

AFP Surveillance Bulletin - India

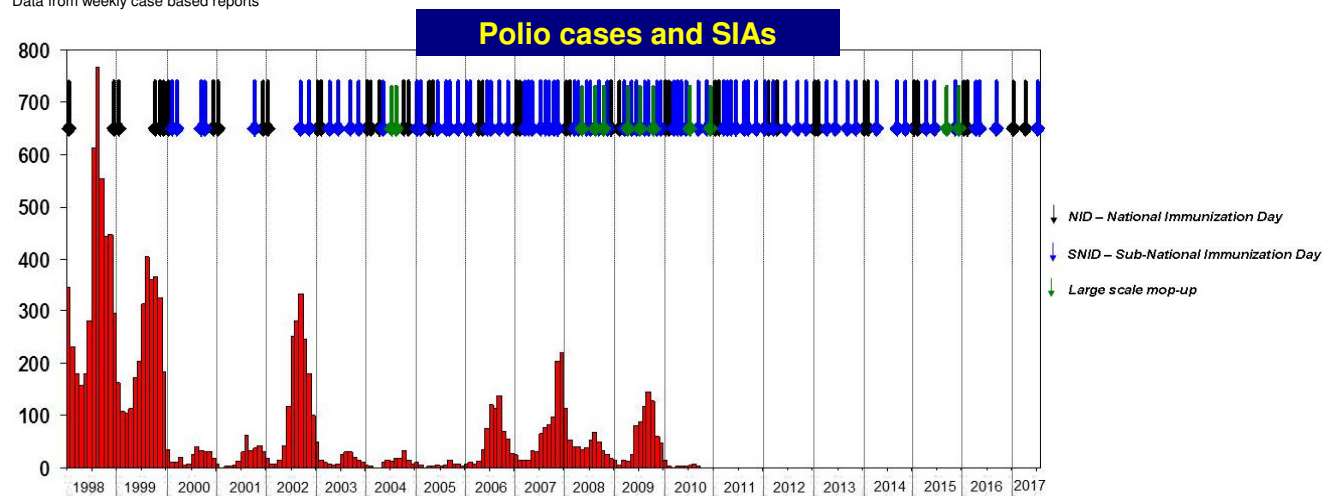
Report for week 34, ending 26 August 2017

