

AFP Surveillance Bulletin - India

Report for week 36, ending 8 September 2018

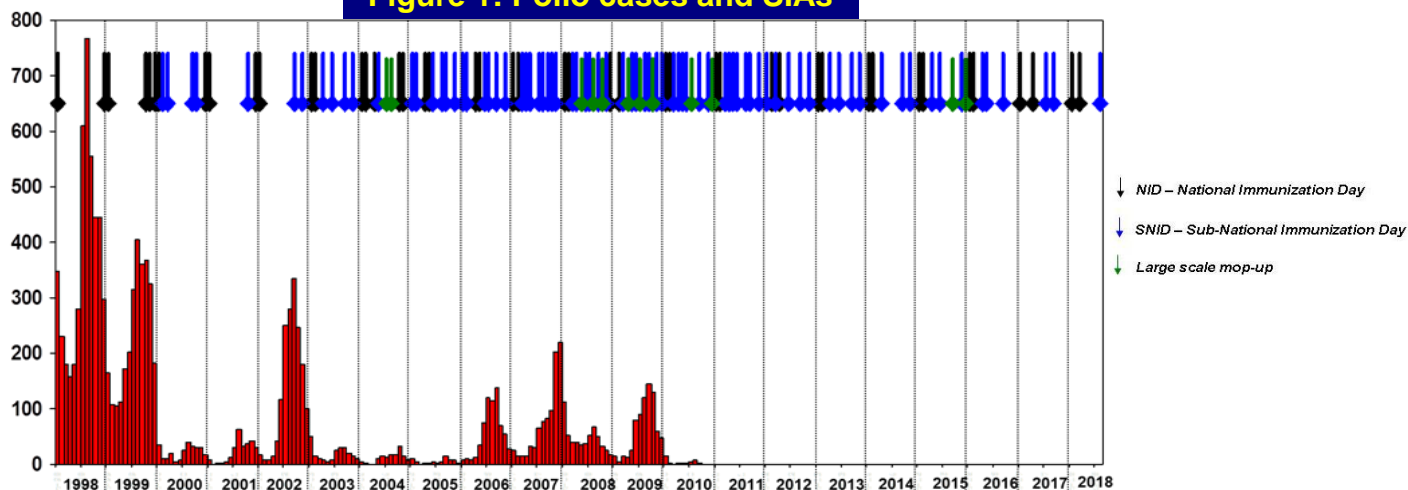
Table 1: AFP cases by month of paralysis onset, last 13 months

