

Pulse Polio Programme in India

- India committed to the resolution passed by World Health Assembly for global polio eradication in 1988.
- Country introduced polio vaccine under Expanded Programme on Immunization (EPI, 1978), and subsequently in Universal Immunization Programme (UIP, 1985), but started carrying out special polio campaigns from 1995.
- At present in routine immunization, bivalent oral polio vaccine (bOPV) drops are being provided to all children less than five years of age and Inactivated Polio Vaccine (IPV) to children less than one year of age.
- National Immunization Days (NIDs) commonly known as Pulse Polio Immunization programme was launched in India in 1995, and is conducted twice in early part of each year.
- Additionally, multiple rounds (at least two) of sub - National Immunization Days (SNIDs) have been conducted over the years in high risk states/areas.
 - In these campaigns, children in the age group of 0-5 years are administered polio drops. Over 170 million children are immunized during each NID and 77 million in SNID.

History of Polio in India

- Prior to introduction of Polio vaccine in 1978, there were estimated 2,00,000 polio cases annually.
- Prior to introduction of Pulse Polio Programme in 1995 there were estimated 50,000 polio cases annually.
- In 1997, case-based polio surveillance started with support from WHO- National Polio Surveillance Project (WHO-NPSP). Surveillance for detection of polio virus transmission is being done through acute flaccid paralysis (AFP Surveillance) with laboratory network since then.
- Last case of wild virus type 2 in country was reported in 1999 from Aligarh, Northern India
- In spite of coverage of polio rounds being very high, polio virus type 1 & 3 continued to circulate. As a result, research was conducted which indicated that monovalent type 1 & 3 have better sero-conversion than tOPV. Hence, monovalent vaccine type 1 was introduced followed by introduction of type 3 vaccine.

- In 2005, India was the first country to use monovalent vaccine (type 1) globally, after country level research.
- In January 2010, based on country's research, India was the second country to introduce bivalent vaccine, after Afghanistan, which proved to be very effective.

Last cases of wild polio virus, by type of virus:

24 th Oct. 1999	last case of wild polio virus type 2 (WPV Type 2) reported from District Aligarh, U.P
22 nd Oct. 2010	last case of wild polio virus type 3 (WPV Type 2) reported from District Pakur, Jharkhand
13 th Jan. 2011	last case of wild polio virus type 1 (WPV Type 2) from District Howrah, West Bengal

- WHO, on 24th February 2012, removed India from the list of “endemic countries with active polio virus transmission”.
- **On 27th March 2014, the Regional Certification Commission of World Health Organization certified South-East Asia Region of WHO, which includes India, as polio free.** This is a remarkable achievement considering the fact that in 2009 India accounted for half of the total number of polio cases globally and there were an estimated 2 lakh cases of polio every year in the country in the year 1978.
- There are 24 lakh vaccinators and 1.5 lakh supervisors involved in the successful implementation of the polio campaigns.
- The total number of cases and number of affected districts during past 7 years is as below:

Year	Cases of Polio	Number of districts
2005	66	35
2006	676	114
2007	874	99
2008	559	90
2009	741	56
2010	42	17
2011	01	1
2012	00	00
2013	00	00
2014	00	00
2015	00	00
2016	00	00
2017	00	00*

*As on 28 January 2017

Following steps are being taken by the Government to maintain polio free status in India as risk persist on account of ongoing transmission in other countries which may lead to importation of polio virus.

- Maintaining community immunity through high quality National and Sub National polio rounds each year.
- Polio surveillance across the country for any importation or circulation of poliovirus and Vaccine Derived Polio Virus (VDPV) is being maintained. Polio surveillance in country is considered to be of international standard as indicated by AFP rate (which is 10.78 and 10.61 respectively for 2015 and 2016 against the global minimum recommended of 2) and % adequate stool rate (which is 86 and 87 respectively for 2015 and 2016 against the global minimum recommended of 80%) as on 28th January, 2017.
- Environmental surveillance (sewage sampling) have been established to detect poliovirus transmission and as a surrogate indicator of the progress as well for any programmatic interventions strategically at 35 sites in Mumbai, Delhi, Patna, Kolkata, Punjab, Hyderabad, Lucknow and Gujarat as on 28th January, 2017.
- To reduce risk of importation from neighbouring countries, international border vaccination is being provided through continuous vaccination teams (CVT) to all eligible children round the clock. These are provided through special booths set up at the international borders(both Rail and Road routes) that India shares with Pakistan, Bangladesh, Bhutan, Nepal and Myanmar. Nearly 1 crore children have been vaccinated till December, 2016 at these border sites.
- Government of India has issued guidelines effective since March 2014, for mandatory requirement of polio vaccination to all international travellers for travel between India and other polio affected countries namely Pakistan, Afghanistan, Nigeria, Ethiopia, Kenya, Somalia, Syria and Cameroon (as per the polio cases reported from these countries in year 2014). Nearly 1.74 lakh doses have been given till December, 2016 to such travellers.

