Universal Immunization Program

I. Immunization Division atMoHFW

II. Universal Immunization Program(UIP)

   a. Evolution

   b. New initiatives under UIP

   c. Review & monitoring

   d. National Immunization Schedule (NIS)

   e. Components:

      i. Strategy and policy

      ii. Cold chain, vaccines andlogistics

      iii. Injection safety and wastedisposal

      iv. Adverse Events Following Immunization(AEFI) Surveillance System

      v. Strategiccommunication

      vi. Training

      vii. Monitoring andevaluation

III. Immunization campaigns

IV. Resource materials (guidelines, modules,tools):

V. Frequently Asked Questions(FAQs).

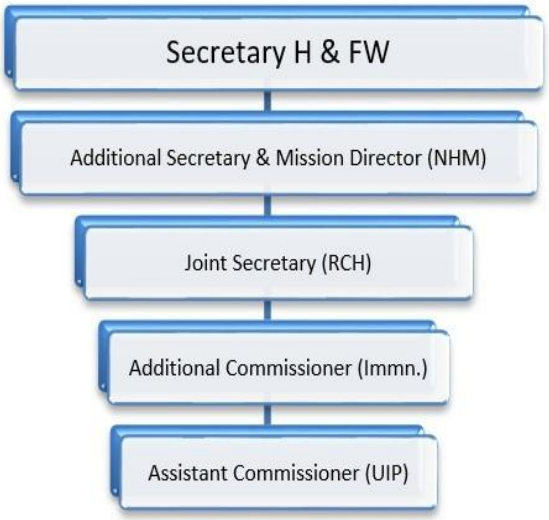
VI. Acts/Rules/Circulars.

VII. Contact person

I. Immunization Division at MoHFW

Immunization division is a part of the RCH program under National Health Mission (NHM) and is placed at the Ministry Of Health and Family Welfare, NirmanBhawan New Delhi. This division provides all the technical assistance required to undertake the activities under UIP. The division reviews the state Program implementation plans and facilitates in its approval process as per norms and guidelines The key roles of this division include activities related to Routine Immunization, Campaigns (SIAs) such as Polio, Measles, and Japanese Encephalitis, Monitoring Adverse Events Following Immunization (AEFI), Vaccine and Cold Chain Logistics, Strategic communication related to immunization program and trainings related to Immunization Program. It facilitates the National Technical Advisory Group on Immunization (NTAGI) to review and recommend its views on various technical and programmatic issues related to immunization such as new vaccine introduction etc. The division is engaged in reviewing and sharing the learnings of the program with state and district program officers. The division also works closely with all development partners and other stake holders.

Organogram of Immunization Division:



Immunization Division is supported by:

Section Officer, Consultants and Supporting Staff

Universal Immunization Programme

- India's Immunization programme is one of the largest public health programmes in the world. Launched as Expanded programme on Immunization in 1978, it was renamed as Universal Immunization programme in 1985 when it was expanded beyond urban areas.

- It targets 3.04 crore pregnant women and 2.7 crore newborns annually. More than 1.2 crore immunization sessions are being conducted annually. Under UIP, immunization is being provided free of cost against 12 vaccine preventable diseases: Nationally against 11 diseases- Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Rotavirus diarrhea, Hepatitis B, Meningitis & Pneumonia caused by Hemophilus Influenza type B and Pneumococcal Pneumonia and sub-nationally against 1 disease - Japanese Encephalitis (JE vaccine is provided only in endemic districts).

- It is the most cost-effective public health intervention, largely responsible for reduction of vaccine preventable diseases and, thus, contributing to decrease in India's Under 5 mortality rate from 45 per 1000 live births in 2014 to 35 per 1000 live births in 2019 (Data source: SRS).

  A system of cold chain equipment is utilized to store vaccine and deliver the immunization services from fixed centres or out-reach sessions utilizing the following infrastructure: (update by cold chain people): Cold Chain Points: around 30,000 – vaccine storage points (Hospital, CHCs, PHCs, Health facilities) with around 1,06,964 ILRs & Deep Freezers to store vaccines, and around 432 WIC & WIF to store vaccines at bulk storage locations.

Objectives:

- The stated objectives of UIP are:
  - To rapidly increase immunization coverage.
  - To improve the quality of services.
  - To establish a reliable cold chain system to the health facility level.
  - Monitoring of performance.
  - To achieve self-sufficiency in vaccine production.

Scope and eligibility:

- India has one of the largest Universal Immunization Programs (UIP) in the world in terms of the quantities of vaccines used, number of beneficiaries covered, geographical spread and human resources involved.
- Under the UIP, all vaccines are given free of cost to the beneficiaries as per the National Immunization Schedule.
- All beneficiaries' namely pregnant women and children can get themselves vaccinated at the nearest Government/Private health facility or at an immunization session site (Anganwadicentres/ other identified sites) near to their village/urban locality on fixed days.
- The UIP covers all sections of the society across the country with the same high quality vaccines.

a. Evolution of the programme:

1978: Expanded Programme of immunization(EPI).

- Limited reach – mostlyurban

1985: Universal Immunization Programme (UIP).

- For reduction of mortality and morbidity due to 6VPD's.
- Indigenous vaccine production capacityenhanced
- Cold chain established
- Phased implementation - all districts covered by1989-90.
- Monitoring and evaluation system implemented

1986: Technology Mission On Immunization

- Monitoring under PMO's 20 pointprogramme
- Coverage in infants (0 – 12 months)monitored

1992: Child Survival and Safe Motherhood (CSSM)

- Included both UIP and Safe motherhoodprogram

1997: Reproductive Child Health

2005: National Rural Health Mission

2012: Government of India declared 2012 as "Year of Intensification of Routine Immunization

2013: India, along with other South-East Asia Region, declared commitment towards measles elimination and rubella/congenital rubella syndrome (CRS) control by 2023.

