

AFP Surveillance Bulletin - India

Report for week 46, ending 17 November 2018

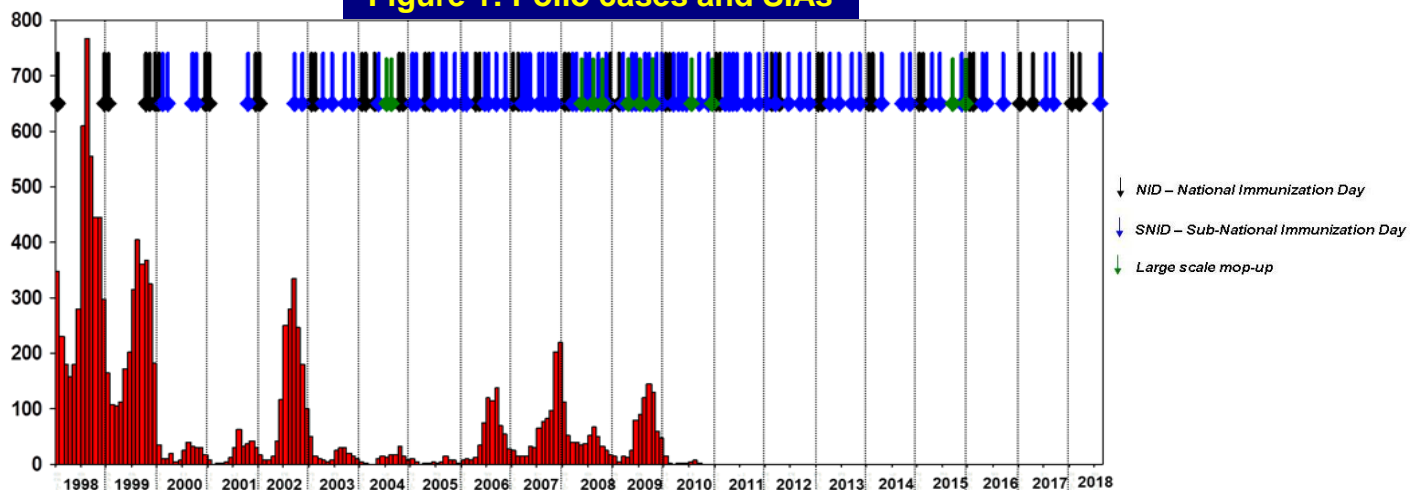
Table 1: AFP cases by month of paralysis onset, last 13 months