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

State/UT's	Total AFP cases in 2016	AFP cases as on week 34, 2016	AFP cases as on week 34, 2017	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17
A&N ISLANDS	7	5	2	0	0	1	1	0	1	0	1	0	0	0	0	0
ANDHRA PRADESH	442	265	195	45	37	50	35	31	22	30	29	28	29	19	30	8
ARUNACHAL PR.	21	11	8	4	5	1	0	1	1	1	2	0	1	2	1	0
ASSAM	371	224	188	55	39	32	26	11	14	20	21	26	26	26	38	17
BIHAR	11072	7219	5092	1217	954	829	750	788	741	654	611	564	612	647	885	378
CHANDIGARH	87	44	33	14	16	12	4	5	1	3	7	5	7	3	6	1
CHHATTISGARH	373	200	211	47	53	38	25	22	31	37	23	24	35	27	24	10
D&N HAVELI	6	4	3	3	0	1	0	0	0	1	1	0	0	0	0	1
DAMAN & DIU	10	4	5	2	0	1	4	0	1	1	0	0	2	0	1	0
DELHI	824	520	454	74	63	67	56	67	53	60	67	51	63	62	70	28
GOA	29	19	19	2	4	3	0	1	2	1	2	3	3	2	4	2
GUJARAT	1082	618	606	124	118	99	88	84	82	63	75	63	86	79	100	58
HARYANA	997	638	530	126	88	70	63	60	74	74	73	60	92	53	68	36
HIMACHAL PRADESH	180	99	47	36	32	17	10	6	5	4	4	5	7	8	9	5
JAMMU & KASHMIR	196	87	154	14	28	16	16	33	14	18	26	23	17	23	27	6
JHARKHAND	1019	614	551	152	87	78	68	77	60	66	64	63	80	90	93	35
KARNATAKA	943	620	399	106	83	70	66	40	51	45	48	48	54	55	74	24
KERALA	356	204	212	28	28	31	39	32	36	29	31	31	27	15	31	12
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	2267	1326	1012	260	261	195	188	153	143	117	111	131	165	151	120	74
MAHARASHTRA	2721	1626	1495	317	281	250	207	162	214	189	193	179	165	211	246	98
MANIPUR	21	14	19	4	2	0	2	1	1	0	0	1	1	3	12	1
MEGHALAYA	26	11	19	3	4	5	3	1	1	1	0	2	2	6	6	1
MIZORAM	34	13	17	2	13	5	1	2	1	4	0	2	3	2	4	1
NAGALAND	18	6	7	1	4	5	1	1	2	1	1	1	0	1	1	0
ODISHA	1620	983	750	265	187	129	78	118	72	75	72	85	72	103	179	92
PONDICHERRY	17	8	6	0	1	1	5	1	1	1	0	2	1	0	1	0
PUNJAB	726	446	384	105	82	54	39	35	55	63	53	41	49	30	56	37
RAJASTHAN	1742	1014	1090	205	186	157	132	126	142	149	151	141	168	138	134	67
SIKKIM	4	4	6	0	0	0	0	0	1	1	1	0	2	1	0	0
TAMIL NADU	727	462	309	63	64	46	57	47	59	38	31	26	42	44	59	10
TELANGANA	404	271	142	51	42	22	17	23	17	21	25	24	10	19	19	7
TRIPURA	30	23	33	4	0	1	0	2	2	3	3	1	7	7	5	5
UTTAR PRADESH	14781	9052	7748	1789	1510	1158	1132	1082	1084	838	962	939	1014	1081	1173	657
UTTARAKHAND	394	249	180	40	41	37	31	20	30	27	24	20	30	17	15	17
WEST BENGAL	2953	1860	1538	479	268	194	220	198	163	147	191	212	212	228	291	94
TOTAL	46500	28763	23464	5637	4581	3675	3364	3230	3177	2782	2903	2801	3084	3153	3782	1782