2014: No Wild Polio virus case was reported from the country for the last three years and India had a historic achievement and was certified as "polio free country" along with other South East Asia Region (SEAR) countries of WHO.

2015: Inactivated Polio vaccine introduced in UIP as part of Global Polio end-game strategy. IPV was introduced in November 2015 initially in 6 states, which was expanded across the country by April'16.

2016: To mitigate the risk of Polio, the tOPV was switched to bOPV.Rotavirus was launched & scaled up in subsequent years

2017: Measles & Rubella (MR),Pneumococcal Conjugate Vaccine (PCV)& Adult Japanese Encephalitis (JE)was launched & scaled up in subsequent years across the country

2019: Tetanus and adult Diphtheria (Td) was introduced and scaled up across the country.

The full immunization coverage as reported/evaluated through various sources is as follows:

S. No.	Source	Full Immunization Coverage (%)		
		Urban	Rural	Total
1	National Family Health Survey-3 (2005-06)	57.6	38.6	43.5

2	Coverage Evaluation Survey (2009)	67.4	58.5	61.0
3	National Family Health Survey-4 (2015-16)	63.9	61.3	62.0
4	National Family Health Survey-5 (2019-21)	75.5	76.8	76.4
5	Integrated Child Health & Immunization Survey-INCHIS (2016)	75.9	68.9	70.8
6	Health Management Information System – HMIS (2017-18)	-	-	86.7
7	Health Management Information System – HMIS (2018-19)	-	-	87.04
8	Health Management Information System – HMIS (2019-20)	-	-	92.83
9	Health Management Information System – HMIS (2020-21)	-	-	87.8

b. New initiatives under UIP

- **Introduction of new vaccines**

  - **Rotavirus Vaccine (RVV):** Rotavirus is one of the leading causes of severe diarrhoea and death among young children. RVV has been introduced in India in March 2016 to reduce mortality and morbidity caused by Rotavirus diarrhea. Till 2018, RVV was introduced in 11 States/UTs. However, in 2019, as per expansion plan, all remaining 25 States/UTs introduced RVV.
  - **Measles-Rubella (MR) Vaccine**: As India is committed to SEAR goal of Measles and Rubella elimination by 2023, Measles Rubella (MR) vaccine was introduced through campaign targeting around 41 Crore children in the age group of 9 months to 15 years (covering ⅓ of the total population of the country) followed by 2 doses in routine immunization at 9-12 months and 16-24 months.MR campaign was launched in 2017 and till September 2022 the same has been completed in 34 States/UTs, wherein 32.43 crore children have been vaccinated against the target of 33.07 crore with a coverage of 98.08%

- **Pneumococcal Conjugate Vaccine (PCV):** PCV was launched in a phased manner in UIP in May 2017 for reducing infant mortality and morbidity caused by pneumococcal pneumonia. Till 2020-21, PCV was introduced in 5 States viz. Bihar, Himachal Pradesh, Madhya Pradesh, Uttar Pradesh and Rajasthan and Haryana (State initiative). Now in year 2021-22, PCV has been expanded fully nationwide.
- **Tetanus and adult Diphtheria (Td) vaccine**: Increase in immunization coverage in children led to shift in age-group of diphtheria cases to school going children and adults. As per recommendation of National Technical Advisory Group on Immunization (NTAGI) in 2016, Td vaccine has replaced TT vaccine & given to pregnant woman andchildren of 10 and 16 years of age from February 2019 as per national Immunization schedule.
- **Inactivated Polio Vaccine (IPV)**: Introduced in UIP as part of Global Polio end-game strategy, to mitigate the risk associated with tOPV to bOPV switch. IPV was introduced in November 2015 initially in 6 states, which was expanded across the country by April 2016.

- **<u>Improving vaccine coverage:</u>**

  - Mission Indradhanush (MI) was launched in December 2014 with an aim to increase full immunization coverage to 90% through focus on unvaccinated and partially vaccinated children and pregnant women in pockets of low immunization coverage in high risk and hard to reach areas.
  - A total of eleven phases of Mission Indradhanush have been completed. It was identified as one of the Flagship Scheme under Gram SwarajAbhiyan (GSA) and Extended Gram SwarajAbhiyan (EGSA). Till date, 4.45 crores children have been vaccinated. In addition, 1.12 crore pregnant women have been vaccinated.
  - Recently, IMI 4.0 was conducted from February 2022 to May 2022 in 416 identified districts including 75 AzadikaAmritMohatsav districts across 33 States/UTs.
  - Polio National Immunization Days (NID) and Sub National Immunization Days (SNID)

are conducted every year among the children in the age group of 0-5 years in order to mitigate the risk of poliovirus importation and to maintain population immunity against polio. Around 167 million and 75 million children are immunized across the country during each National Immunization day and Sub National Immunization Day respectively.

