

# AFP Surveillance Bulletin - India

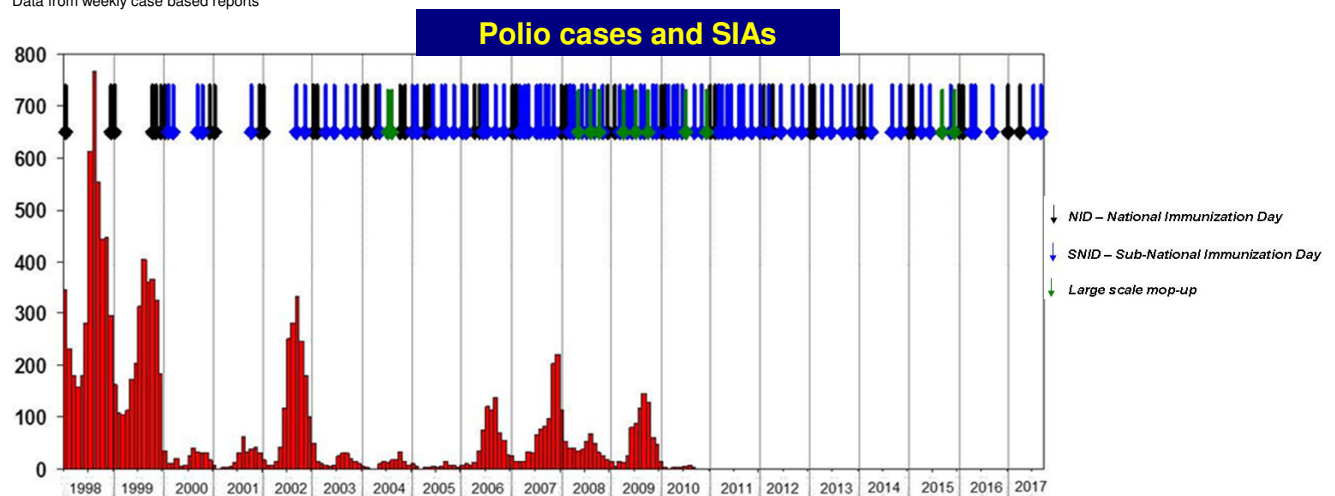
Report for week 46, ending 18 November 2017

**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 46, 2016	AFP cases as on week 46, 2017	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
A&N ISLANDS	7	6	2	1	0	1	0	1	0	0	0	0	0	0	0	0
ANDHRA PRADESH	442	384	283	35	31	22	29	29	26	29	20	31	21	31	39	6
ARUNACHAL PR.	21	20	11	0	1	1	1	2	0	1	2	1	1	0	1	1
ASSAM	371	339	265	26	11	14	20	21	26	26	26	41	40	25	21	5
BIHAR	11072	9790	7239	750	788	736	650	604	562	612	657	911	926	776	656	149
CHANDIGARH	87	81	54	4	5	1	3	7	5	7	3	7	10	7	4	0
CHHATTISGARH	373	320	291	25	22	30	37	23	23	36	26	26	39	29	22	0
D&N HAVELI	6	6	5	0	0	0	1	1	0	0	0	0	1	2	0	0
DAMAN & DIU	10	8	11	4	0	1	1	0	0	2	0	2	1	1	2	1
DELHI	824	699	597	56	67	53	60	67	49	64	60	74	76	44	48	2
GOA	29	28	23	0	1	2	1	2	3	4	2	4	4	1	0	0
GUJARAT	1082	920	876	88	84	82	63	74	64	85	82	101	146	109	54	16
HARYANA	997	864	795	63	60	73	74	73	60	91	54	86	122	98	56	8
HIMACHAL PRADESH	180	169	73	10	6	5	4	4	5	7	8	9	16	8	6	1
JAMMU & KASHMIR	196	144	246	16	33	14	18	26	23	17	23	28	39	32	26	0
JHARKHAND	1019	851	781	68	77	59	65	65	62	78	92	97	104	72	73	14
KARNATAKA	943	846	571	66	40	51	45	49	48	54	55	78	81	59	50	1
KERALA	356	287	268	39	32	36	29	31	31	27	15	33	32	19	14	1
LAKSHADWEEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	2267	1940	1481	188	153	140	116	112	129	161	152	137	215	169	129	21
MAHARASHTRA	2721	2370	1969	207	162	212	188	192	177	167	210	254	250	179	122	18
MANIPUR	21	19	30	2	1	1	0	0	1	1	3	13	6	3	2	0
MEGHALAYA	26	21	26	3	1	1	1	0	2	2	6	6	5	2	1	0
MIZORAM	34	30	27	1	2	1	4	0	2	3	2	4	8	2	1	0
NAGALAND	18	16	9	1	1	2	1	1	1	0	1	1	0	1	1	0
ODISHA	1620	1436	1085	78	118	71	72	71	85	72	103	183	207	111	99	11
PONDICHERRY	17	10	9	5	1	1	1	0	2	1	0	1	1	1	1	0
PUNJAB	726	649	615	39	35	55	61	53	41	50	31	58	141	82	36	7
RAJASTHAN	1742	1506	1626	132	126	142	145	150	140	171	143	169	223	182	137	24
SIKKIM	4	4	6	0	0	1	1	1	0	2	1	0	0	0	0	0
TAMIL NADU	727	612	440	57	47	59	38	31	26	42	44	59	43	61	33	4
TELANGANA	404	363	181	17	23	17	21	25	24	10	18	19	14	12	20	1
TRIPURA	30	26	48	0	2	2	3	3	1	7	7	6	7	6	4	2
UTTAR PRADESH	14780	12832	11294	1132	1082	1074	825	937	903	991	1073	1216	1673	1407	1022	173
UTTARAKHAND	394	350	242	31	20	30	27	24	19	28	18	15	38	26	14	3
WEST BENGAL	2953	2568	2120	220	198	163	146	193	213	213	232	329	275	180	155	21
<b>TOTAL</b>	<b>46499</b>	<b>40514</b>	<b>33599</b>	<b>3364</b>	<b>3230</b>	<b>3153</b>	<b>2751</b>	<b>2872</b>	<b>2753</b>	<b>3061</b>	<b>3169</b>	<b>3999</b>	<b>4765</b>	<b>3737</b>	<b>2849</b>	<b>490</b>