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

Data from weekly case based reports



AFP cases key surveillance indicators, 2015 - 2017

State/UT's	2015						2016						2017					
	#	VDPV	Compatible	Discarded (non-polio AFP)	Pending		#	VDPV	Compatible	Discarded (non-polio AFP)	Pending		#	VDPV	Compatible	Discarded (non-polio AFP)	Pending	
					AFP Cases												Total	> 90 Days
A&N ISLANDS	2	0	0	2	0	0	7	0	0	7	0	0	2	0	0	2	0	0
ANDHRA PRADESH	500	0	0	500	0	0	442	0	0	442	0	0	195	0	0	161	34	10
ARUNACHAL PR.	20	0	0	20	0	0	21	0	0	21	0	0	8	0	0	6	2	0
ASSAM	322	0	0	322	0	0	371	0	0	371	0	0	188	0	0	159	29	1
BIHAR	12595	0	1	12594	0	0	11072	1	3	11068	0	0	5092	0	0	4271	821	152
CHANDIGARH	81	0	0	81	0	0	87	0	0	87	0	0	33	0	0	31	2	1
CHHATTISGARH	347	0	0	347	0	0	373	0	1	372	0	0	211	0	0	177	34	11
D&N HAVELI	7	0	0	7	0	0	6	0	0	6	0	0	3	0	0	2	1	0
DAMAN & DIU	13	0	0	13	0	0	10	0	0	10	0	0	5	0	0	5	0	0
DELHI	860	1	0	859	0	0	824	0	0	824	0	0	454	0	0	386	68	19
GOA	27	0	0	27	0	0	29	0	0	29	0	0	19	0	0	12	7	2
GUJARAT	893	0	0	893	0	0	1082	0	0	1082	0	0	606	0	0	505	101	26
HARYANA	1017	0	0	1017	0	0	997	0	0	997	0	0	530	0	0	461	69	15
HIMACHAL PRADESH	124	0	0	124	0	0	180	0	0	180	0	0	47	0	0	37	10	1
JAMMU & KASHMIR	152	0	0	152	0	0	196	0	0	196	0	0	154	0	0	146	8	2
JHARKHAND	1169	0	2	1167	0	0	1019	0	2	1017	0	0	551	0	0	452	99	23
KARNATAKA	949	0	1	948	0	0	943	0	0	943	0	0	399	0	0	325	74	28
KERALA	355	0	0	355	0	0	356	0	0	356	0	0	212	0	0	196	16	5
LAKSHADWEEP	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	2285	1	0	2284	0	0	2267	0	0	2267	0	0	1012	0	1	814	197	52
MAHARASHTRA	2463	0	0	2463	0	0	2721	0	2	2719	0	0	1495	0	1	1202	292	97
MANIPUR	31	0	0	31	0	0	21	0	0	21	0	0	19	0	0	16	3	0
MEGHALAYA	27	0	0	27	0	0	26	0	0	26	0	0	19	0	0	12	7	0
MIZORAM	10	0	0	10	0	0	34	0	0	34	0	0	17	0	0	10	7	2
NAGALAND	11	0	0	11	0	0	18	0	0	18	0	0	7	0	0	7	0	0
ODISHA	1559	0	0	1559	0	0	1620	0	0	1620	0	0	750	0	1	586	163	30
PONDICHERRY	17	0	0	17	0	0	17	0	0	17	0	0	6	0	0	6	0	0
PUNJAB	670	0	0	670	0	0	726	0	0	726	0	0	384	0	0	313	71	16
RAJASTHAN	1665	0	1	1664	0	0	1742	0	1	1741	0	0	1090	0	0	910	180	77
SIKKIM	4	0	0	4	0	0	4	0	0	4	0	0	6	0	0	5	1	1
TAMIL NADU	707	0	0	707	0	0	727	0	0	727	0	0	309	0	0	259	50	13
TELANGANA	353	0	0	353	0	0	404	0	0	404	0	0	142	0	0	104	38	6
TRIPURA	45	0	0	45	0	0	30	0	0	30	0	0	33	0	0	21	12	2
UTTAR PRADESH	14988	0	5	14983	0	0	14781	0	6	14775	0	0	7748	0	0	6756	992	176
UTTARAKHAND	342	0	0	342	0	0	394	0	0	394	0	0	180	0	0	155	25	6
WEST BENGAL	2359	0	1	2358	0	0	2953	0	0	2953	0	0	1538	0	0	1359	179	49
TOTAL	46970	2	11	46957	0	0	46500	1	15	46484	0	0	23464	0	3	19869	3592	823

