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Date: 20 - July 2023

DTP IMMUNIZATION

This article covers "Daily Current Affairs" and the topic details "DTP3 Immunization". The topic "DTP3 Immunization" has relevance in the "Science and Technology" section of the UPSC CSE exam.

For Prelims:

What is DTP Vaccine? What diseases does it protect from?

For Mains:

GS3: Science and Technology

Why in the news?

The WHO and UNICEF estimates for national immunisation coverage for 2022, were recently released showcasing India's record coverage of 93% in DTP3 Immunization.

What is DTP Vaccine?

The DPT vaccine is a trivalent combination of immunizations safeguarding against three distinct diseases: diphtheria, tetanus, and pertussis (whooping cough).

Diphtheria:

- Diphtheria is an infectious disease resulting from the bacterium Corynebacterium diphtheriae. Transmission typically occurs through direct person-to-person contact, respiratory droplets, or exposure to contaminated surfaces.
- The toxin produced by the bacterium can damage the heart, nerves, and other organs, making diphtheria potentially fatal, especially in young children.
- Diphtheria vaccine is available in various formulations and is effective for prevention.

Tetanus (lockjaw):

- Tetanus is an infection caused by the bacterium Clostridium tetani that lives in soil and dust.
- When these bacteria enter the body, they produce a toxin that leads to painful muscle contractions. It can also cause muscle spasms in the chest, back, and abdomen, making it difficult to breathe. .

Pertussis:

- Pertussis, commonly referred to as whooping cough, is a respiratory tract infection resulting from the bacteria Bordetella pertussis. It manifests with a persistent and severe cough lasting for several weeks.

- Pertussis can be particularly dangerous for infants and young children, who may develop pneumonia or other complications as a result of the infection.

DPT is one of the 12 vaccine-preventable diseases that are covered by India's Universal Immunisation Programme (UIP), which provides free vaccinations.

India's Universal Immunization Program:

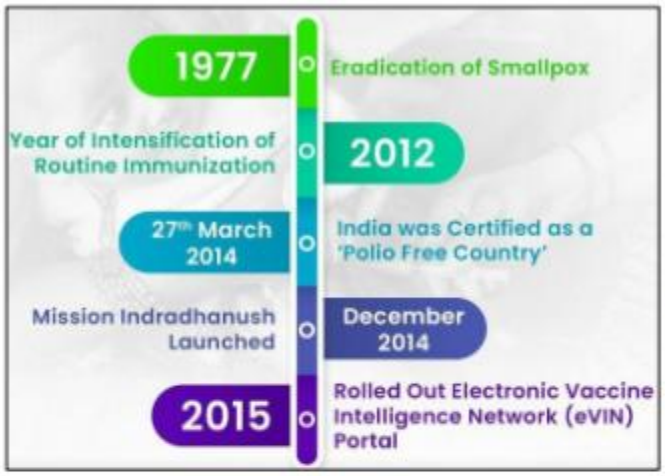
- India's Universal Immunization Programme stands as the largest in the world, catering to approximately 26.5 million infants and 29 million pregnant women each year.
- At the national level, it provides immunisation against 9 diseases,