- All States and Union Territories in the country have developed a Rapid Response Team (RRT) to respond to any polio outbreak in the country. Emergency Preparedness and Response Plans (EPRP) has also been developed by all States indicating steps to be undertaken in case of detection of a polio case.
- A rolling emergency stock of OPV is being maintained to respond to detection/importation of wild poliovirus (WPV) or emergence of vaccine derived poliovirus (VDPV).
- As part of Polio Endgame Strategy, India has switched from trivalent Oral Polio Vaccine (tOPV) to Bivalent Oral Polio Vaccine (bOPV) on 25th April, 2016 both in polio campaigns and routine immunization. The country has been validated free of tOPV after the switch. As a risk mitigation measure, country has introduced Inactivated Polio Vaccine across the country in all states.

NUMBER OF POLIO CASES FOR 1997-2016 (up to 28 January 2017)

SL. No.	NAME OF THE STATES/UTs	Wild Poliovirus																				
		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	ANDHRA PRADESH	15	96	21	0	0	0	21	1	0	0	5	1	0	0	0	0	0	0	0	0	0
2	A & N ISLANDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	ARUNACHAL PRADESH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	ASSAM	0	1	0	0	1	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0
5	BIHAR	14	15	12	50	27	12	1	18	39	30	61	50	23	11	3	3	7	9	0	0	0
6	CHANDIGARH	0	1	2	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
7	CHHATTISGARH	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	D & N HAVELI	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	DAMAN & DIU	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	DELHI	12	47	73	3	3	24	3	2	1	7	2	5	4	0	0	0	0	0	0	0	0
11	GOA	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	GUJARAT	10	16	9	2	1	24	3	0	1	4	1	0	0	0	0	0	0	0	0	0	0
13	HARYANA	2	39	19	4	5	37	3	2	1	19	6	2	4	1	0	0	0	0	0	0	0
14	HIMACHAL PRADESH	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
15	JAMMU & KASHMIR	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
16	JHARKHA	-	-	-	-	2	12	1	0	2	1	0	0	2	8	0	0	0	0	0	0	0

	ND																					
17	KARNATAKA	72	71	21	8	0	0	36	1	0	0	1	0	0	0	0	0	0	0	0	0	0
18	KERALA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	LAKSHADWEEP	nr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	MADHYA PRADESH	22	10 7	17	2	0	21	11	0	0	3	0	1	0	0	0	0	0	0	0	0	0
21	MAHARASHTRA	46	12 1	18	7	4	6	3	3	0	5	2	2	0	5	0	0	0	0	0	0	0
22	MANIPUR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	MEGHALAYA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	MIZORAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	NAGALAND	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	ORISSA	4	49	0	0	0	4	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0
27	PONDICHERY	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	PUNJAB	2	9	4	0	5	2	1	0	1	8	1	2	4	0	0	0	0	0	0	0	0
29	RAJASTHAN	21	63	18	0	0	41	4	0	0	1	3	2	3	0	0	0	0	0	0	0	0
30	SIKKIM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	TAMIL NADU	49	91	7	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
32	TRIPURA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	UTTARAKHAND	-	-	-	-	3	14	0	1	1	13	6	1	4	0	0	0	0	0	0	0	0
34	UTTAR PRADESH	13 1	88 1	77 3	17 9	21 6	12 42	88	82	29	54 8	34 1	30 5	60 2	10	0	0	0	0	0	0	0
35	WEST BENGAL	31	26	21	8	1	49	28	2	0	1	2	2	0	8	1	0	0	0	0	0	0
	TOTAL	53 4	19 34	11 26	26 5	26 8	16 00	22 5	13 4	66	67 6	87 4	55 9	74 1	42	1	0	0	0	0	0	0