AFP cases key surveillance indicators, 2015 - 2017

State/UT's	2015				2016				2017			
	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	2.22	2.22	50	100	7.61	7.61	86	86	3.22	3.22	100	100
ANDHRA PRADESH	3.52	3.52	90	98	3.38	3.38	89	96	2.26	1.87	88	96
ARUNACHAL PR.	3.28	3.28	80	100	3.37	3.37	71	100	1.94	1.45	75	100
ASSAM	2.49	2.49	98	99	2.81	2.81	96	99	2.39	2.02	94	98
BIHAR	27.96	27.96	86	98	23.83	23.83	88	99	16.34	13.70	89	98
CHANDIGARH	18.12	18.12	98	100	19.16	19.16	95	100	10.92	10.26	85	97
CHHATTISGARH	3.33	3.33	65	93	3.4	3.39	63	94	2.91	2.44	70	96
D&N HAVELI	8.43	8.43	71	86	7.14	7.14	83	100	5.27	3.52	67	67
DAMAN & DIU	20.97	20.97	92	92	14.93	14.93	100	100	9.93	9.93	100	100
DELHI	16.01	15.99	82	97	15.08	15.08	81	97	12.49	10.62	84	98
GOA	6.65	6.65	89	100	7.04	7.04	93	100	6.95	4.39	74	100
GUJARAT	3.93	3.93	83	94	4.67	4.67	84	94	4.69	3.91	85	95
HARYANA	9.39	9.39	81	97	9.04	9.04	84	98	7.21	6.27	84	97
HIMACHAL PRADESH	5.53	5.53	80	99	7.93	7.93	87	97	3.48	2.74	89	98
JAMMU & KASHMIR	2.74	2.74	99	100	3.44	3.44	93	99	4.26	4.04	95	100
JHARKHAND	8.28	8.27	81	96	8.37	8.35	81	96	6.8	5.58	79	97
KARNATAKA	5.56	5.55	85	98	5.43	5.43	82	97	3.46	2.82	83	96
KERALA	4.25	4.25	88	98	4.15	4.15	90	100	3.76	3.48	95	100
LAKSHADWEEP	5.88	5.88	100	100	0	0	NA	NA	0	0.00	NA	NA
MADHYA PRADESH	7.27	7.27	84	98	7.08	7.08	83	98	4.75	3.82	82	97
MAHARASHTRA	7.55	7.55	86	98	8.27	8.26	84	97	6.86	5.51	82	98
MANIPUR	3.28	3.28	84	100	1.99	1.99	62	100	2.21	1.86	89	95
MEGHALAYA	2.09	2.09	85	100	1.95	1.95	85	96	1.99	1.25	79	100
MIZORAM	2.21	2.21	50	90	6.71	6.71	91	97	5.71	3.36	76	100
NAGALAND	1.52	1.52	82	91	2.82	2.82	67	89	1.47	1.47	86	86
ODISHA	12.29	12.29	88	98	12.82	12.82	88	99	8.79	6.86	85	97
PONDICHERRY	4.27	4.27	100	100	4.17	4.17	94	94	2.84	2.84	100	100
PUNJAB	8.90	8.90	84	97	9.51	9.51	84	98	7.59	6.19	83	96
RAJASTHAN	6.93	6.92	84	97	7.12	7.11	82	95	6.75	5.64	82	96
SIKKIM	1.79	1.79	75	100	1.77	1.77	100	100	4.01	3.34	83	100
TAMIL NADU	3.86	3.86	93	99	3.94	3.94	95	99	2.68	2.24	94	98
TELANGANA	3.39	3.39	80	94	3.97	3.97	80	94	2.07	1.51	70	94
TRIPURA	2.91	2.91	89	100	1.85	1.85	77	100	3.92	2.50	85	100
UTTAR PRADESH	17.45	17.44	88	98	16.89	16.89	88	98	13.3	11.60	86	97
UTTARAKHAND	7.87	7.87	86	99	8.91	8.91	87	98	6.11	5.27	84	98
WEST BENGAL	7.29	7.29	90	98	9.43	9.43	93	99	7.64	6.75	91	99
TOTAL	10.78	10.77	86	98	10.60	10.60	87	98	8.19	6.93	86	97

