



## Polio

**For Prelims:** Polio, Universal Immunisation Programme, WHO.

**For Mains:** Government Policies & Interventions, Polio, its spread, vaccine and eradication measures.

### Why in News?

With the possibility of a new [Covid-19 variant](#) triggering a fresh surge in cases, the Centre has told the states to send sewage samples to all sentinel sites that currently carry out surveillance of [Poliovirus](#).

- **Sentinel surveillance** is the "monitoring of rate of occurrence of specific diseases/conditions through a voluntary network of doctors, laboratories and public health departments with a view to assess the stability or change in health levels of a population".

### What is Polio?

#### ▪ About:

- Polio is a **crippling and potentially deadly viral infectious disease** that affects the nervous system.
- There are **three individual and immunologically distinct wild poliovirus strains**:
  - Wild Poliovirus **type 1** (WPV1)
  - Wild Poliovirus **type 2** (WPV2)
  - Wild Poliovirus **type 3** (WPV3)
- Symptomatically, all three strains are identical, in that they cause irreversible paralysis or even death.
- However, there are **genetic and virological differences**, which make these three strains separate viruses which must each be eradicated individually.

#### ▪ Spread:

- The virus is **transmitted by person-to-person mainly through the faecal-oral route** or, less frequently, by a common vehicle (for example, through contaminated water or food).
- It largely affects children under 5 years of age. The virus multiplies in the intestine, from where it can invade the nervous system and can cause paralysis.

#### ▪ Symptoms:

- Most people with polio do not feel sick. Some people have only minor symptoms, such as **fever, tiredness, nausea, headache, pain in the arms and legs, etc.**
- In rare cases, polio infection causes permanent loss of muscle function (paralysis).
- Polio can be fatal if the muscles used for breathing are paralysed or if there is an infection of the brain.

#### ▪ Prevention and Cure:

- There is no cure, but it can be prevented through [Immunisation](#).

#### ▪ Vaccines:

- [Oral Polio Vaccine \(OPV\)](#): It is given orally as a birth dose for institutional deliveries, then primary three doses at 6, 10 and 14 weeks and one booster dose at 16-24 months of age.

- Injectable Polio Vaccine (IPV): It is introduced as an additional dose along with the 3rd dose of **DPT (Diphtheria, Pertussis and Tetanus)** under the [Universal Immunisation Programme \(UIP\)](#).
- **Recent Outbreaks:**
  - In **2019, polio outbreaks were recorded in the Philippines, Malaysia, Ghana, Myanmar, China, Cameroon, Indonesia and Iran**, which were mostly vaccine-derived in which a rare strain of the virus genetically mutated from the strain in the vaccine.
    - According to the [WHO \(World Health Organisation\)](#), if the oral vaccine-virus is excreted and allowed to circulate in an unimmunised or under-immunised population for at least 12 months, it can mutate to cause infections.
- **India & Polio:**
  - India received polio-free certification by the WHO in 2014, after three years of zero cases.
    - This achievement has been spurred by the successful [Pulse Polio Campaign](#) in which all children were administered polio drops.
    - The last case due to wild poliovirus in the country was detected on 13th January 2011.

## What are the Polio Eradication Measures?

- **Global:**
  - **Global Polio Eradication Initiative:**
    - It was **launched in 1988** by the Global Polio Eradication Initiative (GPEI), by national governments and [World Health Organization \(WHO\)](#). Presently, 80% of the world's population is now living in certified polio-free regions.
      - An estimated 1.5 million childhood deaths have been prevented, through the systemic administration of **vitamin A** during polio immunisation activities.
  - [World Polio Day:](#)
    - It is observed every year on **24<sup>th</sup> October** in order to call on countries to stay vigilant in their fight against the disease.
- **Indian:**
  - [Pulse Polio Programme:](#)
    - It was started with an objective of achieving hundred percent coverage under Oral Polio Vaccine.
  - [Intensified Mission Indradhanush 2.0:](#)
    - It was a nationwide immunisation drive to mark the 25 years of [Pulse polio programme \(2019-20\)](#).
  - **Universal Immunization Programme (UIP):**
    - It was launched in 1985 with the modification to **'Expanded Programme of Immunization (EPI)**.
    - The objectives of the Programme include: Rapidly increasing immunisation coverage, Improving the quality of services, Establishing a reliable cold chain system to the health facility level, Introducing a district-wise system for monitoring of performance, Achieving self-sufficiency in vaccine production.

[Source: IE](#)