State/UT's	Total AFP cases in 2017	AFP cases as on week 36, 2017	AFP cases as on week 36, 2018	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
A&N ISLANDS	2	2	6	0	0	0	0	1	1	2	0	2	0	0	0	0
ANDHRA PRADESH	339	204	258	32	42	32	26	45	27	32	31	40	25	34	24	0
ARUNACHAL PR.	11	9	3	0	1	1	0	0	0	2	0	0	0	0	1	0
ASSAM	308	209	176	24	25	21	24	19	22	25	18	24	28	29	11	0
BIHAR	8416	5518	4401	769	683	700	640	624	554	561	456	540	577	609	480	0
CHANDIGARH	63	43	28	7	5	4	4	4	4	6	5	3	1	4	1	0
CHHATTISGARH	332	228	143	30	28	20	15	28	22	17	19	16	20	13	8	0
D&N HAVELI	7	3	2	2	0	2	0	0	0	1	0	1	0	0	0	0
DAMAN & DIU	12	5	2	1	2	2	0	2	0	0	0	0	0	0	0	0
DELHI	705	489	429	42	52	51	60	71	37	56	58	66	47	50	44	0
GOA	27	19	13	2	1	2	0	1	3	0	1	1	4	2	1	0
GUJARAT	993	672	665	109	60	75	53	97	93	94	75	67	82	91	66	0
HARYANA	962	596	413	101	80	74	73	62	81	49	51	52	56	47	15	0
HIMACHAL PRADESH	83	52	50	9	9	3	4	9	15	5	6	3	3	3	6	0
JAMMU & KASHMIR	301	166	135	32	28	33	19	18	16	22	20	19	18	13	9	0
JHARKHAND	909	605	527	72	84	73	62	61	67	83	64	66	60	70	56	0
KARNATAKA	663	434	488	60	60	40	45	49	49	53	48	81	61	93	54	0
KERALA	313	230	196	19	15	25	20	27	25	25	23	25	23	30	18	0
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	1755	1091	1135	170	149	144	139	159	142	129	129	160	155	162	99	0
MAHARASHTRA	2284	1585	1233	183	160	166	140	180	176	145	148	160	145	160	119	0
MANIPUR	33	25	16	3	2	1	2	0	1	2	0	3	6	3	1	0
MEGHALAYA	27	21	15	2	1	1	0	3	1	2	2	2	3	1	1	0
MIZORAM	30	19	15	2	1	3	0	1	1	3	1	0	3	3	3	0
NAGALAND	11	7	10	1	1	2	0	2	2	1	0	1	2	2	0	0
ODISHA	1225	841	586	108	107	87	68	63	68	60	77	58	65	101	94	0
PONDICHERRY	11	7	16	1	1	1	1	2	0	2	1	2	0	6	3	0
PUNJAB	696	432	287	84	41	38	47	77	47	31	22	28	23	37	22	0
RAJASTHAN	1885	1182	1014	184	154	140	131	128	130	118	124	168	133	127	86	0
SIKKIM	6	6	2	0	0	0	0	0	0	1	0	1	0	0	0	0
TAMIL NADU	549	323	502	60	45	38	64	64	67	91	57	73	53	84	13	0
TELANGANA	248	144	194	11	21	37	30	26	25	25	20	24	29	27	18	0
TRIPURA	51	34	19	6	4	2	3	2	2	4	1	4	3	1	2	0
UTTAR PRADESH	13114	8508	7360	1397	1083	1002	1039	926	810	824	781	947	1115	1063	894	0
UTTARAKHAND	274	196	135	25	15	16	19	17	19	20	11	18	18	23	9	0
WEST BENGAL	2478	1685	1402	182	175	206	161	170	179	164	162	156	166	215	190	0