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

Data from weekly case based reports



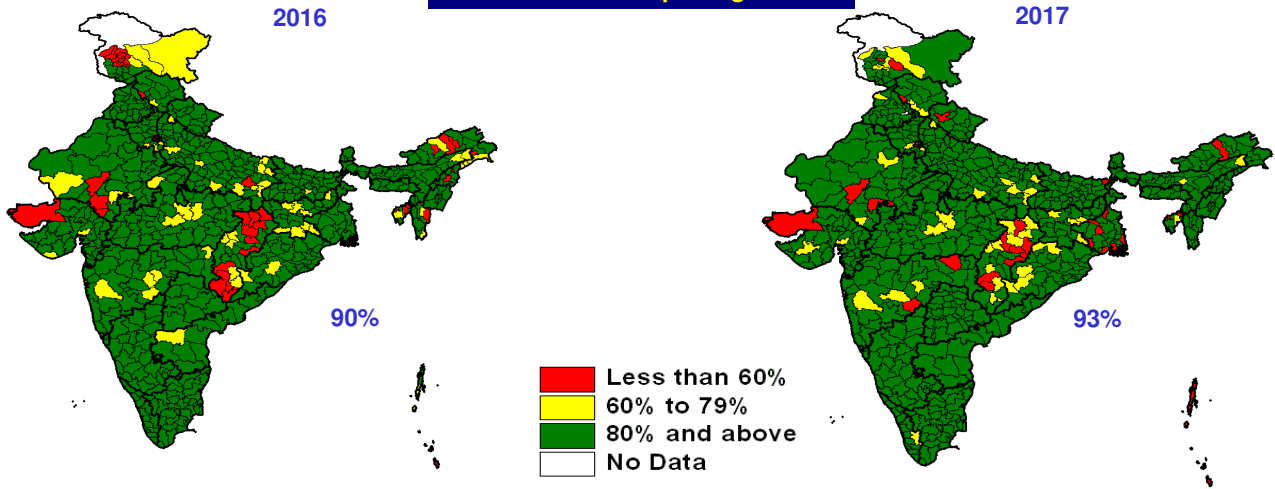
**AFP cases key surveillance indicators,2015 - 2017**