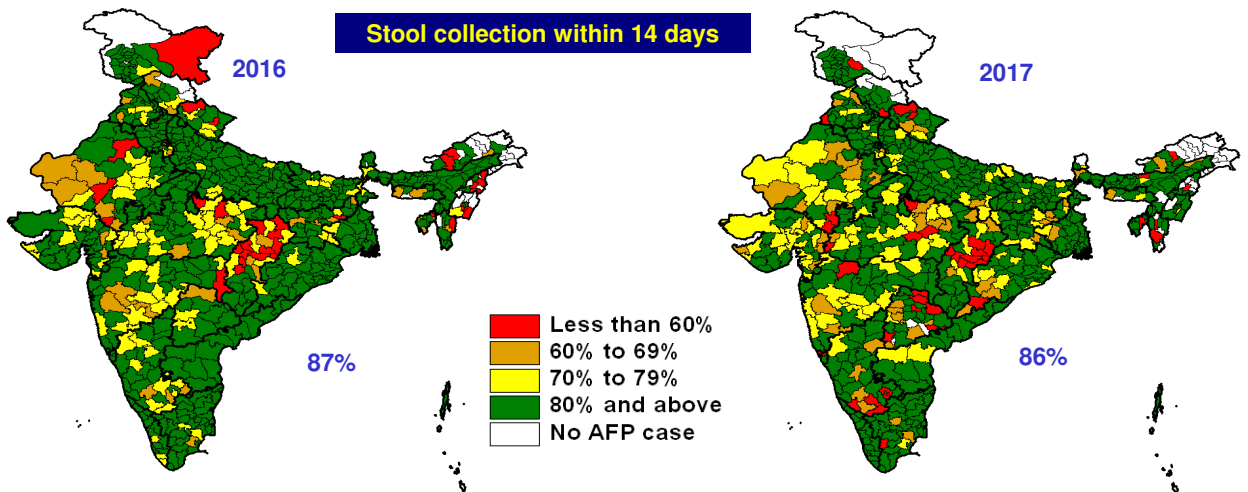
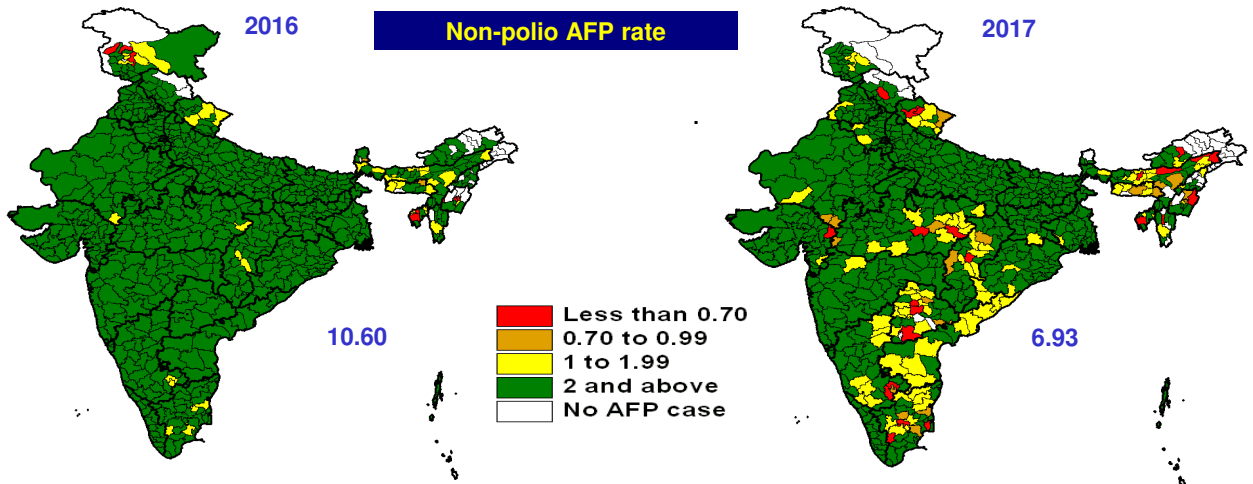
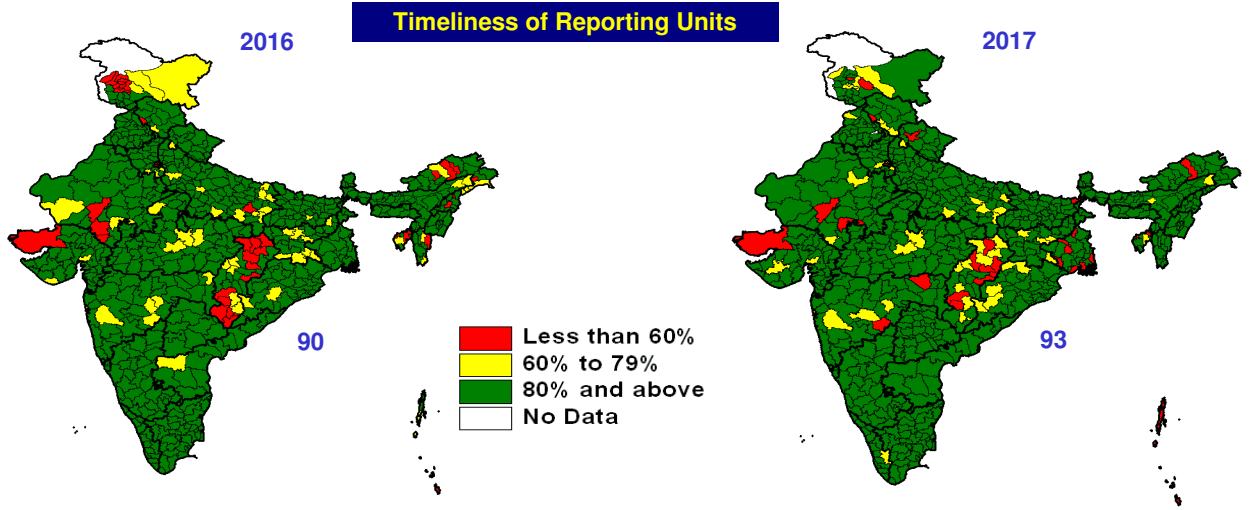
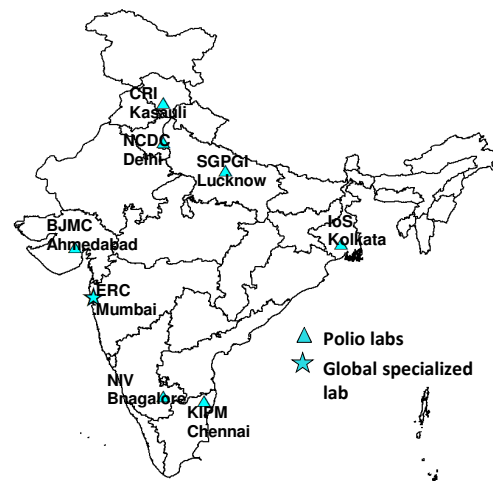