TOTAL	39123	25590	21876	3730	3135	3042	2889	2938	2686	2655	2411	2811	2924	3103	2348	0

"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	6	0	0	6	0	0
ANDHRA PRADESH	442	0	0	442	0	0	339	0	0	339	0	0	258	0	0	214	44	13
ARUNACHAL PR.	21	0	0	21	0	0	11	0	0	11	0	0	3	0	0	2	1	1
ASSAM	371	0	0	371	0	0	308	0	3	305	0	0	176	0	0	164	12	4
BIHAR	11072	1	3	11068	0	0	8416	0	10	8406	0	0	4401	0	0	3902	499	105
CHANDIGARH	87	0	0	87	0	0	63	0	0	63	0	0	28	0	0	27	1	0
CHHATTISGARH	373	0	1	372	0	0	332	0	0	332	0	0	143	0	0	111	32	21
D&N HAVELI	6	0	0	6	0	0	7	0	0	7	0	0	2	0	0	2	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	705	0	0	705	0	0	429	0	0	361	68	25
GOA	29	0	0	29	0	0	27	0	0	27	0	0	13	0	0	9	4	2
GUJARAT	1082	0	0	1082	0	0	993	0	1	992	0	0	665	0	0	567	98	42
HARYANA	997	0	0	997	0	0	962	0	0	962	0	0	413	0	0	383	30	17
HIMACHAL PRADESH	180	0	0	180	0	0	83	0	0	83	0	0	50	0	0	43	7	4
JAMMU & KASHMIR	196	0	0	196	0	0	301	0	0	301	0	0	135	0	0	129	6	4
JHARKHAND	1019	0	2	1017	0	0	909	0	0	909	0	0	527	0	0	419	108	56
KARNATAKA	943	0	0	943	0	0	663	0	1	662	0	0	488	0	0	409	79	34
KERALA	356	0	0	356	0	0	313	0	0	313	0	0	196	0	0	175	21	3
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	1135	0	0	968	167	81
MAHARASHTRA	2721	0	2	2719	0	0	2284	0	1	2283	0	0	1233	0	0	1026	207	117
MANIPUR	21	0	0	21	0	0	33	0	0	33	0	0	16	0	0	15	1	0
MEGHALAYA	26	0	0	26	0	0	27	0	0	27	0	0	15	0	0	11	4	2
MIZORAM	34	0	0	34	0	0	30	0	0	30	0	0	15	0	0	11	4	1
NAGALAND	18	0	0	18	0	0	11	0	0	11	0	0	10	0	0	6	4	1
ODISHA	1620	0	0	1620	0	0	1225	0	1	1224	0	0	586	0	0	493	93	31
PONDICHERRY	17	0	0	17	0	0	11	0	0	11	0	0	16	0	0	15	1	0
PUNJAB	726	0	0	726	0	0	696	0	0	696	0	0	287	0	0	234	53	25
RAJASTHAN	1742	0	1	1741	0	0	1885	0	1	1884	0	0	1014	0	0	892	122	52
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	502	0	0	490	12	4
TELANGANA	404	0	0	404	0	0	248	0	0	248	0	0	194	0	0	150	44	15
TRIPURA	30	0	0	30	0	0	51	0	0	51	0	0	19	0	0	17	2	2
UTTAR PRADESH	14780	0	6	14774	0	0	13114	0	14	13100	0	0	7360	0	0	6444	916	262
UTTARAKHAND	394	0	0	394	0	0	274	0	1	273	0	0	135	0	0	110	25	9
WEST BENGAL	2953	0	0	2953	0	0	2478	0	3	2475	0	0	1402	0	0	1215	187	66
TOTAL	46499	1	15	46483	0	0	39123	0	37	39086	0	0	21876	0	0	19024	2852	999