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	
					Total	> 90 Days					Total	> 90 Days					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	283	0	0	228	55	10
ARUNACHAL PR.	20	0	0	20	0	0	21	0	0	21	0	0	11	0	0	7	4	2
ASSAM	322	0	0	322	0	0	371	0	0	371	0	0	265	0	0	232	33	5
BIHAR	12595	0	1	12594	0	0	11072	1	3	11068	0	0	7239	0	3	6393	843	188
CHANDIGARH	81	0	0	81	0	0	87	0	0	87	0	0	54	0	0	54	0	0
CHHATTISGARH	347	0	0	347	0	0	373	0	1	372	0	0	291	0	0	250	41	11
D&N HAVELI	7	0	0	7	0	0	6	0	0	6	0	0	5	0	0	5	0	0
DAMAN & DIU	13	0	0	13	0	0	10	0	0	10	0	0	11	0	0	10	1	0
DELHI	860	1	0	859	0	0	824	0	0	824	0	0	597	0	0	534	63	33
GOA	27	0	0	27	0	0	29	0	0	29	0	0	23	0	0	17	6	5
GUJARAT	893	0	0	893	0	0	1082	0	0	1082	0	0	876	0	0	770	106	40
HARYANA	1017	0	0	1017	0	0	997	0	0	997	0	0	795	0	0	725	70	37
HIMACHAL PRADESH	124	0	0	124	0	0	180	0	0	180	0	0	73	0	0	63	10	4
JAMMU & KASHMIR	152	0	0	152	0	0	196	0	0	196	0	0	246	0	0	232	14	3
JHARKHAND	1169	0	2	1167	0	0	1019	0	2	1017	0	0	781	0	0	661	120	37
KARNATAKA	949	0	1	948	0	0	943	0	0	943	0	0	571	0	0	492	79	38
KERALA	355	0	0	355	0	0	356	0	0	356	0	0	268	0	0	248	20	7
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	1481	0	1	1266	214	83
MAHARASHTRA	2463	0	0	2463	0	0	2721	0	2	2719	0	0	1969	0	1	1684	284	145
MANIPUR	31	0	0	31	0	0	21	0	0	21	0	0	30	0	0	27	3	1
MEGHALAYA	27	0	0	27	0	0	26	0	0	26	0	0	26	0	0	24	2	1
MIZORAM	10	0	0	10	0	0	34	0	0	34	0	0	27	0	0	21	6	1
NAGALAND	11	0	0	11	0	0	18	0	0	18	0	0	9	0	0	8	1	0
ODISHA	1559	0	0	1559	0	0	1620	0	0	1620	0	0	1085	0	1	924	160	56
PONDICHERRY	17	0	0	17	0	0	17	0	0	17	0	0	9	0	0	8	1	0
PUNJAB	670	0	0	670	0	0	726	0	0	726	0	0	615	0	0	542	73	36
RAJASTHAN	1665	0	1	1664	0	0	1742	0	1	1741	0	0	1626	0	0	1395	231	132
SIKKIM	4	0	0	4	0	0	4	0	0	4	0	0	6	0	0	6	0	0
TAMIL NADU	707	0	0	707	0	0	727	0	0	727	0	0	440	0	0	384	56	11
TELANGANA	353	0	0	353	0	0	404	0	0	404	0	0	181	0	0	140	41	16
TRIPURA	45	0	0	45	0	0	30	0	0	30	0	0	48	0	0	38	10	4
UTTAR PRADESH	14988	0	5	14983	0	0	14780	0	6	14774	0	0	11294	0	0	10219	1075	324
UTTARAKHAND	342	0	0	342	0	0	394	0	0	394	0	0	242	0	0	220	22	6
WEST BENGAL	2359	0	1	2358	0	0	2953	0	0	2953	0	0	2120	0	0	1903	217	69
<b>TOTAL</b>	<b>46970</b>	<b>2</b>	<b>11</b>	<b>46957</b>	<b>0</b>	<b>0</b>	<b>46499</b>	<b>1</b>	<b>15</b>	<b>46483</b>	<b>0</b>	<b>0</b>	<b>33599</b>	<b>0</b>	<b>6</b>	<b>29732</b>	<b>3861</b>	<b>1305</b>

