Polio Eradication in India

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History of Polio in India

Number of Cases

- OPV Introduced in RI - 1978
- Mass polio vaccination campaigns - 1995
- Type 2 Eradicated in 1999
- Monovalent OPV April 2005
- Bivalent OPV Jan 2010

Number of Cases:

- Before 1978:
  - 1934: 200,000
  - 1994: 50,000

Timeline:

- 1998: 1126
- 1999: 265
- 2000: 268
- 2001: 1600
- 2002: 225
- 2003: 134
- 2004: 66
- 2005: 676
- 2006: 874
- 2007: 559
- 2008: 741
- 2009: 42
- 2010: 1

OPV, Oral Polio Vaccine
RI, Routine Immunization
SIAs, Supplementary Immunization Activities
Wild polio virus (WPV) cases by type, India

* data as on 24 October 2014
The success story of polio eradication

A story of innovations, perseverance, dedication, commitment and partnerships
Monthly incidence of wild poliovirus cases in India
January 1998 – October 2014

Number of cases

* data as on 11 October, 2014
Scale of polio vaccination campaigns

Each nation-wide polio vaccination campaign:

• 170 million children (under 5 years of age) vaccinated
• > 200 million households visited by teams
• > 700,000 vaccination booths set up
• ~ 2.3 million vaccinators & 155,000 supervisors deployed
• ~ 1.5 million vaccine carriers used
Strong Government ownership & engagement

• Program funding by Govt of India from domestic budget
  ~ 200 million USD each year

• Highest level political engagement
  – Federal & State level

Mr Pranab Mukherjee, Hon’ble President of India administering oral polio vaccine drops to a child

Dr Harsh Vardhan, Hon’ble Minister of Health & Family Welfare vaccinating a child
Meticulous planning & implementation of vaccination campaigns

• Detailed micro planning for campaigns
  – team composition & workload
  – clarity on area/houses
  – inbuilt supervisory plan

• Separate plan for
  – house-to-house vaccination
  – mobile & migrant populations

• Revision of plans after each campaign

• Tools to collect data on each household, plan concurrent interventions & ensure accountability at the most peripheral level
Mass/social mobilization activities

Mass mobilization activities

- Poster/banners
- Celebrity Endorsements
- Print Media Engagement
- Electronic media/Television
- Advocacy & Partnerships
Conscious and persistent efforts to search & vaccinate all high risk areas/populations

Immunization of newborns

Kosi river operational intensification

Intense focus on mobile populations

- 8 million children in transit immunized in India each round
- 100,000 of these in running trains

Immunization of underserved communities

Religious congregations

- 2 million children vaccinated in congregations each year

Special strategy for vaccinating children in underserved (Muslim) communities
Mapping and reaching migrants

Number of sites with migrants identified: ~257,000
Number of children < 5 yrs in these sites: ~4.1 million
Accurate, real time monitoring data on campaign quality drives immediate corrective actions

- > 4300 independent monitors of WHO & UNICEF
  - Monitor campaign preparedness and implementation

- Monitoring feedback used extensively by district/state & national officials for making corrections during round and prior to next round

- Level of involvement of government functionaries
- Quality of microplans
- Training quality
- Communication & social mobilization plans
- Missed areas/ missed children
- Operational quality of campaigns

Data collected on
Surveillance for poliovirus

- > 40,000 health facilities enrolled as reporting sites – govt. and pvt. (incl. traditional healers) – report weekly

- > 50,000 acute flaccid paralysis cases investigated annually

- > 100,000 stool specimens collected and tested in 8 WHO accredited polio laboratories

- Environmental sampling in 6 states with large migrant popns.
Polio Implementing Partners

Govt of India
- Implementation
- Direction
- Funding
- Vaccines

World Health Organization
- AFP Surveillance
- SIA operations
- SIA Monitoring
- Polio Research

Rotary International
- Advocacy
- Communications & Social Mobilization
- Fundraising

CORE
- Communications & Social Mobilization
- Monitoring
- Social Research
- Media management

Unicef
Research studies conducted in India

• Vaccine efficacy studies

• Vaccine trials: Guided introduction of mOPV and bOPV

• Seroprevalence studies in high risk districts to assess immunity levels against polioviruses

• Mucosal immunity studies to assess impact of bOPV and inactivated polio vaccine (IPV) on mucosal immunity in children

• Study to assess efficacy of bOPV in RI, with and without IPV
Introduction and use of more efficacious vaccines, India

Monovalent oral polio vaccine introduced in April 2005

Bivalent oral polio vaccine introduced in January 2010
Major Achievements

1999

WPV2
24/10/1999
Aligarh (UP)

WPV3
22/10/2010
Pakur (JH)

WPV1
13/01/2011
Howrah (WB)

Feb 2012:

WHO removed India from the list of polio endemic countries
27 March 2014: 
WHO South East Asia Region certified polio-free

Dr Poonam Khetrapal Singh, Regional Director, WHO SEARO receiving the polio-free certificate from the Chairperson of Regional Certification Commission for Polio Eradication
...tremendous progress made

But the risks remain...
Current risks to polio eradication in India

- Complacency/ Lack of focus
- International importation
- Emergence of VDPVs
- Areas with low population immunity
- Gaps in AFP surveillance or delays in detection of WPV
- Delayed and/or inadequate response to importation
International importation of wild poliovirus

Endemic country

Poliovirus type 1

Country with WPV case in previous 6 months

Country with WPV case 6-12 months ago

Active transmission of wild poliovirus—a total of 243 cases reported in 2014*

- Pakistan-206
- Afghanistan-12
- Nigeria-6
- Cameroon-5
- Equatorial Guinea-5
- Somalia-5
- Iraq-2
- Ethiopia-1
- Syria-1

*15 October 2013 – 14 October 2014

Data in WHO HQ as of 14 October 2014
Program priorities for polio eradication

- Continue polio vaccination campaigns
- Mitigate risk of importation
- Emergency Preparedness & Response Planning
- Program priorities
- Sustain sensitive surveillance
- Polio endgame strategy
- Intensification of RI
Reducing risk of importation

> 1.5 million children vaccinated at 102 vaccination posts

Mandatory polio vaccination for travellers to and from 8 polio affected countries from 1 March 2014
Planning for the Polio Endgame Strategy

• Risk-free withdrawal of OPV to minimize the risks associated with use of OPV in the post eradication phase
  
  – Switch from tOPV to bOPV for RI and SIAs (~ 2016)
  • Build type 2 immunity prior to switch to minimize risk of VDPV emergence post switch – improve RI coverage and introduce IPV (2015)

  – Withdraw all OPV from programme (~2019)
“India should demonstrate to every country where polio still exists, and to the world, that there is no such thing as impossible.”

“India has demonstrated the value of a logical and systematic approach. It led to the quality of data being challenged and improved. It led to the programme wanting to learn from its trials and its errors, and improving as a result.”

*GPEI: Global Polio Eradication Initiative*
Excerpts from the Independent Monitoring Board of GPEI

“For years, many believed that the challenge of stopping polio transmission in India would be the downfall of the Programme; that, quite simply, it could not be done. They have been proven wrong. What many thought unachievable has been achieved. Confidence in the Programme should receive a major boost as a result of this.”

“Polio is gone from India – a magnificent achievement and proof of the capability of a country to succeed when it truly takes to heart the mission of protecting its people from this vicious disease.”
Thank You