- **System strengthening:**

  - **Surveillance and Action for Events Following Vaccination (SAFEVAC)**: As a part of the process to strengthen AEFI surveillance in India, a web-portal, Surveillance and Action for Events Following Vaccination (SAFEVAC) has been developed and implemented in a phase-wise manner since May 2019. Since January 2020, the portal is functional across all States/UTs. The portal is digitalization of manual reporting of AEFI cases and helps in speeding up the processes of recording & reporting and reduces the loss of data during transmission from District to State/national level. It supports in assessment of vaccine safety.
  - **Surveillance for Vaccine Preventable Disease**-Surveillance for Diphtheria, Pertussis and Tetanus was initiated in 2015 and is being expanded thereafter in a phase wise manner. Currently, it is functional in 35 States/UTs and is being expanded to the entire nation in a phase wise manner. Fever and Rash surveillance for Measles & Rubella and Acute Flaccid Paralysis (AFP) surveillance for Polio are functional across India.

  - **Electronic Vaccine Intelligence Network (eVIN):** In 2015, the Government of India rolled out Electronic Vaccine Intelligence Network (eVIN) Portal, which digitizes the entire vaccine stock management, their logistics and temperature tracking at all levels of vaccine storage – from National to the Sub-District. eVIN has been expanded nationwide and is functional in all States/UTs across the country.
  - **Effective Vaccine Management**: Effective Vaccine Management (EVM) is a globally accepted tool for safe and effective supply chain for vaccines. 1stNational EVM assessment was done in 2013. In 2018, 2nd National EVM assessment was done in which the country witnessed a significant increase in National EVM score from 53% in 2013 to

68% in 2018. 3rd National EVM assessment was done in August-September 2022 & evaluation of score is currently on-going.

- **Demand generation activities:** To boost demand generation for immunization services and address vaccine hesitancy, dedicated Information Education Communication (IEC) strategies and packages have been developed under UIP. Key IEC packages for routine immunization include-

  (a) '5 Saal 7 Baar initiative' to provide information on vaccination schedule, importance of MCP cards, AEFI;

  (b) Risk Communication Framework to create awareness about risks if a child is not vaccinated, importance of vaccination and create vaccine confidence;

  (c) Routine Immunization FAQs to provide comprehensive information about immunization and dispelling myths related to it

  (d) BRIDGE (Boosting Routine Immunization Demand Generation and Expansion) trainings for frontline workers to enhance inter-personal communication skills.

  e) IEC packages for new vaccines including development of poster, banners, leaflets, audio-visual spots, social media creatives pertaining to specific vaccine.

- **<u>Capacity building</u>**
  - National Cold Chain Training Centre (NCCTE), Pune and National Cold Chain & Vaccine Management Resource Centre (NCCVMRC) -NIHFW, New Delhi have been established to provide technical training to cold chain technicians for repair & maintenance of cold chain equipments.

- **<u>Strengthening urban immunization</u>:**
  - A significant rural-urban variation in immunization was reported in the recent NFHS-5 with urban immunization reported at 75.35% and rural immunization reported as 76.8%.
  - The low coverage in urban areas is attributed to the lack of infrastructure in urban areas, poor quality micro-plans including ward wise boundaries, ambiguous demarcation of UPHC catchment area, ANM area which leads to inaccurate estimation of logistics and

poor footfalls at immunization sessions.

- After conducting pilot study in 14 cities, a *Framework for Action to Strengthen Immunization in Urban Areas* was released. On the basis of learnings from the pilot study, 75 Districts, 104 NUHM Cities/Town have been identified on the basis of the presence of the partners, type of cities & type of administration in 36 States/UTs.
- Named as *City Embrace model* which will be supported by Development partners forsupporting the states to improve the immunization coverage of that urban city.

- **<u>Efforts for creating awareness and community engagement</u>**
  - Community involvement through mothers' meeting, involvement of gram panchayats and local bodies.
  - Engagement with key media houses to disseminate messages on need for COVID vaccination and continuation of routine immunization services.
  - Advocacy with important opinion makers including religious leaders and local influencers.
  - Engagement of MahilaArogyaSamitis (MAS) and Self-Help Groups (SHGs) to disseminate messages on the importance of vaccination in urban areas. Developed MAS Handbook to strengthen Urban RI.
  - Available platforms with other Ministries were also utilized to disseminate the right information to the people.
  - Based on scientific evidence, Op-eds have been developed.
  - Crisis communication was used for maintaining vaccination confidence in case of any AEFI
  - Developed a pictorial National Immunization Schedule (NIS) for easy understanding of parents/caregivers and shared it with the States and stakeholders.
  - Risk communication and community engagement activities were undertaken to promote immunization along with COVID appropriate behaviors.

- Information booths were set up around VHND/ Haat Bazaar to provide ready information on immunization, distribution of invitation/referral slips, and mobile vans to disseminate information in several state.
- Communication strategies for the promotion and visibility of Polio NID/SNIDs with Celebrity Ambassador – Mr. Amitabh Bachchan
- Social media materials on immunization
- Communication activities during IMI campaigns including CSO engagement, involvement of SHGs, PRIs, MAS in urban areas.
- Communication strategy and SBCC materials for IMI 4.0 campaign that included Posters, Banners, Train wraps, Wall Paintings, etc.
- Developed SBCC material for the PCV Expansion in the country.

c. Review& monitoring of the program performance

- State specific reviews are undertaken periodically to monitor the progress, identify the challenges and support the administration in implementing the program.
- Key deliverables with targets are defined for each state which will be routinely monitored. This promotes healthy competition among states. Similarly the programme offers additional incentives keeping the achievement of 90% FIC as conditionality criteria.
- During COVID, Co-WIN portal was developed for planning, implementation, monitoring, and evaluation of COVID-19 vaccination in India. The experience of Co-WIN is being leveraged to develop a similar platform for Routine Immunization to register and track the beneficiaries due for vaccination. This would be a real time activity and would ensure that no child misses their due doses. This would also tackle the challenges related to low immunization coverage in migratory and urban population.
- National level review workshops are also conducted so that states can share their best practices and promotes cross learning.