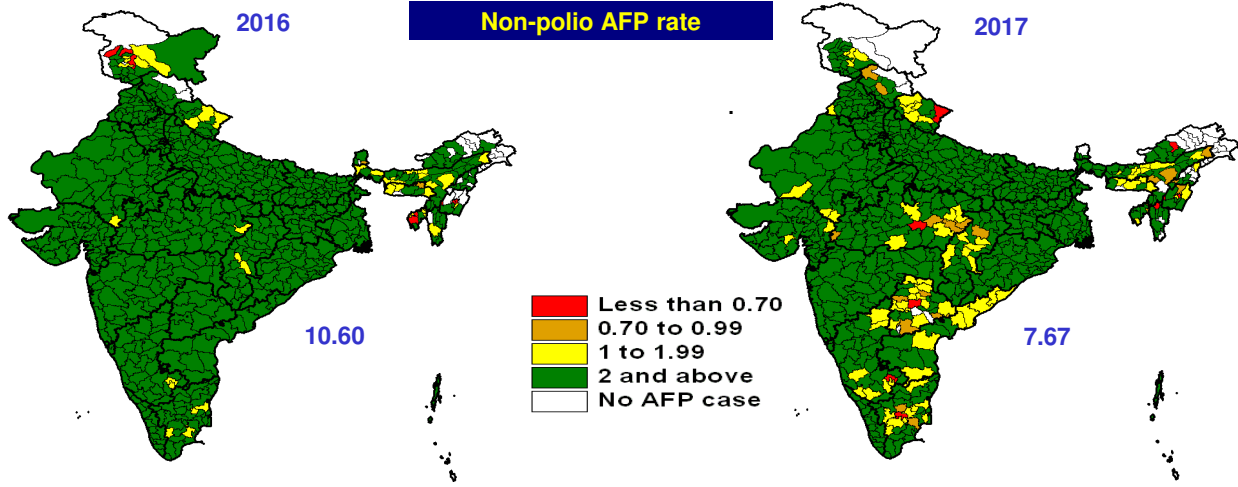
## AFP cases key surveillance indicators, 2015 - 2017

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	2.38	2.38	100	100
ANDHRA PRADESH	3.52	3.52	90	98	3.38	3.38	89	96	2.43	1.96	88	96
ARUNACHAL PR.	3.28	3.28	80	100	3.37	3.37	71	100	1.97	1.25	82	100
ASSAM	2.49	2.49	98	99	2.81	2.81	96	99	2.49	2.18	93	98
BIHAR	27.96	27.96	86	98	23.83	23.83	88	99	17.17	15.16	88	98
CHANDIGARH	18.12	18.12	98	100	19.16	19.16	95	100	13.21	13.21	89	100
CHHATTISGARH	3.33	3.33	65	93	3.4	3.39	63	94	2.96	2.55	72	97
D&N HAVELI	8.43	8.43	71	86	7.14	7.14	83	100	6.5	6.50	100	100
DAMAN & DIU	20.97	20.97	92	92	14.93	14.93	100	100	16.15	14.68	100	100
DELHI	16.01	15.99	82	97	15.08	15.08	81	97	12.14	10.86	84	98
GOA	6.65	6.65	89	100	7.04	7.04	93	100	6.22	4.60	70	96
GUJARAT	3.93	3.93	83	94	4.67	4.67	84	94	5.01	4.40	83	95
HARYANA	9.39	9.39	81	97	9.04	9.04	84	98	8	7.29	85	98
HIMACHAL PRADESH	5.53	5.53	80	99	7.93	7.93	87	97	4	3.45	86	97
JAMMU & KASHMIR	2.74	2.74	99	100	3.44	3.44	93	99	5.03	4.74	92	100
JHARKHAND	8.28	8.27	81	96	8.37	8.35	81	96	7.12	6.03	79	96
KARNATAKA	5.56	5.55	85	98	5.43	5.43	82	97	3.66	3.15	83	97
KERALA	4.25	4.25	88	98	4.15	4.15	90	100	3.51	3.25	92	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	5.13	4.39	82	97
MAHARASHTRA	7.55	7.55	86	98	8.27	8.26	84	97	6.68	5.71	82	97
MANIPUR	3.28	3.28	84	100	1.99	1.99	62	100	2.58	2.32	97	100
MEGHALAYA	2.09	2.09	85	100	1.95	1.95	85	96	2.01	1.85	85	100
MIZORAM	2.21	2.21	50	90	6.71	6.71	91	97	6.71	5.22	78	100
NAGALAND	1.52	1.52	82	91	2.82	2.82	67	89	1.4	1.24	89	89
ODISHA	12.29	12.29	88	98	12.82	12.82	88	99	9.39	8.00	87	98
PONDICHERRY	4.27	4.27	100	100	4.17	4.17	94	94	3.15	2.80	89	100
PUNJAB	8.90	8.90	84	97	9.51	9.51	84	98	8.99	7.92	83	97
RAJASTHAN	6.93	6.92	84	97	7.12	7.11	82	95	7.44	6.39	82	97
SIKKIM	1.79	1.79	75	100	1.77	1.77	100	100	2.96	2.96	83	100
TAMIL NADU	3.86	3.86	93	99	3.94	3.94	95	99	2.82	2.46	95	99
TELANGANA	3.39	3.39	80	94	3.97	3.97	80	94	1.95	1.51	69	95
TRIPURA	2.91	2.91	89	100	1.85	1.85	77	100	4.22	3.34	85	100
UTTAR PRADESH	17.45	17.44	88	98	16.89	16.89	88	98	14.33	12.96	86	98
UTTARAKHAND	7.87	7.87	86	99	8.91	8.91	87	98	6.08	5.52	85	98
WEST BENGAL	7.29	7.29	90	98	9.43	9.43	93	99	7.78	6.99	90	99
<b>TOTAL</b>	<b>10.78</b>	<b>10.77</b>	<b>86</b>	<b>98</b>	<b>10.60</b>	<b>10.60</b>	<b>87</b>	<b>98</b>	<b>8.66</b>	<b>7.67</b>	<b>86</b>	<b>98</b>