State/UT's	Total AFP cases in 2017	AFP cases as on week 46, 2017	AFP cases as on week 46, 2018	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18
A&N ISLANDS	2	2	8	0	0	1	1	2	0	2	0	0	1	0	1	0
ANDHRA PRADESH	339	283	350	32	26	45	27	32	31	41	25	36	39	32	34	8
ARUNACHAL PR.	11	11	3	1	0	0	0	2	0	0	0	0	1	0	0	0
ASSAM	308	265	217	21	24	20	22	25	18	24	28	29	15	22	13	1
BIHAR	8416	7239	5932	700	640	623	552	559	459	543	587	621	605	688	683	12
CHANDIGARH	63	54	47	4	4	4	4	6	5	3	1	4	5	8	7	0
CHHATTISGARH	332	291	204	20	15	28	22	17	18	16	20	16	21	25	19	2
D&N HAVELI	7	5	3	2	0	0	0	1	0	1	0	0	0	1	0	0
DAMAN & DIU	12	11	2	2	0	2	0	0	0	0	0	0	0	0	0	0
DELHI	707	597	559	51	61	72	37	54	58	69	47	51	50	64	50	7
GOA	27	23	17	2	0	1	3	0	1	1	4	2	1	3	1	0
GUJARAT	993	876	806	75	53	97	93	95	76	67	82	92	80	74	50	0
HARYANA	964	795	614	74	73	62	81	49	51	52	55	57	66	86	55	0
HIMACHAL PRADESH	83	73	58	3	4	9	15	5	6	3	3	3	8	4	2	0
JAMMU & KASHMIR	301	246	176	33	19	18	16	22	20	19	18	14	21	20	8	0
JHARKHAND	909	781	726	73	62	60	67	85	63	65	63	73	87	75	78	10
KARNATAKA	663	571	684	40	45	49	49	53	48	81	62	95	88	80	78	1
KERALA	313	268	234	25	20	27	25	25	23	25	23	33	35	9	9	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1755	1481	1585	144	139	158	143	129	130	162	162	173	182	163	168	15
MAHARASHTRA	2284	1969	1622	166	140	179	176	145	146	160	145	187	223	170	90	1
MANIPUR	33	30	27	1	2	0	1	2	0	3	6	3	3	4	5	0
MEGHALAYA	27	26	18	1	0	3	1	2	2	2	3	1	2	0	2	0
MIZORAM	30	27	24	3	0	1	0	3	1	0	3	3	5	4	3	1
NAGALAND	11	9	12	2	0	1	2	1	0	1	3	2	0	1	1	0
ODISHA	1225	1085	812	87	68	63	68	60	77	58	65	101	106	99	105	10
PONDICHERRY	11	9	17	1	1	2	0	2	1	2	0	6	3	1	0	0
PUNJAB	696	615	398	38	47	76	48	31	22	30	24	38	40	45	44	0
RAJASTHAN	1885	1626	1355	140	131	129	130	119	124	167	138	128	137	145	127	11
SIKKIM	6	6	2	0	0	0	0	1	0	1	0	0	0	0	0	0
TAMIL NADU	549	440	659	38	64	64	67	91	57	73	53	91	66	45	49	3
TELANGANA	248	181	263	37	30	25	26	24	21	24	29	29	27	26	30	2
TRIPURA	51	48	24	2	3	2	2	4	1	4	3	1	3	4	0	0
UTTAR PRADESH	13115	11294	10764	1002	1039	918	809	817	782	953	1123	1083	1182	1689	1304	104
UTTARAKHAND	274	242	189	16	19	17	19	20	11	18	18	23	13	28	22	0
WEST BENGAL	2478	2120	1809	206	161	170	179	164	162	156	167	215	263	214	110	9
TOTAL	39128	33599	30220	3042	2890	2926	2685	2647	2414	2826	2960	3210	3378	3829	3148	197

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

Data from weekly case based reports

Figure 1: Polio cases and SIAs



WHO Country Office for India, National Polio Surveillance Project;

email: seinddata@who.int; website: www.searo.who.int/india/topics/poliomyelitis/en/