Table 3: Primary isolation results of AFP cases

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	3191	146	22	629	2258	136	0	6371
NIV, Bangalore	2089	86	14	561	1301	127	0	4152
ERC, Mumbai	1793	117	11	300	1365	0	0	3579
IoS, Kolkata	3465	122	14	827	2346	99	57	6914
NCDC, Delhi	3631	148	16	533	2684	250	0	7261
CRI, Kasauli	1045	13	1	163	808	60	0	2100
KIPM, Chennai	1816	34	4	344	1434	0	0	3523
SGPGI, Lucknow	4986	198	27	1149	3347	265	0	9963
TOTAL	22016	864	109	4506	15543	937	57	43863

Polio laboratory network



2016								
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	6098	233	26	1127	4712	0	0	12201
NIV, Bangalore	4395	190	35	1200	2970	0	0	8801
ERC, Mumbai	4940	158	14	1187	3581	0	0	10029
IoS, Kolkata	7146	91	21	1011	6023	0	0	14300
NCDC, Delhi	6934	212	20	885	5817	0	0	13870
CRI, Kasauli	2066	35	0	276	1755	0	0	4152
KIPM, Chennai	5122	89	9	954	4070	0	0	10238
SGPGI, Lucknow	8811	281	29	1551	6950	0	0	17610
TOTAL	45512	1289	154	8191	35878	0	0	91201