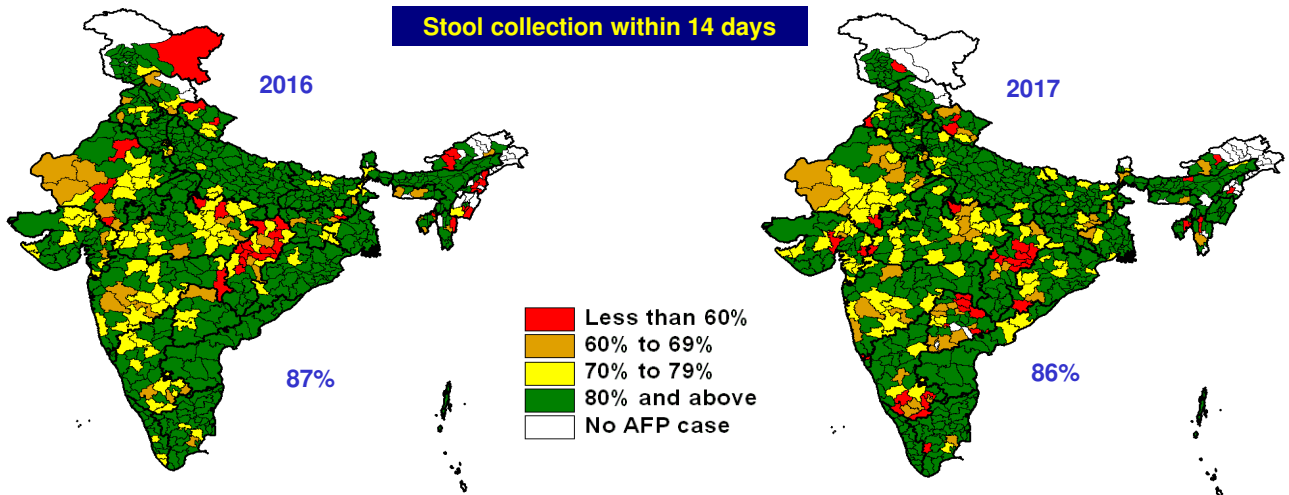
### Timeliness of Reporting Units



### Non-polio AFP rate



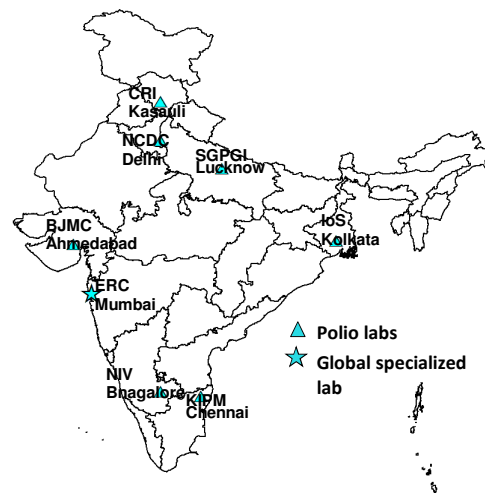
### Stool collection within 14 days



**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	4680	195	27	961	3328	167	2	9340
NIV, Bangalore	3004	122	23	812	1950	93	4	5994
ERC, Mumbai	2190	127	13	376	1674	0	0	4345
IoS, Kolkata	4777	154	18	1117	3487	1	0	9503
NCDC, Delhi	5046	183	22	752	3963	126	0	10099
CRI, Kasauli	1673	17	1	261	1367	27	0	3362
KIPM, Chennai	2713	42	7	538	2106	20	0	5338
SGPGI, Lucknow	7882	252	35	1860	5518	217	0	15762
<b>TOTAL</b>	<b>31965</b>	<b>1092</b>	<b>146</b>	<b>6677</b>	<b>23393</b>	<b>651</b>	<b>6</b>	<b>63743</b>

**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	14302
NCDC, Delhi	6933	212	20	885	5816	0	0	13868
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
<b>TOTAL</b>	<b>45511</b>	<b>1289</b>	<b>154</b>	<b>8191</b>	<b>35877</b>	<b>0</b>	<b>0</b>	<b>91201</b>

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

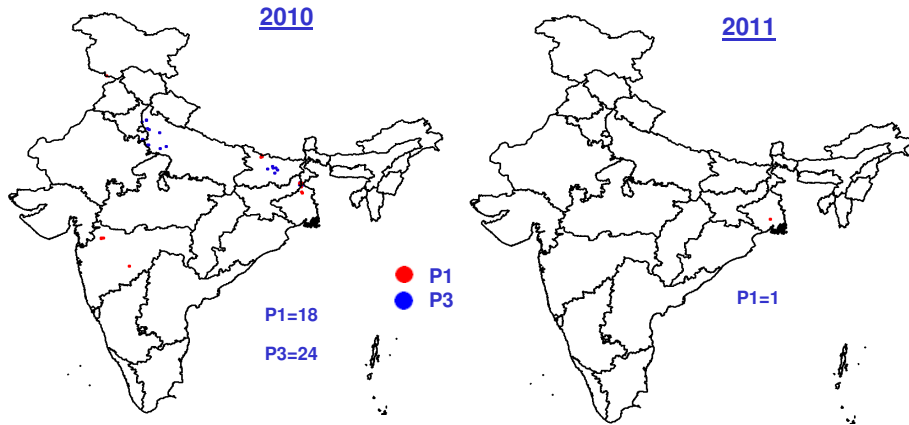
