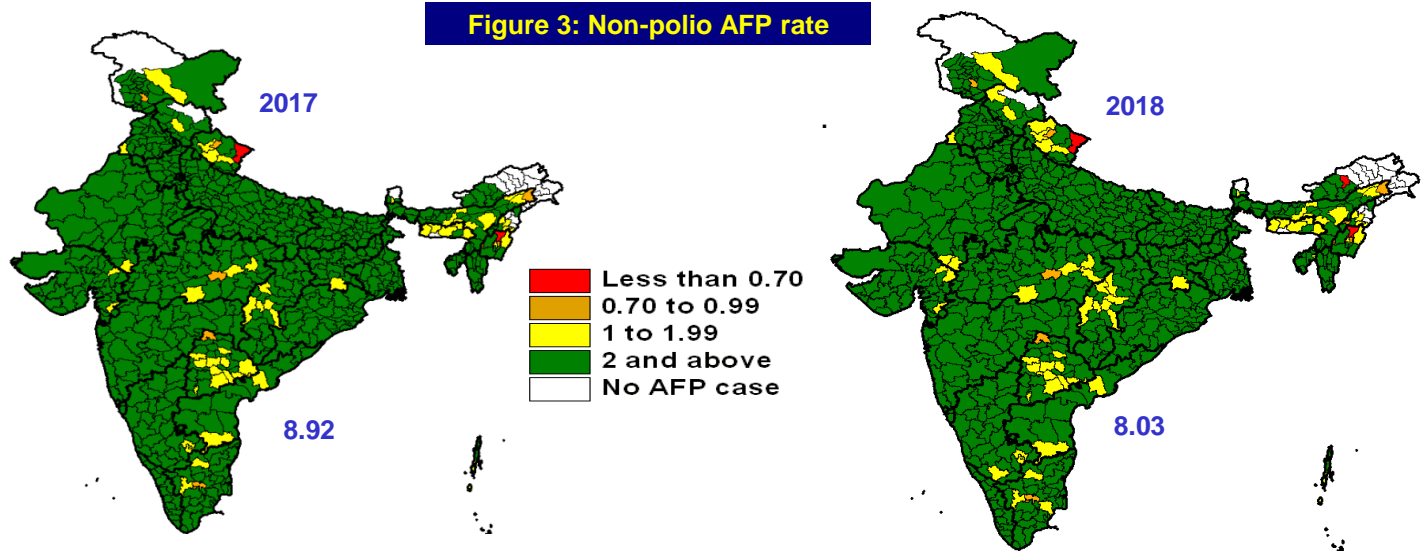


Figure 4: Stool collection within 14 days

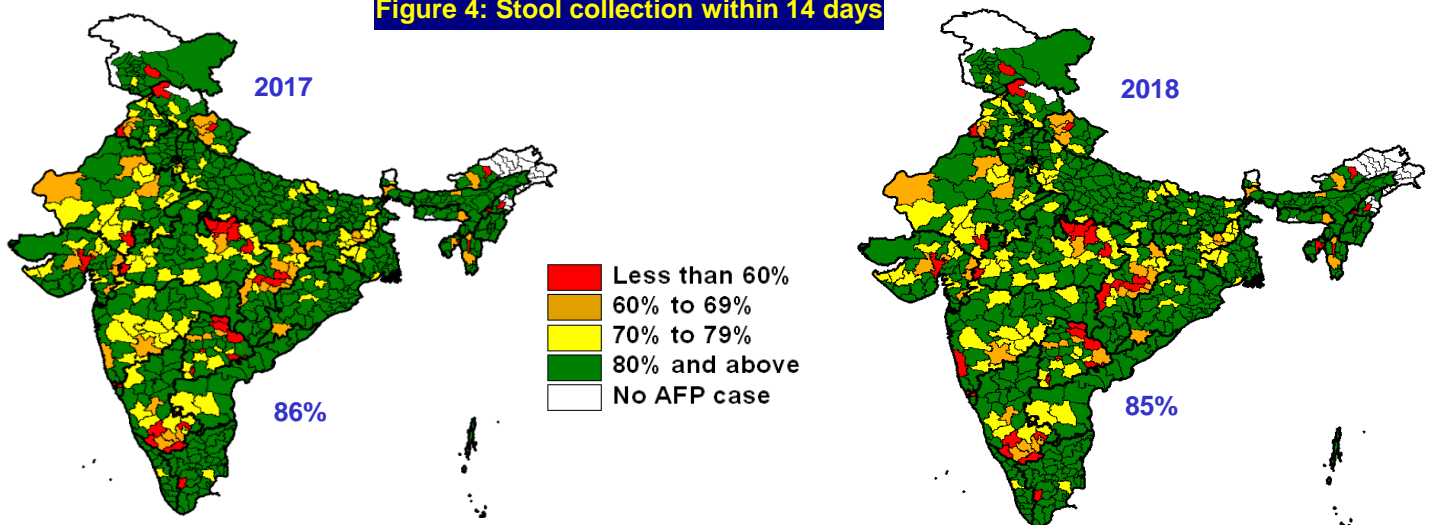
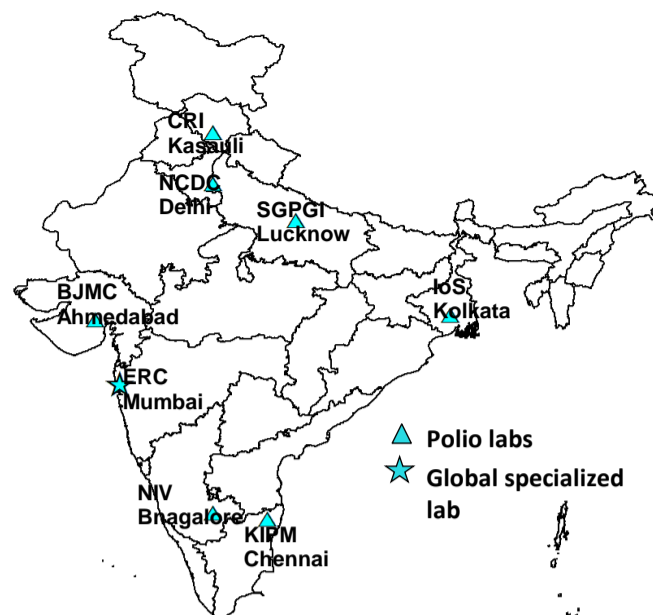


Table 4: Primary isolation results of AFP cases

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	1171	38	1	98	915	117	2	2339
NIV, Bangalore	688	12	1	64	549	58	4	1374
ERC, Mumbai	643	21	0	60	562	0	0	1292
IoS, Kolkata	1083	43	2	82	934	22	0	2157
NCDC, Delhi	1541	80	3	93	1252	113	0	3041
CRI, Kasauli	358	6	0	22	316	14	0	715
KIPM, Chennai	866	14	0	79	772	1	0	1722
SGPGI, Lucknow	1853	96	2	143	1436	176	0	3708
TOTAL	8203	310	9	641	6736	501	6	16348

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	9453
NIV, Bangalore	3108	104	13	816	2175	0	0	6235
ERC, Mumbai	3716	113	11	800	2792	0	0	7439
IoS, Kolkata	4998	155	12	847	3984	0	0	9990
NCDC, Delhi	6145	143	15	857	5130	0	0	12279
CRI, Kasauli	1778	19	1	201	1557	0	0	3563
KIPM, Chennai	3783	82	4	625	3072	0	0	7556
SGPGI, Lucknow	7236	136	16	1294	5790	0	0	14707
TOTAL	35486	943	99	6382	28062	0	0	71222