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	8.93	8.93	100	100
ANDHRA PRADESH	3.38	3.38	89	96	2.57	2.57	86	96	2.82	2.34	75	94
ARUNACHAL PR.	3.37	3.37	71	100	1.74	1.74	82	100	0.65	0.43	67	100
ASSAM	2.81	2.81	96	99	2.56	2.53	94	99	2.08	1.93	93	99
BIHAR	23.83	23.83	88	99	17.65	17.63	89	98	12.91	11.45	88	98
CHANDIGARH	19.16	19.16	95	100	13.64	13.64	89	100	8.61	8.30	93	96
CHHATTISGARH	3.40	3.39	63	94	2.99	2.99	73	96	1.88	1.46	69	96
D&N HAVELI	7.14	7.14	83	100	8.05	8.05	86	100	3.21	3.21	100	100
DAMAN & DIU	14.93	14.93	100	100	15.58	15.58	100	100	4.98	4.98	100	100
DELHI	15.08	15.08	81	97	12.68	12.68	83	97	10.63	8.94	82	98
GOA	7.04	7.04	93	100	6.46	6.46	74	96	4.43	3.07	54	100
GUJARAT	4.67	4.67	84	94	5.02	5.02	83	95	5.05	4.30	82	95
HARYANA	9.04	9.04	84	98	8.56	8.56	85	98	5.21	4.83	87	100
HIMACHAL PRADESH	7.93	7.93	87	97	4.02	4.02	84	98	3.44	2.96	84	98
JAMMU & KASHMIR	3.44	3.44	93	99	5.44	5.44	93	100	3.49	3.33	97	99
JHARKHAND	8.37	8.35	81	96	7.33	7.33	79	96	5.92	4.71	80	98
KARNATAKA	5.43	5.43	82	97	3.76	3.75	82	97	3.93	3.29	84	97
KERALA	4.15	4.15	90	100	3.63	3.63	91	100	3.27	2.92	91	98
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	4.94	4.21	81	97
MAHARASHTRA	8.27	8.26	84	97	6.85	6.85	83	98	5.28	4.39	82	98
MANIPUR	1.99	1.99	62	100	2.51	2.51	97	100	2.16	2.03	94	94
MEGHALAYA	1.95	1.95	85	96	1.85	1.85	85	100	1.44	1.06	80	100
MIZORAM	6.71	6.71	91	97	6.59	6.59	80	100	4.95	3.63	73	100
NAGALAND	2.82	2.82	67	89	1.51	1.51	73	91	2.21	1.33	40	80
ODISHA	12.82	12.82	88	99	9.38	9.37	88	99	6.48	5.45	90	98
PONDICHERRY	4.17	4.17	94	94	3.41	3.41	91	100	7.07	6.63	94	100
PUNJAB	9.51	9.51	84	98	9	9	84	97	5.29	4.31	78	94
RAJASTHAN	7.12	7.11	82	95	7.63	7.63	83	97	5.83	5.12	84	96
SIKKIM	1.77	1.77	100	100	2.62	2.62	83	100	1.25	1.25	100	100
TAMIL NADU	3.94	3.94	95	99	3.11	3.11	95	99	4.09	4.00	95	99
TELANGANA	3.97	3.97	80	94	2.36	2.36	72	96	2.72	2.10	70	99
TRIPURA	1.85	1.85	77	100	3.96	3.96	86	100	2.75	2.46	95	100
UTTAR PRADESH	16.89	16.89	88	98	14.72	14.7	86	98	11.71	10.26	85	97
UTTARAKHAND	8.91	8.91	87	98	6.09	6.06	84	98	4.25	3.47	76	96
WEST BENGAL	9.43	9.43	93	99	8.05	8.04	91	99	6.55	5.68	90	98
TOTAL	10.60	10.60	87	98	8.92	8.92	86	98	7.13	6.20	85	98