2017																		
Polio Laboratories	Number of AFP cases referred for ITD	Number of AFP cases with ITD result as														Number of cases pending for		
		Wild poliovirus				Vaccine poliovirus				VDPV			NPEV by PCR	Non enterovirus	Negative	<=7 days	8-14 days	>14 days
		Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3	Mix	Type 1	Type 2	Type 3						
BJMC, Ahmedabad	222	0	0	0	0	78	0	59	76	0	0	0	7	0	0	2	0	0
NIV, Bangalore	146	0	0	0	0	55	0	33	44	0	0	0	14	0	0	0	0	0
ERC, Mumbai	145	0	0	0	0	49	0	43	35	0	0	0	17	0	0	1	0	0
IoS, Kolkata	165	0	0	0	0	54	0	39	53	0	0	0	16	3	0	0	0	0
NCDC, Delhi	205	0	0	0	0	57	0	86	53	0	0	0	8	0	0	1	0	0
CRI, Kasauli	19	0	0	0	0	11	0	5	3	0	0	0	0	0	0	0	0	0
KIPM, Chennai	48	0	0	0	0	9	0	27	12	0	0	0	0	0	0	0	0	0
SGPGI, Lucknow	288	0	0	0	0	59	0	100	62	0	0	0	25	41	0	1	0	0
<b>TOTAL</b>	<b>1238</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>372</b>	<b>0</b>	<b>392</b>	<b>338</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>87</b>	<b>44</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>