Table 2: AFP cases key surveillance indicators,2016 - 2018

State/UT's	2016						2017						2018					
	#	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	7	0	0	7	0	0	2	0	0	2	0	0	8	0	0	8	0	0
ANDHRA PRADESH	442	0	0	442	0	0	339	0	0	339	0	0	350	0	0	292	58	24
ARUNACHAL PR.	21	0	0	21	0	0	11	0	0	11	0	0	3	0	0	3	0	0
ASSAM	371	0	0	371	0	0	308	0	3	305	0	0	217	0	0	207	10	6
BIHAR	11072	1	3	11068	0	0	8416	0	10	8406	0	0	5932	0	0	5388	544	168
CHANDIGARH	87	0	0	87	0	0	63	0	0	63	0	0	47	0	0	45	2	1
CHHATTISGARH	373	0	1	372	0	0	332	0	0	332	0	0	204	0	0	167	37	16
D&N HAVELI	6	0	0	6	0	0	7	0	0	7	0	0	3	0	0	3	0	0
DAMAN & DIU	10	0	0	10	0	0	12	0	0	12	0	0	2	0	0	2	0	0
DELHI	824	0	0	824	0	0	707	0	0	707	0	0	559	0	0	495	64	29
GOA	29	0	0	29	0	0	27	0	0	27	0	0	17	0	0	12	5	3
GUJARAT	1082	0	0	1082	0	0	993	0	1	992	0	0	806	0	0	724	82	50
HARYANA	997	0	0	997	0	0	964	0	0	964	0	0	614	0	0	561	53	26
HIMACHAL PRADESH	180	0	0	180	0	0	83	0	0	83	0	0	58	0	0	55	3	2
JAMMU & KASHMIR	196	0	0	196	0	0	301	0	0	301	0	0	176	0	0	169	7	4
JHARKHAND	1019	0	2	1017	0	0	909	0	0	909	0	0	726	0	0	597	129	62
KARNATAKA	943	0	0	943	0	0	663	0	1	662	0	0	684	0	0	588	96	38
KERALA	356	0	0	356	0	0	313	0	0	313	0	0	234	0	0	217	17	7
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	2267	0	0	2267	0	0	1755	0	1	1754	0	0	1585	0	0	1373	212	89
MAHARASHTRA	2721	0	2	2719	0	0	2284	0	1	2283	0	0	1622	0	0	1401	221	157
MANIPUR	21	0	0	21	0	0	33	0	0	33	0	0	27	0	0	26	1	0
MEGHALAYA	26	0	0	26	0	0	27	0	0	27	0	0	18	0	0	14	4	3
MIZORAM	34	0	0	34	0	0	30	0	0	30	0	0	24	0	0	19	5	2
NAGALAND	18	0	0	18	0	0	11	0	0	11	0	0	12	0	0	7	5	4
ODISHA	1620	0	0	1620	0	0	1225	0	1	1224	0	0	812	0	0	716	96	21
PONDICHERRY	17	0	0	17	0	0	11	0	0	11	0	0	17	0	0	17	0	0
PUNJAB	726	0	0	726	0	0	696	0	0	696	0	0	398	0	0	343	55	32
RAJASTHAN	1742	0	1	1741	0	0	1885	0	1	1884	0	0	1355	0	0	1227	128	62
SIKKIM	4	0	0	4	0	0	6	0	0	6	0	0	2	0	0	2	0	0
TAMIL NADU	727	0	0	727	0	0	549	0	0	549	0	0	659	0	0	620	39	10
TELANGANA	404	0	0	404	0	0	248	0	0	248	0	0	263	0	0	211	52	8
TRIPURA	30	0	0	30	0	0	51	0	0	51	0	0	24	0	0	21	3	2
UTTAR PRADESH	14780	0	6	14774	0	0	13115	0	14	13101	0	0	10764	0	1	9645	1118	338
UTTARAKHAND	394	0	0	394	0	0	274	0	1	273	0	0	189	0	0	162	27	11
WEST BENGAL	2953	0	0	2953	0	0	2478	0	3	2475	0	0	1809	0	0	1662	147	93
TOTAL	46499	1	15	46483	0	0	39128	0	37	39091	0	0	30220	0	1	26999	3220	1268