- Periodic reviews of national immunization programmes and vaccine-preventable disease surveillance systems are conducted, with follow up of recommendations and action points suggested during the review meetings. These are also combined with the Post Introduction evaluation surveys.

Monitoring of the program

- The program monitors the coverage on real time basis via Health Management Information Systems (HMIS) and Periodic surveys such as National Family Health Surveys (NFHS).
- Full digitization of vaccine stocks are managed through Electronic Vaccine Intelligence Network (eVIN).
- The functionality of cold chain equipment is monitored through National Cold Chain Management Information system (NCCMIS).
- Often during campaigns, portals are designed to capture the immunization coverage during catch up campaigns. The data on surveillance of vaccine preventable diseases are captured through SIMS portal supported by WHO.
- For cold chain assessment, effective vaccine management are undertaken periodically to identify the gap and challenges in cold chain maintenance.
- Program is also conducting post introduction evaluation (PIE) surveys after the introduction of new vaccines to identify the critical issues and gaps in implementation and provide mid-course correction.

Key forces areas

1. Achieving and sustaining Full Immunization Coverage (FIC) to 90% with social focus on urban areas, migratory and tribal population (focus on high risk areas)
2. Sustaining polio free status
3. Piloting IT based real time tracking of beneficiaries eligible for immunization
4. Achieving and sustaining Measles Rubella Elimination status with >95% coverage of the both doses of Measles Rubella vaccine

5. Introduction of new vaccines in UIP as per NTAGI recommendation- Human Papilloma Virus Vaccine (HPV) and Typhoid Conjugate Vaccine (TCV)

- **Summary highlights:**
  - Under Universal Immunization Programme (UIP), vaccines are provided free of cost for 12 Vaccine Preventable Diseases, 11 vaccines at the national level and 1 (Japanese Encephalitis) vaccine sub-nationally in endemic districts of selected States.
  - The vaccine coverage data is obtained in real time through Health Management Information System (HMIS).
  - Due to the continuous efforts in strengthening routine immunization and periodic intensification drives carried out in the past years, the Full immunization coverage as per NFHS-5 has shown an increase of 14.4 percentage points from 62% in NFHS-4 (2015-16) to 76.4% in NFHS-5 (2019-2021)
  - On 27th March 2014, South-East Asia Region of WHO, including India, certified Polio-free.
  - On 14th July 2016, WHO certified India for eliminating maternal and neonatal tetanus
  - India is currently targeting Measles and Rubella elimination by the year 2023.

d. National Immunization Schedule

(for infants, children and pregnant women)

Age	Vaccines given
Birth	Bacillus Calmette Guerin (BCG), Oral Polio Vaccine (OPV)-0 dose, Hepatitis B birth dose
6 Weeks	OPV-1, Pentavalent-1, Rotavirus Vaccine (RVV)-1, Fractional dose of Inactivated Polio Vaccine (fIPV)-1, Pneumococcal Conjugate Vaccine (PCV) -1
10 weeks	OPV-2, Pentavalent-2, RVV-2
14 weeks	OPV-3, Pentavalent-3, fIPV-2, RVV-3, PCV-2
9-12 months	Measles & Rubella (MR)-1, JE-1* , PCV-Booster
16-24 months	MR-2, JE-2*, Diphtheria, Pertussis & Tetanus (DPT)-Booster-1, OPV – Booster
5-6 years	DPT-Booster-2
10 years	Tetanus & adult Diphtheria (Td)
16 years	Td
Pregnant Mother	Td1, 2 or Td Booster**

For Infants				
Vaccine	**When to give**	**Dose**	**Route**	**Site**
Bacillus Calmette Guerin (BCG)	At birth or as early as possible till one year of age	0.1ml (0.05ml until 1 month age)	Intra-dermal	Left Upper Arm
Hepatitis B - Birth dose	At birth or as early as possible within 24 hours	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
Oral Polio Vaccine (OPV)-0	At birth or as early as possible within the first 15 days	2 drops	Oral	Oral
OPV 1, 2 & 3	At 6 weeks, 10 weeks & 14 weeks (OPV can be given till 5 years of age)	2 drops	Oral	Oral
Pentavalent 1, 2 & 3	At 6 weeks, 10 weeks & 14 weeks (can be given till one year of age)	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
Pneumococcal Conjugate Vaccine(PCV)	Two primary doses at 6 and 14 weeks followed by Booster dose at 9-12 months.	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh
Rotavirus (RVV)	At 6 weeks, 10 weeks & 14 weeks (can be given till one year of age)	Rotavac: 5 drops (liquid vaccine) Rotasil lyophilized vaccine- 2.5 ml Rotasil Liquid- 2ml	Oral	Oral

(continued…….)

Inactivated Polio Vaccine (IPV)	Two fractional dose at 6 and 14 weeks of age	0.1 ml	Intra dermal two fractional dose	Intra-dermal: Right upper arm
Measles Rubella (MR) 1st dose	9 completed months-12 months. (Measles can be given till 5 years of age)	0.5 ml	Sub-cutaneous	Right upper Arm
Japanese Encephalitis (JE) - 1**	9 completed months-12 months.	0.5 ml	Sub-cutaneous (Live attenuated vaccine) Intramuscular(Killed vaccine)	Left upper Arm (Live attenuated vaccine) Anterolateral aspect of mid thigh (Killed vaccine)
Vitamin A (1st dose)	At 9 completed months with measles-Rubella	1 ml (1 lakh IU)	Oral	Oral
For Children				
Diphtheria, Pertussis & Tetanus (DPT) booster-1	16-24 months	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh

(continued…….)