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						
BJMC, Ahmedabad	258	0	0	0	0	78	25	74	80	0	0	0	1	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
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
CRI, Kasauli	35	0	0	0	0	5	7	11	12	0	0	0	0	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
SGPGI, Lucknow	311	0	0	0	0	56	53	86	66	0	0	0	16	34	0	0	0	0
<b>TOTAL</b>	<b>1443</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>347</b>	<b>195</b>	<b>442</b>	<b>384</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>37</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Most recent Wild Polio Virus case by State**

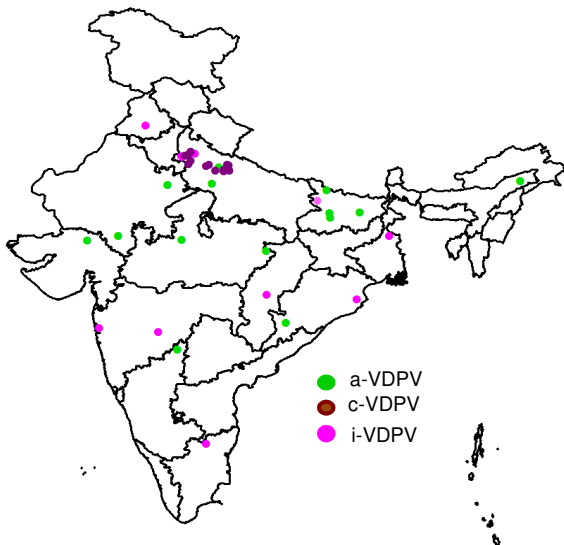
State	Date of most recent polio case	Type
West Bengal	13-Jan-11	P1
Jharkhand	22-Oct-10	P3
Maharashtra	16-Sep-10	P1
Bihar	01-Sep-10	P1
Uttar Pradesh	21-Apr-10	P3
Jammu & Kashmir	07-Feb-10	P1
Haryana	13-Jan-10	P3
Rajasthan	27-Nov-09	P3
Uttarakhand	06-Nov-09	P3
Himachal Pradesh	17-Oct-09	P3
Punjab	13-Oct-09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



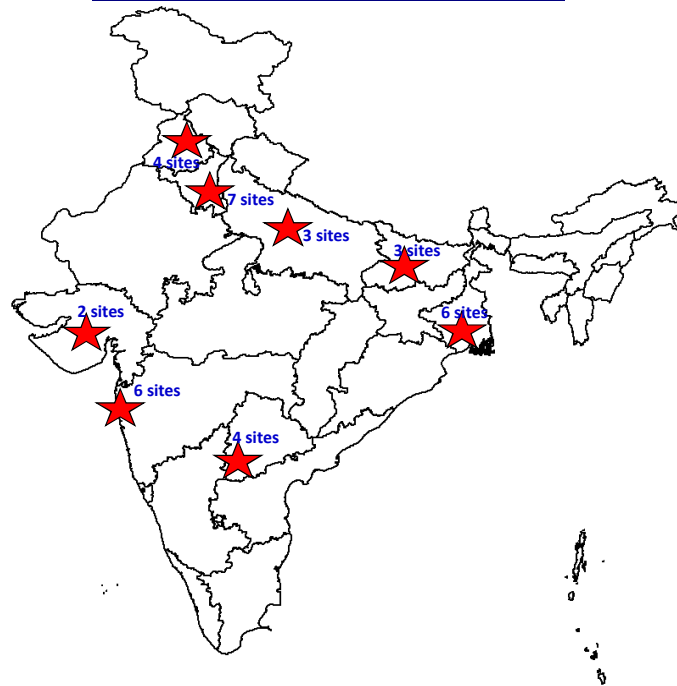
Month	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	112	36	36	7	18	51	4	10	8	24	112	14	16	1	0	0	0	0	0	0
February	32	22	10	1	8	16	3	5	9	14	53	5	3	0	0	0	0	0	0	0
March	42	11	10	3	7	9	1	1	8	14	40	16	0	0	0	0	0	0	0	0
April	26	8	20	3	16	7	1	2	13	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
<b>Total</b>	<b>1934</b>	<b>1126</b>	<b>265</b>	<b>268</b>	<b>1600</b>	<b>225</b>	<b>134</b>	<b>66</b>	<b>676</b>	<b>874</b>	<b>559</b>	<b>741</b>	<b>42</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