Table 3: AFP cases key surveillance indicators, 2016 - 2018

State/UT's	2016				2017				2018			
	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	7.61	7.61	86	86	2.11	2.11	100	100	9.32	9.32	100	100
ANDHRA PRADESH	3.38	3.38	89	96	2.57	2.57	86	96	2.99	2.49	77	95
ARUNACHAL PR.	3.37	3.37	71	100	1.74	1.74	82	100	0.51	0.51	67	100
ASSAM	2.81	2.81	96	99	2.56	2.53	94	99	2	1.91	94	99
BIHAR	23.83	23.83	88	99	17.65	17.63	89	98	13.62	12.37	88	98
CHANDIGARH	19.16	19.16	95	100	13.64	13.64	89	100	11.3	10.82	96	98
CHHATTISGARH	3.40	3.39	63	94	2.99	2.99	73	96	2.1	1.72	70	97
D&N HAVELI	7.14	7.14	83	100	8.05	8.05	86	100	3.77	3.77	100	100
DAMAN & DIU	14.93	14.93	100	100	15.58	15.58	100	100	3.9	3.90	100	100
DELHI	15.08	15.08	81	97	12.72	12.72	83	97	10.84	9.60	82	98
GOA	7.04	7.04	93	100	6.46	6.46	74	96	4.53	3.20	59	100
GUJARAT	4.67	4.67	84	94	5.02	5.02	83	95	4.79	4.30	82	95
HARYANA	9.04	9.04	84	98	8.58	8.58	85	98	6.06	5.54	87	99
HIMACHAL PRADESH	7.93	7.93	87	97	4.02	4.02	84	98	3.12	2.96	84	98
JAMMU & KASHMIR	3.44	3.44	93	99	5.44	5.44	93	100	3.56	3.42	95	99
JHARKHAND	8.37	8.35	81	96	7.33	7.33	79	96	6.39	5.25	78	97
KARNATAKA	5.43	5.43	82	97	3.76	3.75	82	97	4.31	3.71	83	97
KERALA	4.15	4.15	90	100	3.63	3.63	91	100	3.05	2.83	91	100
LAKSHADWEEP	0.00	0.00	NA	NA	0	0	NA	NA	0	0.00	NA	NA
MADHYA PRADESH	7.08	7.08	83	98	5.38	5.38	81	97	5.4	4.67	81	97
MAHARASHTRA	8.27	8.26	84	97	6.85	6.85	83	98	5.43	4.69	82	97
MANIPUR	1.99	1.99	62	100	2.51	2.51	97	100	2.86	2.75	96	96
MEGHALAYA	1.95	1.95	85	96	1.85	1.85	85	100	1.35	1.05	78	100
MIZORAM	6.71	6.71	91	97	6.59	6.59	80	100	6.19	4.90	79	100
NAGALAND	2.82	2.82	67	89	1.51	1.51	73	91	2.08	1.21	58	83
ODISHA	12.82	12.82	88	99	9.38	9.37	88	99	7.03	6.20	88	98
PONDICHERRY	4.17	4.17	94	94	3.41	3.41	91	100	5.88	5.88	94	100
PUNJAB	9.51	9.51	84	98	9	9	84	97	5.74	4.95	80	95
RAJASTHAN	7.12	7.11	82	95	7.63	7.63	83	97	6.09	5.52	85	96
SIKKIM	1.77	1.77	100	100	2.62	2.62	83	100	0.97	0.97	100	100
TAMIL NADU	3.94	3.94	95	99	3.11	3.11	95	99	4.21	3.96	94	99
TELANGANA	3.97	3.97	80	94	2.36	2.36	72	96	2.88	2.31	68	97
TRIPURA	1.85	1.85	77	100	3.96	3.96	86	100	2.72	2.38	96	100
UTTAR PRADESH	16.89	16.89	88	98	14.72	14.7	86	98	13.41	12.01	85	97
UTTARAKHAND	8.91	8.91	87	98	6.09	6.06	84	98	4.66	3.99	76	96
WEST BENGAL	9.43	9.43	93	99	8.05	8.04	91	99	6.62	6.08	91	99
TOTAL	10.60	10.60	87	98	8.93	8.92	86	98	7.70	6.88	85	98

