## 5. National Vaccination Day

India marked National Vaccination Day (March 16) to highlight achievements in immunisation. The day is observed to commemorate the first dose of the Oral Polio Vaccine administered in 1995 under the Pulse Polio Programme

### 1.Introduction

1. Vaccination is one of the most cost-effective public health interventions, significantly reducing morbidity and mortality from infectious diseases.
2. India's immunisation programme has evolved into one of the largest and most comprehensive in the world, contributing to improved health outcomes and enhanced life expectancy.
3. The success of vaccination reflects the combined impact of policy commitment, institutional capacity, and technological innovation.

### 2.Role and Significance of Vaccination in India

**Historical Achievements in Disease Control**

1. India successfully eradicated smallpox in 1977 and eliminated polio with the last reported case in 2011, marking major public health milestones.
2. Diseases such as yaws and maternal and neonatal tetanus have also been eliminated through sustained immunisation efforts.
3. Vaccination has played a central role in reducing the burden of communicable diseases like measles-rubella and tuberculosis.

**Contribution to Global Health and Vaccine Diplomacy**

1. India emerged as the "pharmacy of the world" during the COVID-19 pandemic by producing and supplying vaccines domestically and internationally.
2. The country administered over 200 crore vaccine doses, demonstrating its large-scale delivery capability.
3. India contributes nearly 60 percent of global vaccine production, reinforcing its strategic role in global health security.

**National Vaccination Day Significance**

1. National Vaccination Day, observed on March 16, commemorates the launch of the Pulse Polio Immunisation Programme in 1995.
2. It highlights the importance of immunisation in preventing diseases and promoting public awareness.
3. The day serves as a reminder of India's success in eradicating polio and sustaining immunisation efforts.

### 3.Outcomes of Immunisation Efforts

**Improvement in Maternal and Child Health**

1. Vaccination, combined with better nutrition, sanitation, and healthcare access, has significantly improved maternal and child survival rates.
2. It has contributed to a steady decline in infant mortality rate and under-five mortality rate.

**Expansion of Immunisation Coverage**

1. Full immunisation coverage increased from 62 percent in 2015 to 98.4 percent by January 2026, indicating near-universal coverage.
2. The proportion of zero-dose children has declined from 0.11 percent in 2023 to 0.06 percent in 2024, reflecting improved outreach.
3. India conducts over 1.3 crore immunisation sessions annually, ensuring extensive service delivery.

**Global Recognition**

1. India's immunisation programme is recognised as a model for large-scale public health delivery due to its scale, efficiency, and innovation.

2. The integration of digital tools and community outreach has enhanced programme effectiveness.

## 4.Government Initiatives

**Universal Immunisation Programme**

1. Launched in 1985, the programme provides free vaccines to children and pregnant women against multiple life-threatening diseases.
2. It covers approximately 2.9 crore pregnant women and 2.54 crore newborns annually.
3. The programme forms the backbone of India's immunisation strategy.

**Mission Indradhanush**

1. Launched in 2014 to target unvaccinated and partially vaccinated children and pregnant women.
2. It focuses on improving coverage in hard-to-reach and underserved areas.
3. Intensified versions of the mission have accelerated progress toward universal immunisation.

## 5.Recent Initiatives and Technological Innovations

**HPV Vaccination Campaign**

1. Aims to vaccinate around 1.15 crore adolescent girls aged 14 years to prevent cervical cancer.
2. Marks a shift towards preventive healthcare targeting non-communicable diseases.

**Indigenous Td Vaccine Development**

1. Produced at the Central Research Institute, Kasauli, enhancing self-reliance in vaccine production.
2. Planned supply of approximately 55 lakh doses strengthens routine immunisation.

**Digital Health Platforms**

1. eVIN ensures real-time monitoring of vaccine stocks and cold chain temperatures, improving supply chain efficiency.
2. U-Win serves as a digital vaccination registry for tracking beneficiaries and ensuring continuity of care.
3. CoWIN enabled the administration of over 220 crore COVID-19 vaccine doses, showcasing India's digital governance capability.

## 6.Challenges in Immunisation

**Vaccine Hesitancy and Misinformation**

1. Cultural beliefs, misinformation, and lack of awareness contribute to resistance in certain communities.
2. This leads to the persistence of zero-dose children despite high overall coverage.

**Last-Mile Delivery Constraints**

1. Reaching populations in remote, tribal, and conflict-affected regions remains a logistical challenge.
2. Geographic barriers and infrastructure deficits hinder effective service delivery.

**Cold Chain Management Issues**

1. India operates one of the largest cold chain networks with around 30,000 cold chain points and over 1.06 lakh equipment units.
2. Maintaining consistent temperature conditions in difficult terrains and extreme climates remains challenging.

**Urban Immunisation Gaps**

1. High population mobility and informal settlements in urban areas result in missed vaccinations.
2. Tracking and ensuring complete immunisation coverage in such populations is complex.

## 7.Way Forward

**Strengthening Community Engagement**

1. Behavioural change communication strategies should be enhanced to counter vaccine hesitancy.
2. Local influencers and frontline workers can play a crucial role in building trust.

**Improving Last-Mile Delivery Systems**

1. Targeted strategies for tribal and remote areas must be strengthened through mobile health units and outreach programmes.
2. Infrastructure development and logistical planning are essential for effective coverage.

**Enhancing Cold Chain Infrastructure**

1. Investment in advanced cold chain technologies and monitoring systems is necessary.
2. Renewable energy solutions can help maintain temperature stability in remote areas.

**Leveraging Digital Platforms**

1. Integration of digital tools such as U-Win with broader health systems can improve tracking and accountability.
2. Data-driven policymaking can enhance efficiency and responsiveness.

## Conclusion

1. India's vaccination programme represents a cornerstone of its public health success, significantly reducing disease burden and improving life expectancy.
2. While near-universal coverage has been achieved, addressing challenges such as vaccine hesitancy and last-mile delivery is crucial.
3. With sustained policy focus, technological innovation, and community participation, India can further strengthen its immunisation system and serve as a global model for public health delivery.

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