Figure 2: Timeliness of Reporting Units

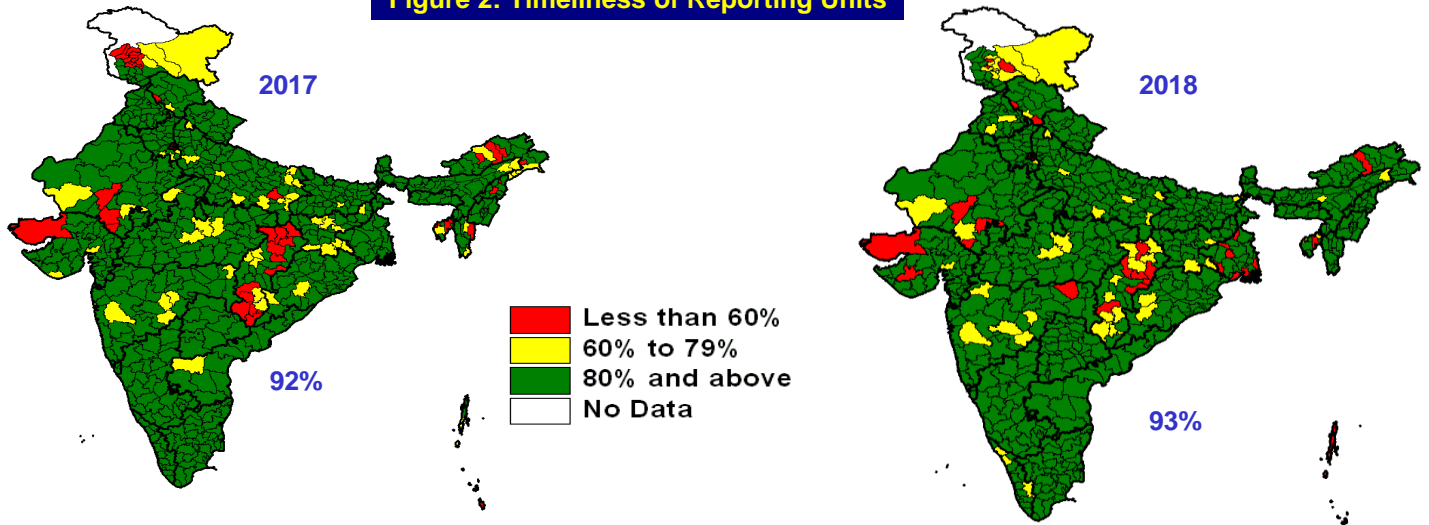


Figure 3: Non-polio AFP rate

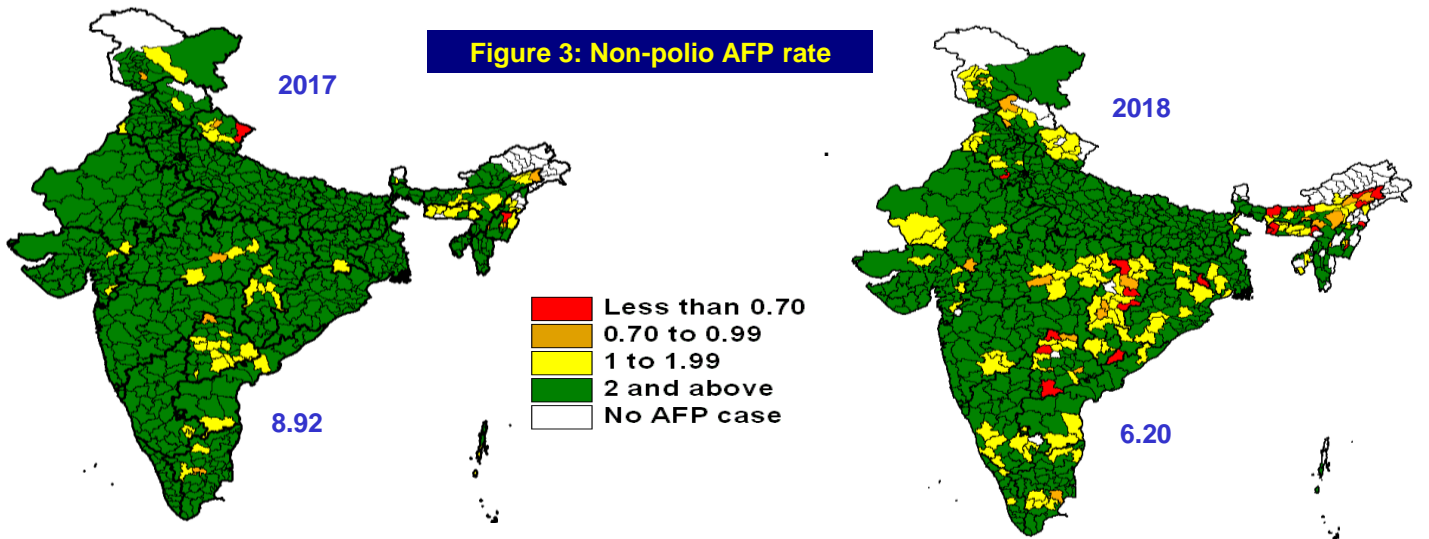


Figure 4: Stool collection within 14 days

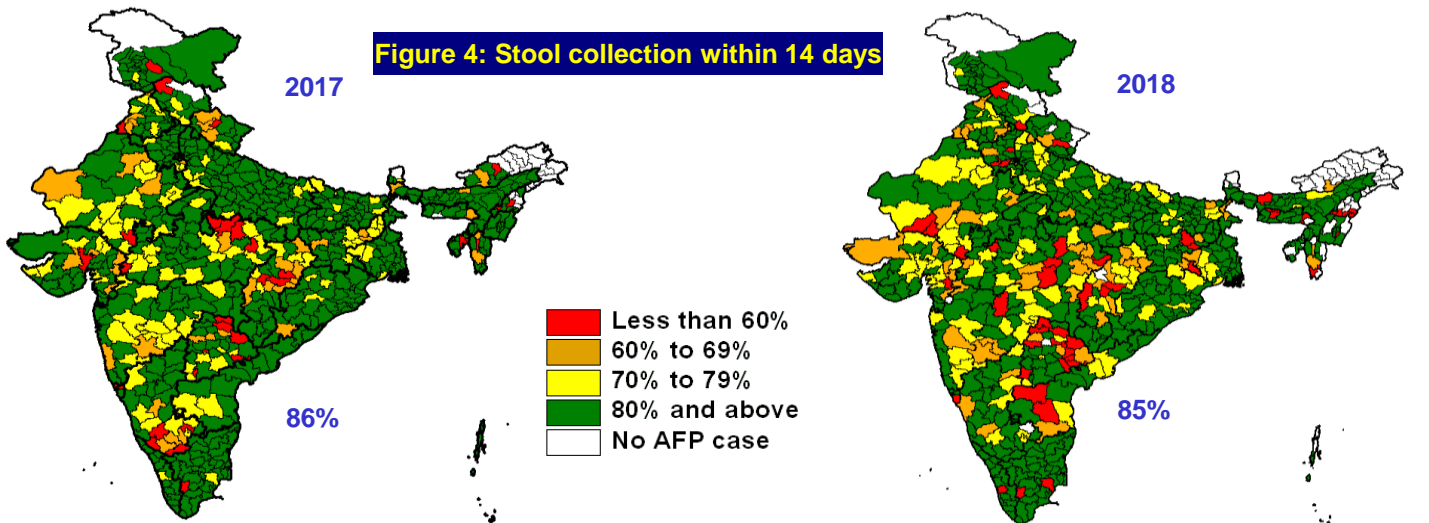
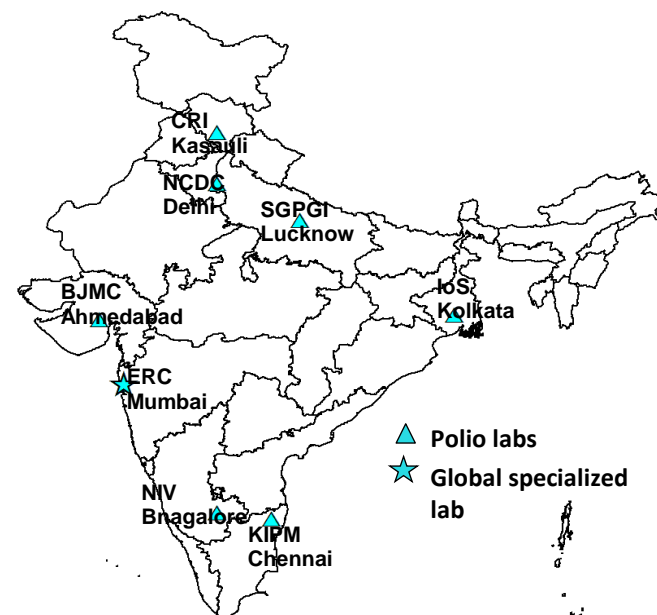


Table 4: Primary isolation results of AFP cases

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	3109	138	17	636	2191	127	0	6228
NIV, Bangalore	1827	79	9	519	1132	88	0	3651
ERC, Mumbai	2284	99	8	494	1635	46	2	4561
IoS, Kolkata	2999	118	10	550	2249	71	1	5961
NCDC, Delhi	3399	111	14	526	2619	129	0	6794
CRI, Kasauli	833	16	1	101	706	9	0	1673
KIPM, Chennai	2157	58	3	374	1718	4	0	4310
SGPGI, Lucknow	4333	124	17	846	3093	253	0	8654
TOTAL	20941	743	79	4046	15343	727	3	41832

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	5987	178	21	823	4965	0	0	11980
CRI, Kasauli	1979	19	1	298	1661	0	0	3971
KIPM, Chennai	3642	43	7	671	2921	0	0	7259
SGPGI, Lucknow	8954	249	34	2060	6611	0	0	17913
TOTAL	38255	1109	148	7668	29330	0	0	76557