MR 2nd dose	16-24 months	0.5 ml	Sub-cutaneous	Right upper Arm
OPV Booster	16-24 months	2 drops	Oral	Oral
JE-2	16-24 months	0.5 ml	Sub-cutaneous (Live attenuated vaccine) Intramuscular(Killed vaccine)	Left upper Arm (Live attenuated vaccine) Anterolateral aspect of mid thigh (Killed vaccine)
Vitamin A (2nd to 9th dose)	16-18 months. Then subsequently one dose every 6 months up to the age of 5 years.	2 ml (2 lakh IU)	Oral	Oral
DPT Booster-2	5-6 years	0.5 ml.	Intra-muscular	Upper Arm
Td	10 years & 16 years	0.5 ml	Intra-muscular	Upper Arm
For Pregnant Women				
Tetanus & adult Diphtheria (Td)-1	Early in pregnancy	0.5 ml	Intra-muscular	Upper Arm
Td-2	4 weeks after Td-1	0.5 ml	Intra-muscular	Upper Arm
Td- Booster	If received 2 Td doses in a pregnancy within the last 3 yrs*	0.5 ml	Intra-muscular	Upper Arm

***One dose if previously vaccinated within 3 years**
****JE Vaccine is introduced in selected endemic districts after the campaign.**

e. Components:

i. Strategy and policy:

National Health Policy is directed towards achieving an acceptable, affordable and sustainable standard of health through an appropriate health system. Provision of universal immunization of children against vaccine preventable diseases is one of the major goals under this policy. Country developed a comprehensive Multi Year Strategic Plan for Immunization 2017-2022. This document is a national strategy document to guide development of UIP plans at national and state levels. The National Vaccine Policy also guides decision making in order to develop a long term plan to

strengthen the UIP. This policy addresses issues of vaccine security, management, regulation guidelines, vaccine research and development and product development. To ensure informed decision making for any modification in schedule or inclusion of new vaccines, there is a National Technical Advisory Group on Immunization (NTAGI) which comprises of a number of technical experts, national program leaders and managers, representatives from development partners and professional bodies. All issues related to the program and vaccines are presented to this group for review and discussions and final recommendations

ii. Cold Chain System, Vaccines and Logistics:

Cold Chain is a system of storing and transporting vaccine at the recommended temperature range from the point of manufacture to point of use. India has built a vast cold chain infrastructure to ensure that only potent and effective vaccines reach millions of beneficiaries across the country. There are more than 29,000 Cold Chain Points (CCPs) across the country where the vaccines are stored and further delivered to the lower level stores/ immunization sessions attached to it.

The vaccines are supplied by manufacturers directly to four Government Medical Store Depots (at Karnal, Mumbai, Chennai and Kolkata) which act as national buffer stores as well as to state and selected regional vaccine stores. Transportation of vaccines from the manufacturers to GMSDs/SVSs/RVSs and from the GMSDs to SVSs/RVs are normally done through air transportation except for the small distances which are done by road. Transportation from States/Regional stores to districts are done in cold boxes using insulated vaccine vans.

Vaccines carriers with icepacks are used to transport vaccines from PHCs to the outreach sessions for vaccination of beneficiaries.

There are different types of Cold Chain Equipments (CCE) used for safe storage and transportation of vaccines. These equipments are Walk-in-Cooler (WIC), Walk-in-Freezer (WIF), Ice Lined Refrigerator (ILR), Deep Freezer (DF), Solar Direct Drive (SDD) combo, Cold box, vaccine carrier, ice packs, refrigerated truck, vaccine van etc. WICs and WIFs are normally used at higher level of stores i.e. GMSDs, SVS, RVS for bulk storage of vaccines and freezing of ice packs. Similarly, ILR, DF, SDD combo are used for storing of vaccines and preparing icepacks at the lower level vaccine stores.

In order to handle the stock, distribution process of the vaccines and maintenance of the CCEs, there are Vaccine and Cold Chain Handlers (VCCHs) at each cold chain points. In addition to this, there are State Cold Chain Officers (CCOs) who are in charge to ensure smooth functioning of all cold chain equipment in the state, at regional, divisional and district levels, there are cold chain technicians whose responsibility is to maintain and repair cold chain equipment. Cold chain technicians have

been provided with trainings and tool kits for performing installation, maintenance and repair activities. For maintenance of cold chain equipment, Govt. of India provides funds to the States/UTs under NHM.

The performance and efficiency of the cold chain system at different levels is monitored continuously, through supervisory visits, review meetings. In addition to this the Cold Chain Points of the county have been integrated with the Electronic Vaccine Intelligence Network (eVIN), which is a web based system of tracking the real time stock and storage temperature of the vaccines. Similarly, National Cold Chain Management Information System (NCCMIS) is the repository for the CCEs under immunization programme, which helps in tracking the CCP wise status and sickness rate of the CCEs.

Immunization is a supply driven programme. The Government of India procures and supplies all UIP vaccines along with diluents to the States/UTs. In addition to vaccines, syringes of different denominations, are also procured centrally and supplied to states. Maintaining of an efficient immunization supply chain (iSC) is critical for achieving the desired result in immunization coverage.