Figure 2: Timeliness of Reporting Units

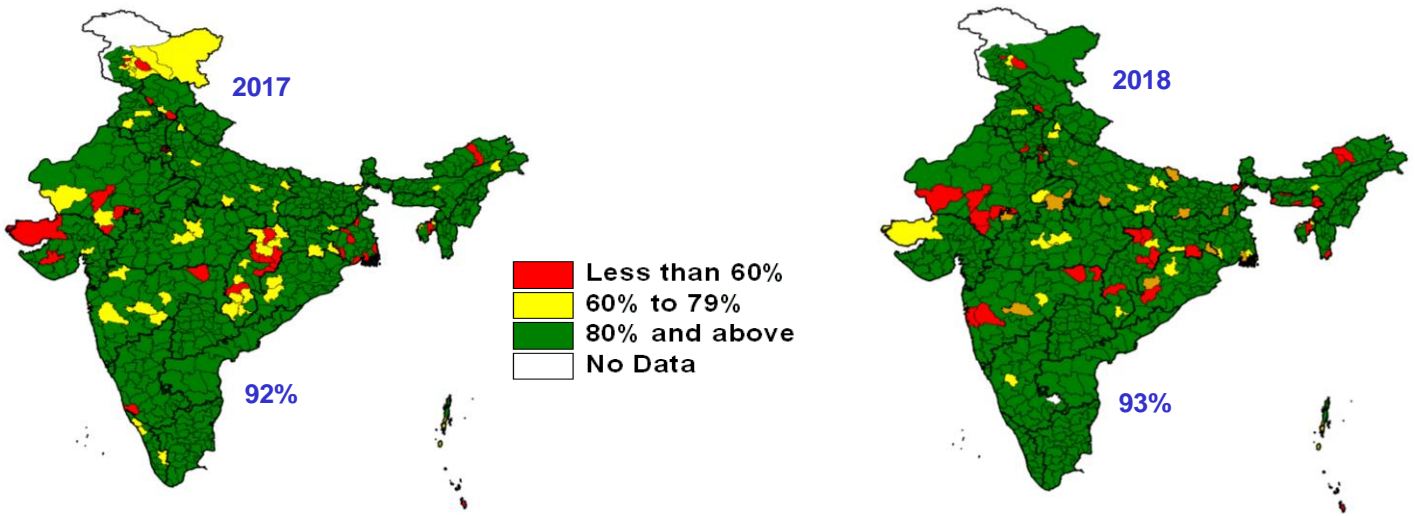


Figure 3: Non-polio AFP rate

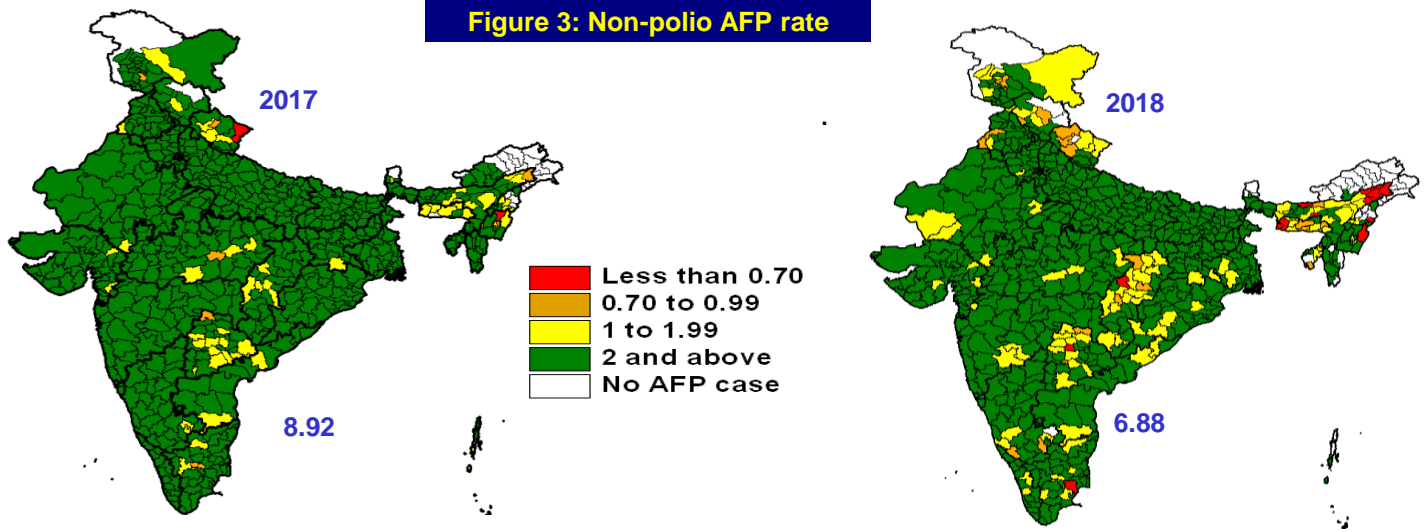