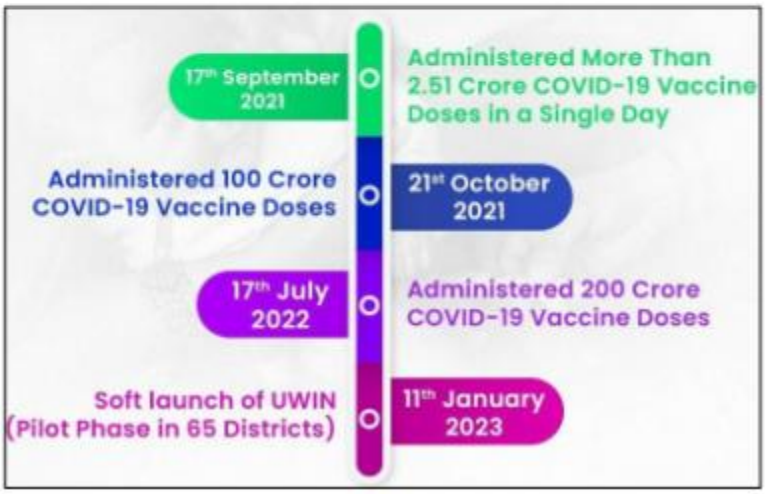
1. Diphtheria,
2. Pertussis,
3. Tetanus,
4. Polio,
5. Measles,
6. Rubella,
7. severe forms of Childhood Tuberculosis,
8. Hepatitis B,
9. Meningitis & Pneumonia caused by Haemophilus Influenzae type B.

- On a sub-national scale, the program also addresses 3 diseases:
    1. Rotavirus diarrhoea,
    2. Pneumococcal Pneumonia, and
    3. Japanese Encephalitis.
- Among these, the Rotavirus vaccine and Pneumococcal Conjugate vaccine are currently undergoing expansion efforts, whereas the JE vaccine is solely provided in districts endemic to the disease.

Mission Indradhanush:

- In December 2014, Mission Indradhanush (MI) was initiated with the goal of achieving a 90% full immunisation coverage for children.
- The primary focus of this initiative is on areas with low immunisation rates and in hard-to-reach regions where the number of unvaccinated and partially vaccinated children is highest.
- Throughout its implementation, Mission Indradhanush has successfully completed six phases, effectively covering 554 districts nationwide.
- Additionally, it has been recognized as a prominent program under both Gram Swaraj Abhiyan, encompassing 16,850 villages across 541 districts, and Extended Gram Swaraj Abhiyan, reaching 48,929 villages across 117 aspirational districts.





Intensified Mission Indradhanush:

Version	Time	Objective
IMI 1.0	October 2017 – January 2018	To achieve 90% full immunisation coverage with focus on districts and urban areas with persistently low levels.
IMI 2.0	December 2019 – March 2020	To ensure the vaccination of all available vaccines reaches those who have not been reached yet and to expedite coverage among children and pregnant women in the designated districts and blocks.
IMI 3.0	February 2021 – March 2021	To focus on the children and pregnant women who have missed their vaccine doses during the COVID-19 pandemic.
IMI 4.0	February 2022 – May 2022	To catch up on gaps that might have emerged due to the pandemic and cover 416 districts across 33 states/UTs in the country.

Benefits to Immunisation:

- **Preventing disease:** Vaccines can prevent people from getting sick. This is especially important for children, who are more vulnerable to certain diseases.
- **Reducing the severity of disease.** Even if someone does get sick after being vaccinated, the disease is often less severe than it would be if they were not vaccinated.
- **Community Protection:** When a large number of people are vaccinated, it creates what is known as herd immunity. This implies that individuals who have not received vaccination are also at a reduced risk of falling ill, as the disease finds it more challenging to spread.

Sources:

India recorded all-time high of 93% DPT3 immunisation coverage in 2022: WHO – The Hindu

Q1. With reference to DTP Vaccine, consider the following statements:

1. DPT vaccine is a combination of three vaccines that helps to protect against Diphtheria, Tetanus and Polio.
2. Diphtheria is an infection caused by the bacteria while Polio is caused by a virus.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 and 2

Answer: (b)

Q2. Consider the following:

1. Polio
2. Measles- Rubella
3. Childhood Tuberculosis
4. Hepatitis C
5. Covid-19
6. Pneumonia

How many of the above mentioned diseases are part of India's Immunization Program ?

(a) Only three
(b) Only four
(c) Only five
(d) All six

Answer: (b)

Q3. Discuss the achievements, challenges, and future strategies of India's immunization program in the context of ensuring universal and equitable vaccine coverage for its diverse population.

Gaurav Nikumbh