The process involves vaccines and logistics forecasting, scheduling, ensuring supplies as per need, and so on. It is important to ensure that the cold chain system is not overburdened and there are no under supplies. Based on the target population and consumption pattern, the minimum and maximum level of stock to be stored at different stored are defined. Accordingly, the supplies to the States are made as per programme requirement.

iii. The Injection safety and waste disposal:

A large number of injection procedures are undertaken in lakhs of vaccination sessions across the country every year. Unsafe injection practices can harm the recipient of the injection, the health worker and the community resulting in potentially life threatening infections such as HIV/AIDS, Hepatitis B and C, etc. To ensure safe injection practices, Government of India endeavors to ensure continuous supply of injection safety equipments (AD syringes, reconstitution syringes, hub cutters and waste disposal bags). Trainings are conducted and supported by job-aids, on job training (supportive supervision).

Disposal of immunization waste is strictly as per Central Pollution Control Board (CPCB) guidelines for biomedical waste disposal. The principles followed are segregation of waste at source (at the session site), transportation to the PHC or CHC, treatment of sharps and potentially biohazardous plastic waste, disposal of sharps in sharp pits and treated plastic

waste through proper recycling. The states are provided funds to procure hub cutters, black and red

plastic bags and construction of sharp pits in PHCs and CHCs.

iv. Adverse Event Following Immunization (AEFI) Surveillance System in India :

HISTORY

- 1988: AEFI surveillance started in India
- 1989: The first guideline for Adverse Reaction Following Vaccination was issued by GoI
- 2005: National AEFI guidelines developed and disseminated
- 2007 Onwards: State & District Level AEFI Committees formed
- 2008: National AEFI Committee constituted.
- 2010: Guidelines revised, printed and widely circulated.
- 2011: SOPs printed and disseminated
- 2012: AEFI Secretariat established at Immunization Technical Support Unit
- 2013: National AEFI Technical Collaborating Centre established at Lady Hardinge Medical College and Associated Hospitals, New Delhi
- 2014: AEFI Zonal Consultants (Four) hired through NHSRC, New Delhi
- 2015: National AEFI surveillance operational guidelines revised and disseminated
- 2016: National Quality Assurance Standards for AEFI Surveillance developed
- 2017: India National Regulatory Authority (NRA) (including vaccine safety surveillance) passes assessment by WHO successfully
- 2018: Guidelines for use of inj. Adrenaline for initial management of Anaphylaxis
- 2019: Rollout of SAFEVAC (Surveillance and Action for Event following vaccination), Switch from tablet to syrup Paracetamol dispensation at session sites, Key Performance Indicators (KPIs) for AEFI surveillance,
- 2020: State Guidance Document for AEFI Surveillance Processes, AEFI surveillance guidelines for COVID 19 vaccinations
- 2021 & 2022: System strengthening including expansion of membership of AEFI committees, reporting of minor AEFIs in Co-WIN by vaccinators, expedited causality assessment and signal management of COVID-19 vaccine AEFI, advisories issued on vaccine safety
    - The WHO defines AEFI as “Any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. It may be any unfavorable or unintended sign, abnormal laboratory finding, symptom or disease.”
    - AEFI surveillance in the country monitors immunization safety, detects and responds to adverse events following immunization; corrects unsafe immunization practices, reduces the negative impact of the event on health and contributes to the quality of immunization activities.

- Government of India is committed to strengthening the AEFI surveillance system for reporting and management of any Adverse Event Following Immunization (AEFI).
- In 2012, the AEFI secretariat has been established under ITSU (Immunization Technical Support Unit) to strengthen & coordinate all issues related to AEFI.
- Operational Guidelines for AEFI surveillance and response were first published in 1989, subsequently updated in 2005, 2010 and 2015 based on the latest available scientific evidence with respect to vaccines and vaccine safety.Subsequent revision of these guidelines is under process.
- A National Quality Assurance System for AEFI Surveillance is being implemented across the country at national, state, district and PHC/session site levels for incremental and sustainable improvement in AEFI surveillance. Guidelines and tools and financial norms for budgeting of these activities by states and districts is available in the PIP.
- The National Regulatory Authority (NRA) (including AEFI surveillance) successfully passed the assessment of regulatory processes by WHO in February 2017.
- The membership of the national, state and district AEFI committees has been expanded to include a broader range of expertise such as neurologists, respiratory medicine specialists, cardiologists, obstetrician-gynecologists, in addition to paediatricians, forensic medicine specialists, pathologists, immunologists, epidemiologists and communication experts, etc.
- Robust information-sharing mechanisms related to vaccine safety surveillance are in place to enable quick and evidence-based decision-making related to vaccine safety. AEFI cases are reported by ADR monitoring centres located in medical colleges under the Pharmacovigilance Programme of India. Causality assessment results approved by the national level are shared with the drug regulator and states for action.
- For COVID-19 vaccinations, the reporting and investigation formats have been modified and timelines reduced to enable faster causality assessments. Similar changes are being incorporated for regular AEFI surveillance for better efficiency.
- States are being encouraged to collaborate with prominent medical colleges to function as State AEFI Technical Collaborating Centre.