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

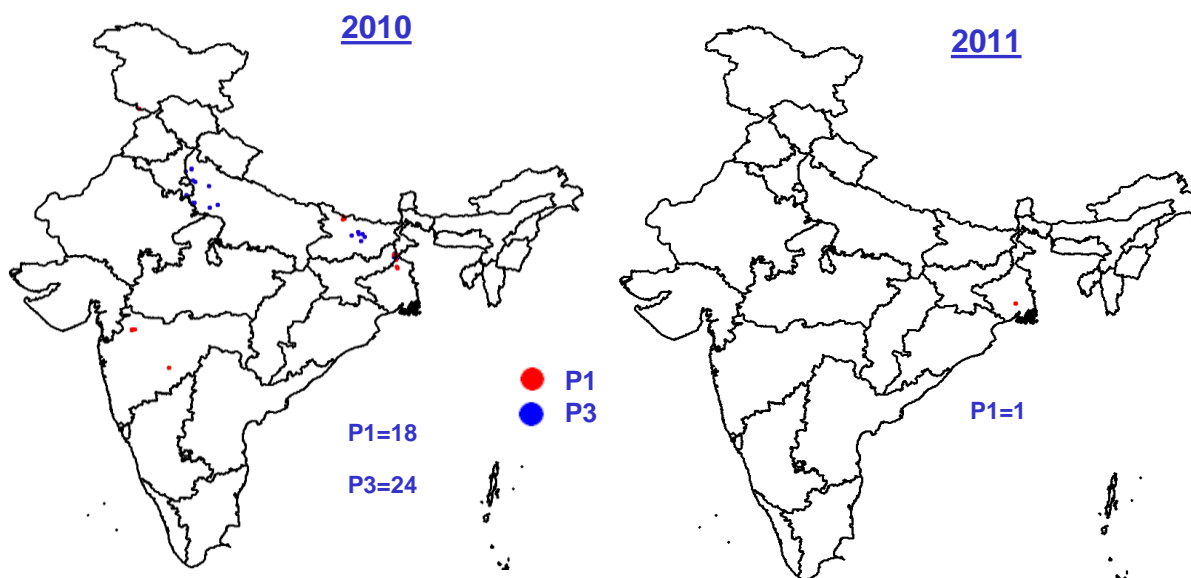
2018																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	156	0	0	0	0	34	0	50	68	0	0	0	3	0	0	1	0	0
NIV, Bangalore	88	0	0	0	0	20	0	28	31	0	0	0	4	0	0	4	1	0
ERC, Mumbai	107	0	0	0	0	24	0	36	30	0	0	0	16	0	0	1	0	0
IoS, Kolkata	128	0	0	0	0	33	0	38	47	0	0	0	8	1	0	1	0	0
NCDC, Delhi	124	0	0	0	0	38	0	46	39	0	0	0	0	0	0	1	0	0
CRI, Kasauli	17	0	0	0	0	5	0	3	9	0	0	0	0	0	0	0	0	0
KIPM, Chennai	60	0	0	0	0	16	0	21	23	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	142	0	0	0	0	39	1	50	46	0	0	0	1	0	1	4	0	0
TOTAL	822	0	0	0	0	209	1	272	293	0	0	0	32	1	1	12	1	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

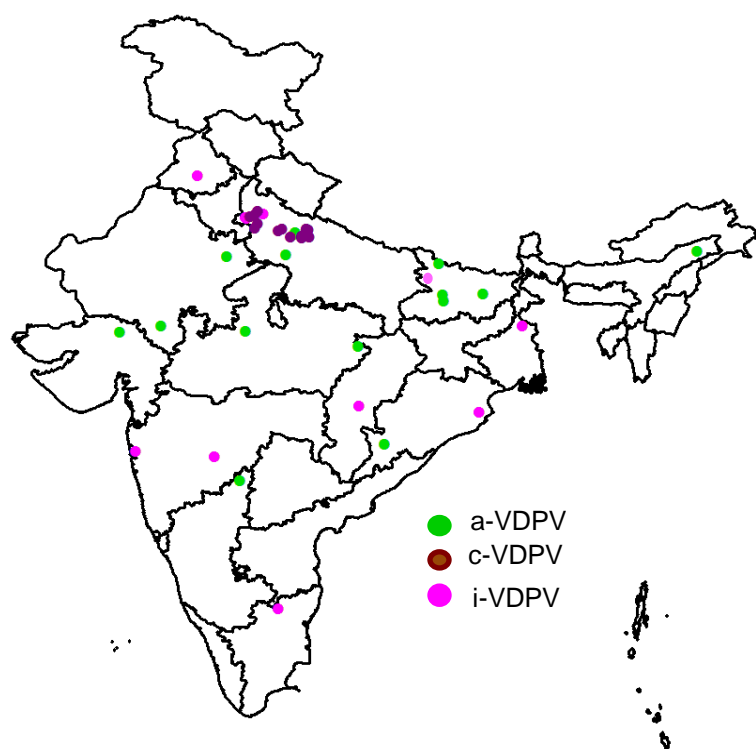
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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