Figure 4: Stool collection within 14 days

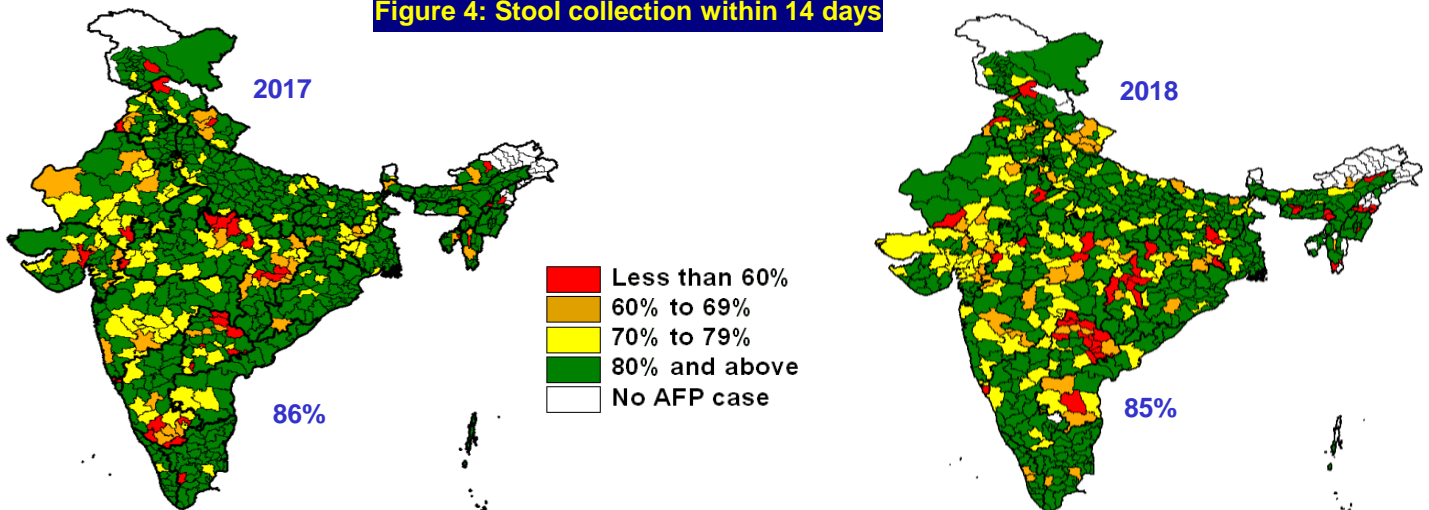
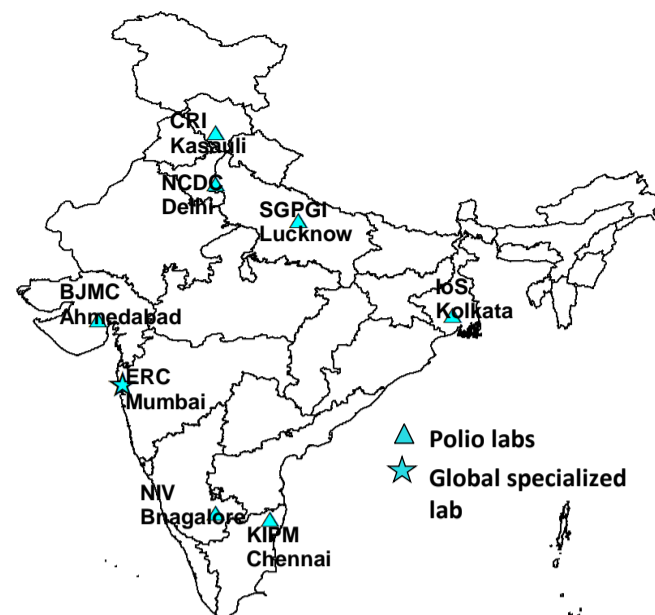