Table 4: Intratypic differentiation (ITD) of isolates from AFP cases

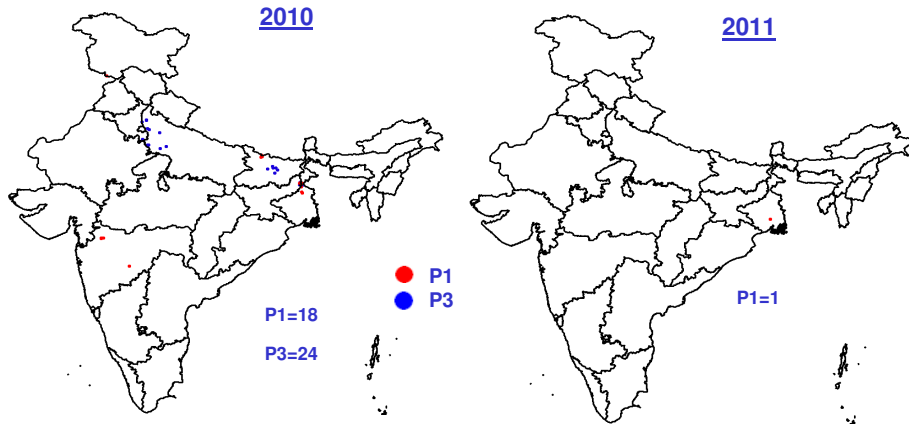
2017																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
ERC, Mumbai	125	0	0	0	0	44	0	38	29	0	0	0	14	0	0	0	0	0
IoS, Kolkata	136	0	0	0	0	48	0	35	47	0	0	0	3	1	0	2	0	0
NCDC, Delhi	164	0	0	0	0	45	0	70	44	0	0	0	5	0	0	0	0	0
KIPM, Chennai	37	0	0	0	0	6	0	21	10	0	0	0	0	0	0	0	0	0
NIV, Bangalore	101	0	0	0	0	38	0	24	30	0	0	0	8	0	0	1	0	0
SGPGI, Lucknow	227	0	0	0	0	47	0	77	45	0	0	0	21	36	0	1	0	0
BJMC, Ahmedabad	168	0	0	0	0	60	0	48	55	0	0	0	5	0	0	0	0	0
CRI, Kasauli	15	0	0	0	0	10	0	2	3	0	0	0	0	0	0	0	0	0
TOTAL	973	0	0	0	0	298	0	315	263	0	0	0	56	37	0	4	0	0

2016																		
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						
ERC, Mumbai	172	0	0	0	0	53	13	52	43	0	0	0	11	0	0	0	0	0
IoS, Kolkata	113	0	0	0	0	26	18	35	33	0	0	0	0	1	0	0	0	0
NCDC, Delhi	231	0	0	0	0	47	38	91	52	0	0	0	3	0	0	0	0	0
KIPM, Chennai	98	0	0	0	0	26	17	26	28	0	1	0	0	0	0	0	0	0
NIV, Bangalore	225	0	0	0	0	56	24	67	70	0	0	0	6	2	0	0	0	0
SGPGI, Lucknow	311	0	0	0	0	56	53	86	66	0	0	0	16	34	0	0	0	0
BJMC, Ahmedabad	258	0	0	0	0	78	25	74	80	0	0	0	1	0	0	0	0	0
CRI, Kasauli	35	0	0	0	0	5	7	11	12	0	0	0	0	0	0	0	0	0
TOTAL	1443	0	0	0	0	347	195	442	384	0	1	0	37	37	0	0	0	0

Most recent Wild Polio Virus case by State

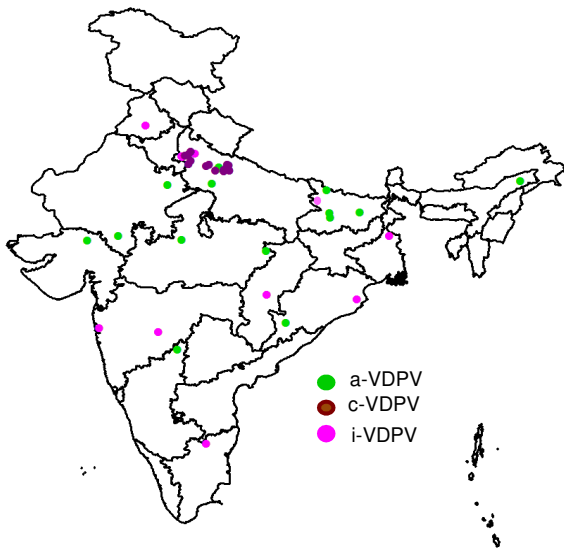
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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