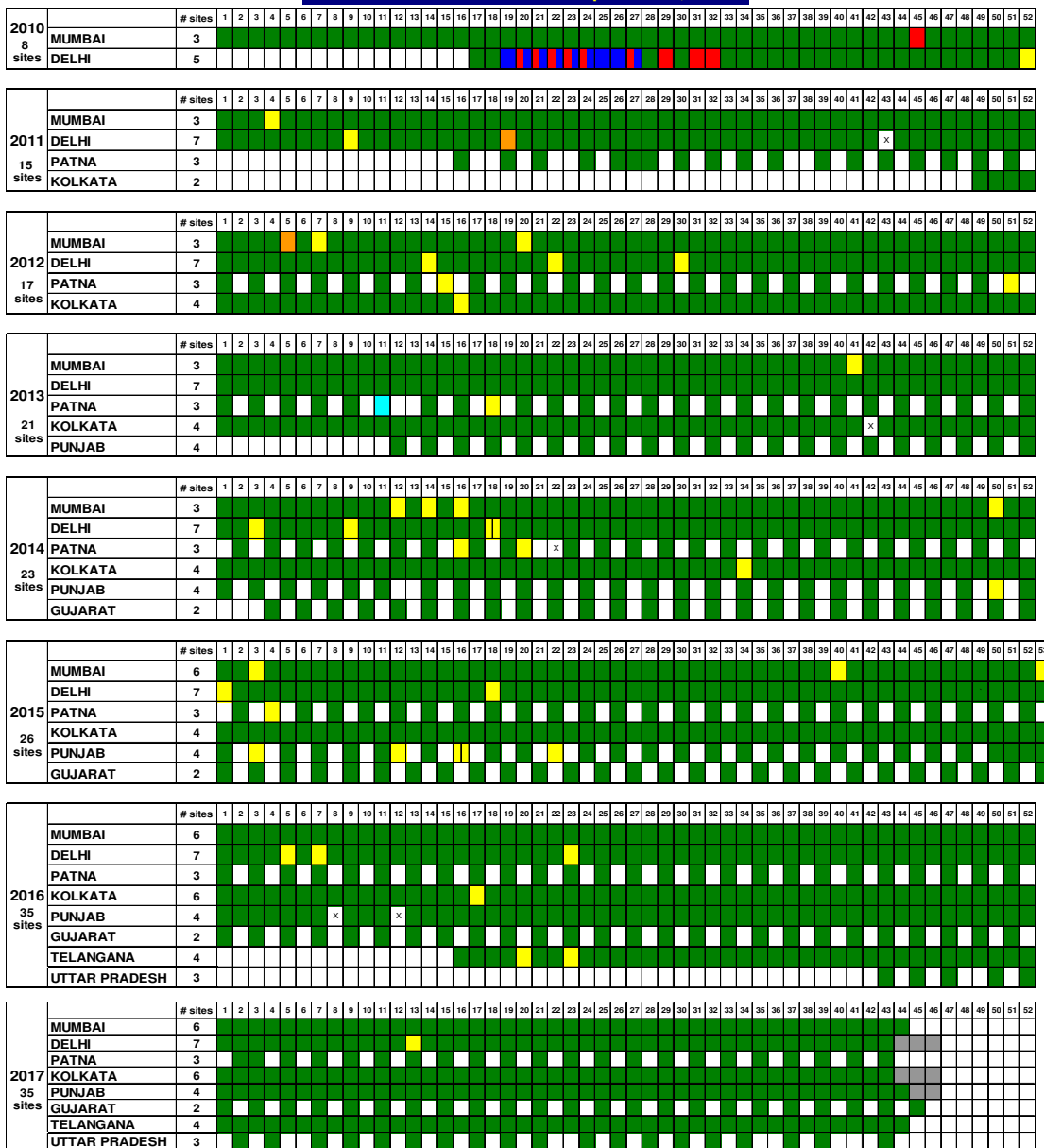


Year	type 1		type 2			type 3
	a	i	a	c	i	i
2009	1	1	4	15		
2010			1	3	1	
2011			4		2	1
2012					1	
2013			2		3	
2014			3			
2015			1		1	
2016					1	
2017						
<b>Total</b>	<b>1</b>	<b>1</b>	<b>15</b>	<b>18</b>	<b>9</b>	<b>1</b>

**Environmental surveillance for poliovirus, India**



**Environmental surveillance for poliovirus, India**



■ 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