Surveillance and Action for Events Following Vaccination (SAFEVAC): As a part of the process to strengthen AEFI surveillance in India, an online reporting system called Surveillance and Action for Events Following Vaccination (SAFEVAC) has been developed and implemented in a phase-wise manner since May 2019. Since January 2020, all states and districts are reporting serious and severe AEFI through SAFEVAC. SAFEVAC promotes real-time reporting of serious and severe AEFIs, bringing in more efficiency and reduction of loss of data during transmission from district to state/national levels.

v. Strategic communication:

Strategic Communication refers to policy-making and guidance for consistent information activity through coherent messaging. The issue of media advocacy, proactive planning and effective media response is emerging as one of the key elements of strategic communication support to achieving full Routine Immunization coverage in the country. Demand generation gains critical importance in raising immunization coverage in the country, especially when India is poised to sustain polio eradication, increase visibility and coverage of RI by motivating people to demand immunization services, sustain and report vaccine related features, timely completion of routine immunization schedules of their children, and build grounds for new vaccines.

Development of Routine Immunization (RI) Logo

The new logo of the baby holding the syringe, indicating RI as his right, has been developed in purple color. This will give RI a distinct identity. Deliberate efforts have been made to stay away from the Polio brand colors of yellow and pink**.**

vi. Immunization Training

No.	Name of training	Duration	Level /venue	Participants	Training module
1.	Immunization training for Medical Officers	3 days	State/ Regional/district	All contractual and regular Medical Officers including AYUSH	Immunization Handbook for Medical Officers
2.	Immunization training of Health Workers	2 days	District level	All female and male Multi Purpose Health workers and their supervisors	Immunization Handbook for Health
3.	Training of Vaccine and Cold Chain Handlers	2 days	District level	All health workers (Pharmacists /staff nurses/ANMs/LHVs /Male MPWs/etc.) in charge of handling vaccines & cold chain equipments at all vaccine stores (state/region/ districts/ hospitals/PHCs /CHCs)	Handbook for Vaccine and Cold Chain Handlers

(continued .....)

Cold chain technicians posted at district, divisional, regional and state levels are given trainings as follows:

- Training on repair and maintenance of ILRs / DFs
- Training on repair and maintenance of WICs / WIFs and generator sets.
- Training on installation, maintenance and repair of Solar Refrigerators
- Training on repair of voltage stabilizers.

Some of the new training courses under development for specific personnel are as follows:

- Induction training for State Immunization Officers
- Training on Effective Cold Chain and Vaccine Management (ECCVMC) for immunization and cold chain programme managers at state and district levels

The Government of India has enhanced the training capacity for cold chain technicians by setting up the National Cold Chain and Vaccine Management Resource Centre (NCCVMRC) at National Institute of Health and Family Welfare (NIHFW), New Delhi and also the National Cold Chain Training Centre (NCCTC) at State Health Transport Organization (SHTO), Pune, Maharashtra.

vii. Monitoring and evaluation:

Universal Immunization Program has a set of indicators to monitor progress under different components of the program and evaluate the coverage of immunization amongst the target population. In the country, UIP performs monitoring and evaluation at three levels.

1)There is a regular reporting system from the health sub-centre to PHC, district, state and national level. This reporting has been computerized in the country as a part of Health Management Information System (HMIS), and the data is available from health facility level and above every month. MoHFW has also implemented Mother and Child Tracking System(MCTS) which was subsequently upgraded to RCH Portal to track every pregnant woman, mother and children up to 5 years of age to ensure delivery of health services.

2) To evaluate immunization coverage, country conducts period population based surveys. These include National Family Health Survey (NFHS), District Level Household Survey (DLHS), Annual Health Survey (AHS) and UNICEF Coverage Evaluation Survey (CES).

3) In between periodic surveys and administrative reporting, country also plans targeted studies and surveys to evaluate the performance of various components under UIP. Some of the examples are EVM, PIE etc.

A review mechanism is established at all levels of the program implementation in the country. Though there are variations in the timings, but PHCs and districts usually conduct program review at monthly intervals. However, at the state and national level, it is less frequent. MoHFW has recommended constitution of task forces at the state and district level for critical review of the program at monthly interval involving various stakeholders at the particular level. At national level also, immunization division has constituted Immunization Action Group (IAG) to review the program, discuss issues and suggest solutions.

Achievements:

- The biggest achievement of the immunization program is the eradication of small pox(1977)
- One more significant milestone is that India is free of Poliomyelitis(2014) caused by Wild Polio Virus (WPV), the last recorded case being in 2011.
- Elimination of maternal and neonatal tetanus in 2016
- Vaccination has contributed significantly to the decline in the cases and deaths due to the Vaccine Preventable Diseases (VPDs).

II. Immunization Campaigns

a. Measles Rubella campaign

The measles-rubella vaccination campaign has been successfully completed in all States and UTs (it is being carried out in the State of West Bengal). MR campaign was launched in 2017 and till date the same has been completed in 34 States/UTs, wherein 32.43 crore children have been vaccinated against the target of 33.07 crore with a coverage of 98.08%. The campaign was carried out in schools, community centres and health facilities.The campaign aims to rapidly build up immunity for both measles and rubella diseases in the community so as to knock out the disease, therefore, all the children should receive MR vaccine during the campaign. For those children who have already received such vaccination, the campaign dose would provide additional boosting to them. In order to achieve maximum coverage during the campaign, multiple stakeholders have been involved. The Measles-Rubella campaign is a part of global efforts to reduce illness and deaths due to measles and rubella/CRS in the country. Measles immunization directly contributes to the reduction of under-five child mortality, and in combination with rubella vaccine, it will control rubella and prevent CRS.

b. Japanese Encephalitis Campaign

Japanese Encephalitis(JE) Vaccination has been expanded from 179 districts to 330 districts in 21 States. JE Vaccination is provided as part of Routine Immunization program in 316 districts in 21 States. Two doses of the JE vaccine have been introduced under the Routine Immunization in year 2013 to further protect children from JE. The JE Vaccination campaign covered 321endemic districts out of 330 identified districts and has covered 170 million children. The remaining districts will be covered by Dec 2022.

c. **Mission Indradhanush**

To strengthen and re-energize the programme and achieve full immunization coverage for all children and pregnant women at a rapid pace, the Government of India launched “Mission Indradhanush” in December 2014.