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

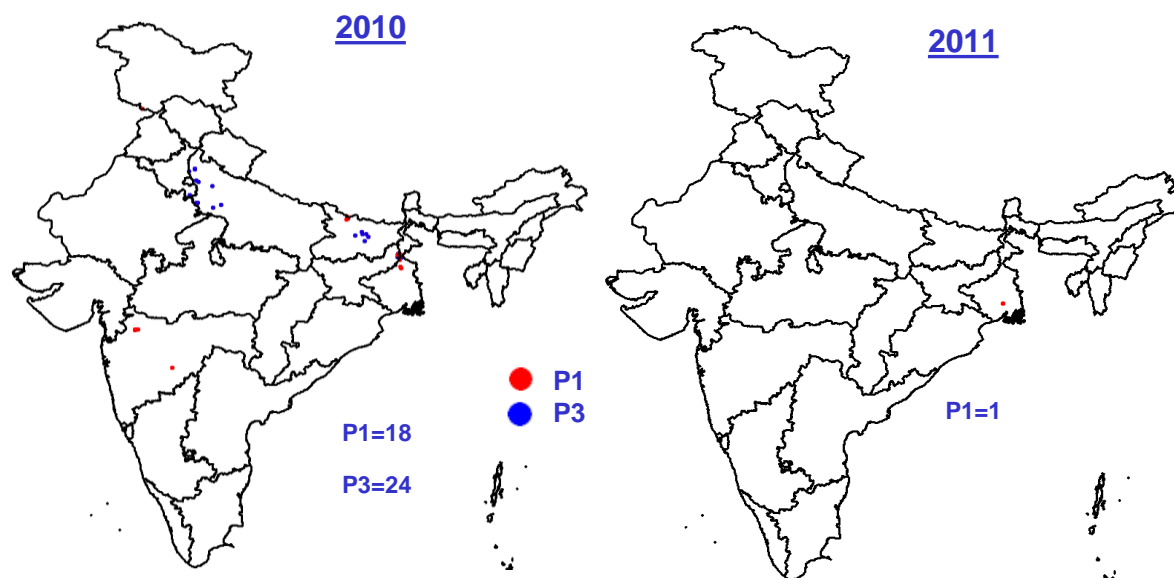
2019																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	39	0	0	0	0	8	0	10	18	0	0	0	2	0	0	1	0	0
NIV, Bangalore	13	0	0	0	0	5	0	6	1	0	0	0	0	0	0	0	1	0
ERC, Mumbai	21	0	0	0	0	12	0	4	4	0	0	0	1	0	0	0	0	0
IoS, Kolkata	45	0	0	0	0	20	0	8	16	0	0	0	0	0	0	1	0	0
NCDC, Delhi	83	0	0	0	0	16	0	29	36	0	0	0	2	0	0	0	0	0
CRI, Kasauli	6	0	0	0	0	1	0	3	2	0	0	0	0	0	0	0	0	0
KIPM, Chennai	14	0	0	0	0	4	0	5	5	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	98	0	0	0	0	27	0	25	43	0	0	0	1	1	0	1	0	0
TOTAL	319	0	0	0	0	93	0	90	125	0	0	0	6	1	0	3	1	0

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
TOTAL	1042	0	0	0	0	271	1	365	359	0	0	0	44	1	1	0	0	0

Table 6: Most recent Wild Polio Virus case by State

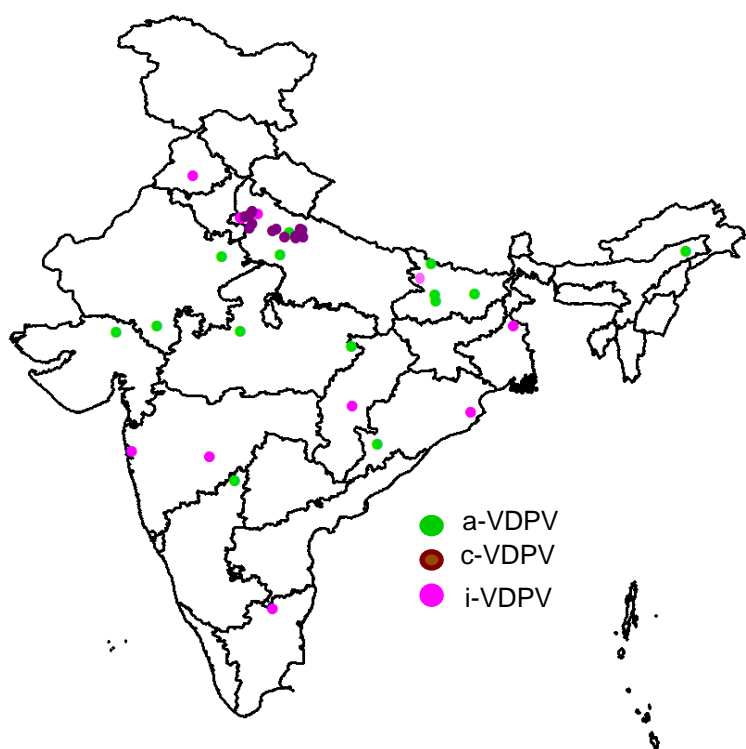
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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