Table 4: Primary isolation results of AFP cases

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	4011	146	21	866	2914	64	0	8024
NIV, Bangalore	2545	84	12	717	1628	104	0	5099
ERC, Mumbai	3055	105	11	710	2229	0	0	6106
IoS, Kolkata	4129	135	11	735	3145	103	0	8241
NCDC, Delhi	4917	122	16	766	3953	60	0	9796
CRI, Kasauli	1104	17	1	149	928	9	0	2209
KIPM, Chennai	2902	64	3	533	2302	0	0	5761
SGPGI, Lucknow	6289	135	17	1189	4842	106	0	12767
TOTAL	28952	808	92	5665	21941	446	0	58003

Figure 5: Polio laboratory network



2017								
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	5428	198	30	1059	4141	0	0	10862
NIV, Bangalore	3502	120	23	950	2409	0	0	7016
ERC, Mumbai	2891	142	13	498	2238	0	0	5808
IoS, Kolkata	5872	160	19	1309	4384	0	0	11748
NCDC, Delhi	5990	178	21	823	4968	0	0	11980
CRI, Kasauli	1981	19	1	298	1663	0	0	3971
KIPM, Chennai	3641	43	7	671	2920	0	0	7257
SGPGI, Lucknow	8954	249	34	2060	6611	0	0	17913
TOTAL	38259	1109	148	7668	29334	0	0	76555

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

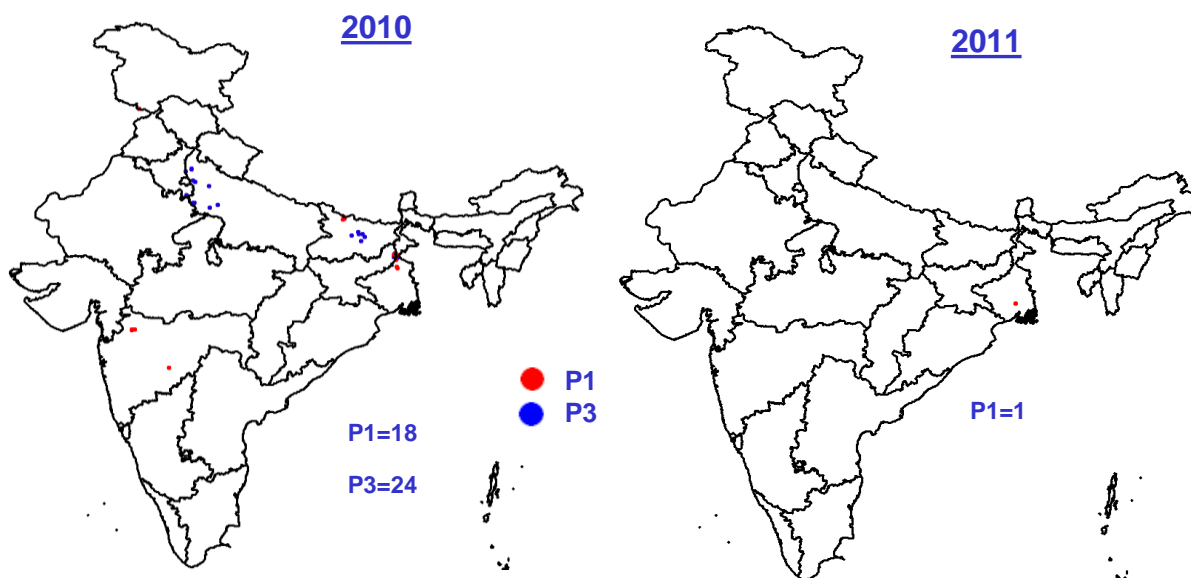
2018																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	168	0	0	0	0	37	0	54	71	0	0	0	6	0	0	0	0	0
NIV, Bangalore	96	0	0	0	0	24	0	31	35	0	0	0	5	0	0	1	0	0
ERC, Mumbai	116	0	0	0	0	27	0	39	32	0	0	0	18	0	0	0	0	0
IoS, Kolkata	146	0	0	0	0	39	0	44	53	0	0	0	9	1	0	0	0	0
NCDC, Delhi	137	0	0	0	0	41	0	54	39	0	0	0	1	0	0	2	0	0
CRI, Kasauli	18	0	0	0	0	5	0	4	9	0	0	0	0	0	0	0	0	0
KIPM, Chennai	66	0	0	0	0	17	0	24	25	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	153	0	0	0	0	43	1	57	49	0	0	0	1	0	1	1	0	0
TOTAL	900	0	0	0	0	233	1	307	313	0	0	0	40	1	1	4	0	0

