



## Measles and Rubella

**Prelims:** WHO, Congenital Rubella Syndrome, Mission Indradhanush, Measles-Rubella Vaccination.

**Mains:** Measles and Rubella, Issues Related to Children, Government Policies & Interventions.

### Why in News?

India had set a target to eliminate [Measles and Rubella \(MR\)](#) by 2023, having missed the earlier deadline of 2020, due to a variety of reasons, exacerbated by disruptions due to the pandemic.

- In 2019, India adopted the **goal of measles and rubella elimination by 2023**, anticipating that the 2020 goal could not be reached.

### What are Measles and Rubella?

- **Measles:**
  - It is a **highly contagious viral disease** and is a cause of death among young children globally.
  - It is caused by a **single-stranded, enveloped RNA virus with 1 serotype**. It is classified as a member of the **genus Morbillivirus in the Paramyxoviridae family**.
  - It is particularly **dangerous for children from the economically weaker background**, as it attacks malnourished children and those with reduced immunity.
  - It can cause serious complications, including **blindness, encephalitis, severe diarrhoea, ear infection and pneumonia**.
- **Rubella:**
  - It is also called **German Measles**.
  - Rubella is a **contagious, generally mild viral infection that occurs most often in children** and young adults.
  - It is caused by the **rubella virus which is an enveloped single-stranded RNA virus**.
  - Rubella infection in pregnant women may cause death or congenital defects known as **Congenital Rubella Syndrome (CRS)** which causes irreversible birth defects.
    - **Rubella isn't the same as measles**, but the two illnesses share some signs and symptoms, such as the red rash.
    - Rubella is caused by **a different virus than measles, and rubella isn't as infectious or as severe as measles**.

### What is the Global and Indian Scenario of Measles and Rubella?

- The measles virus is one of the **world's most contagious human viruses** that kills more than 1,00,000 children every year globally, and **rubella is a leading vaccine-preventable cause of birth defects**, according to the [World Health Organization \(WHO\)](#).
- Over the past two decades, the **measles vaccine is estimated to have averted more than 30 million deaths globally**, as per the WHO's statistics.
- During 2010–2013, India conducted a phased measles catch-up immunisation for children aged 9

months–10 years in 14 States, **vaccinating approximately 119 million children.**

- **Mission Indradhanush** was **launched in 2014 to ramp up vaccinating** the unvaccinated population.
- During 2017–2021, India adopted a national strategic plan for measles and rubella elimination.
  - During the same period, the Government introduced rubella-containing vaccine (RCV) into the routine immunisation programme.
- As of December 2021, **five countries have been verified and have sustained measles elimination** - Bhutan, DPR Korea, Maldives, Sri Lanka, Timor-Leste. In addition, Maldives and Sri Lanka have sustained their rubella elimination status in 2021.

## What are Measures to Curb MR?

- **Measles-Rubella Vaccination:** The MR campaign targets around 41 crore children across the country, the largest ever in any campaign.
  - All children aged between 9 months and less than 15 years are given a single shot of MR vaccination irrespective of their previous measles/rubella vaccination status or measles/rubella disease status.
- Other Initiatives include **Universal Immunization Programme (UIP), Mission Indradhanush and Intensified Mission Indradhanush.**
- The vaccines for the diseases are provided in the form of measles-rubella (MR), measles-mumps-rubella (MMR) or measles-mumps-rubella-varicella (MMRV) combination.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Q1. Consider the following statements:

1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.

### Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### Ans: (b)

- Viruses are infectious particles that have the ability to infect both eukaryotic and prokaryotic hosts. They are host specific and mostly pathogenic, and thus considered as the common causative agents of many diseases. Viruses that infect human hosts can be categorized as adenoviruses and retroviruses.
- Adenovirus is a type of virus that has no envelope whereas retroviruses are characterized as enveloped viruses. Adenoviruses have double-stranded linear DNA and are associated with two major core proteins.
- A retrovirus is a virus that uses RNA as its genetic material. When a retrovirus infects a cell, it makes a DNA copy of its genome that is inserted into the DNA of the host cell. Hence, statement 1 is not correct.
- Adenoviruses are common viruses that cause a range of illnesses. They can cause cold-like symptoms, fever, sore throat, bronchitis, pneumonia, diarrhoea, and pink eye (conjunctivitis). Whereas, retroviruses can cause several human diseases such as some forms of cancer and AIDS. Hence, statement 2 is correct.
- **Therefore, option (b) is the correct answer.**

**Q2. 'Mission Indradhanush' launched by the Government of India pertains to (2016)**

- (a) immunization of children and pregnant women
- (b) construction of smart cities across the country
- (c) India's own search for the Earth-like planets in outer space
- (d) New Educational Policy

**Ans: (a)**

**Source: TH**

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