Wild Polio cases, India



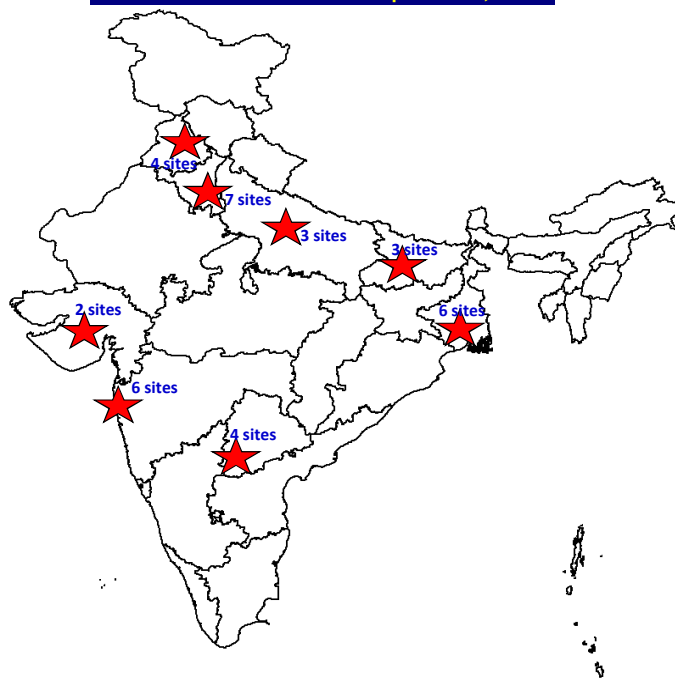
Month	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	112	36	36	7	18	51	4	10	8	24	112	14	16	1	0	0	0	0	0	0
February	32	22	10	1	8	16	3	5	9	14	53	5	3	0	0	0	0	0	0	0
March	42	11	10	3	7	9	1	1	8	14	40	16	0	0	0	0	0	0	0	0
April	26	8	20	3	16	7	1	2	13	14	40	13	2	0	0	0	0	0	0	0
May	49	39	6	4	42	5	9	2	36	32	34	24	2	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
July	324	142	25	30	251	25	13	3	121	64	53	89	5	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
September	283	193	32	33	334	30	18	14	137	82	49	145	3	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
November	226	155	31	43	180	16	14	7	55	203	24	60	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
Total	1934	1126	265	268	1600	225	134	66	676	874	559	741	42	1	0	0	0	0	0	0

Vaccine-derived Poliovirus in AFP cases, India, 2009 - 2017



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						
Total	1	1	15	18	9	1

Environmental surveillance for poliovirus, India



Environmental surveillance for poliovirus, India

Year	City	# sites	# sites																																																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2010 8 sites	MUMBAI	3																																																				
	DELHI	5																																																				
2011 15 sites	MUMBAI	3																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	2																																																				
2012 17 sites	MUMBAI	3																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	4																																																				
2013 21 sites	MUMBAI	3																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	4																																																				
	PUNJAB	4																																																				
2014 23 sites	MUMBAI	3																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	4																																																				
	PUNJAB	4																																																				
	GUJARAT	2																																																				
2015 26 sites	MUMBAI	6																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	4																																																				
	PUNJAB	4																																																				
	GUJARAT	2																																																				
2016 35 sites	MUMBAI	6																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	6																																																				
	PUNJAB	4																																																				
	GUJARAT	2																																																				
	TELANGANA	4																																																				
2017 35 sites	MUMBAI	6																																																				
	DELHI	7																																																				
	PATNA	3																																																				
	KOLKATA	6																																																				
	PUNJAB	4																																																				
	GUJARAT	2																																																				
	TELANGANA	4																																																				
	UTTAR PRADESH	3																																																				

■ Wild poliovirus type 1
 ■ Wild poliovirus type 3
 ■ Negative for wild poliovirus
 □ Not scheduled
■ Type 1 VDPV
 ■ Type 2 VDPV
 ■ Type 3 VDPV
 □ Result pending
 □ X Samples not collected