2017																		
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	228	0	0	0	0	79	0	62	78	0	0	0	9	0	0	0	0	0
NIV, Bangalore	144	0	0	0	0	52	0	32	45	0	0	0	15	0	0	0	0	0
ERC, Mumbai	159	0	0	0	0	51	0	48	39	0	0	0	21	0	0	0	0	0
IoS, Kolkata	172	0	0	0	0	53	0	41	56	0	0	0	19	3	0	0	0	0
NCDC, Delhi	199	0	0	0	0	55	0	88	48	0	0	0	8	0	0	0	0	0
CRI, Kasauli	21	0	0	0	0	11	0	5	5	0	0	0	0	0	0	0	0	0
KIPM, Chennai	49	0	0	0	0	10	0	25	14	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	285	0	0	0	0	58	0	98	63	0	0	0	25	41	0	0	0	0
TOTAL	1257	0	0	0	0	369	0	399	348	0	0	0	97	44	0	0	0	0

Table 6: Most recent Wild Polio Virus case by State

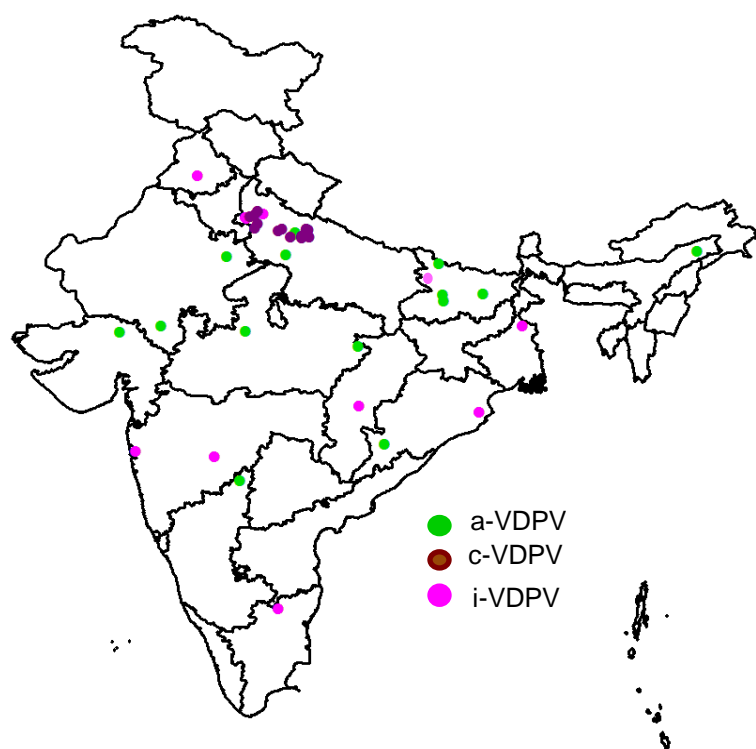
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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

Figure 7: Vaccine-derived Poliovirus in AFP cases, India, 2009 - 2018



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						
Total	1	1	15	18	9	1