Intensified Mission Indradhanush (IMI)*

To further intensify the immunization programme, Prime Minister Shri Narendra Modi launched the Intensified Mission Indradhanush (IMI) on October 8, 2017. Through this programme, Government of India aims to reach each and every child up to two years of age and all those pregnant women who have been left uncovered/missed or drop out under the routine immunisation programme/UIP. The focus of special drive was to improve immunisation coverage in select districts and cities to ensure full immunisation to more than 90%. Total of more than 4.45 crore children and 1.12 crore pregnant women were vaccinated in the intensified campaigns across the country until 2022.(*Please refer IMI websites for more information)

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Office of Immunization Division, MoHFW, Govt. of India

DASHBOARD (HMIS) - ROUTINE IMMUNIZATION PROGRAM

Based on the data up to 31st Mar 2022

S. No	State	Estimated Population of Infants 2021-22* (Annualized)	% of sessions held against planned	No. of Planned sessions NOT HELD	Hep B Birth Dose - Coverage against Institutional Delivery (%)	% Coverage								Drop Out (%) (Penta1-Penta3)#	Drop Out (%) (BCG-MCV1)#	Drop Out (%) (MCV1-MCV2)#	Number of Cases of Childhood Diseases Reported			
						BCG	Penta-1	Penta-3	MCV-1	MCV-2	DPT Booster (16-24 months)	DPT Booster (5-6 years)**	Fully Immunized***				Diptheria	Pertussis	Tetanus Neonatorum	Measles
	All India	26458610	96	539895	79	86	88	84	89	82	81	63	88	5	-4	8	968	295	409	5627
1	A & N Islands	4380	96	74	96	81	80	85	92	96	92	54	90	-6	-13	-5	0	0	0	2
2	Andhra Pradesh	820000	99	4011	99	98	105	105	104	99	96	105	103	-1	-7	5	0	0	0	2
3	Arunachal Pradesh	26310	94	788	85	82	83	76	75	65	65	22	75	8	9	13	14	1	1	17
4	Assam	710420	96	11791	67	86	85	82	86	80	81	46	85	3	1	6	0	0	5	93
5	Bihar	3110280	87	166920	82	76	80	70	80	73	73	43	79	13	-4	8	149	63	151	244
6	Chandigarh	15590	99	81	85	118	93	87	86	85	84	58	85	7	27	1	5	4	0	19
7	Chhatisgarh	632810	96	13882	76	88	87	84	92	82	81	73	92	3	-4	11	72	9	9	130
8	Delhi	296240	95	5778	91	79	88	80	87	90	88	60	86	9	-11	-4	16	0	5	65
9	Goa	19070	100	14	87	74	78	75	85	92	89	73	84	3	-15	-9	0	0	0	8
10	Gujarat	1336370	99	3835	81	88	84	83	88	79	79	68	90	2	0	10	30	5	17	211
11	Haryana	580750	98	6346	87	94	97	91	92	86	82	77	93	6	2	7	3	1	0	119
12	Himachal Pradesh	112020	98	851	89	80	89	87	88	85	85	43	88	3	-11	4	0	0	0	7
13	Jammu & Kashmir	196620	96	4039	97	102	118	112	113	104	104	53	112	5	-11	8	3	3	0	91
14	Jharkhand	841050	94	27958	61	91	90	85	93	79	77	41	91	6	-2	15	64	11	10	185
15	Karnataka	1110040	96	19885	91	92	97	95	94	90	88	86	93	2	-3	5	13	5	0	226
16	Kerala	477360	95	8246	85	88	91	84	85	82	90	67	84	8	3	4	4	1	0	22
17	Ladakh	4350	99	42	93	79	84	83	90	89	89	48	90	1	-14	1	0	0	0	2
18	Lakshadweep	1000	89	51	97	89	106	102	94	94	94	56	105	4	-6	1	0	0	0	0
19	Madhya Pradesh	1989460	96	38767	90	64	83	80	88	79	79	67	89	3	-39	11	17	10	25	645
20	Maharashtra	1880070	100	2537	80	100	101	100	99	96	96	75	98	1	1	2	2	2	2	515
21	Manipur	42800	87	2402	89	72	85	75	75	67	71	36	72	12	-5	11	8	7	0	13
22	Meghalaya	74100	91	7982	88	105	99	86	93	78	76	31	92	13	11	16	0	1	5	18
23	Mizoram	17650	95	476	79	89	108	99	97	103	97	57	97	8	-10	-6	2	0	0	96
24	Nagaland	27900	92	1801	81	73	75	64	59	52	50	12	57	15	19	12	0	0	0	2
25	Odisha	794200	100	430	88	79	83	82	88	83	83	84	88	0	-12	5	0	0	1	216
26	Puducherry	21000	97	160	99	149	70	63	61	59	59	43	60	9	59	3	1	0	0	18
27	Punjab	433180	90	18428	73	84	89	80	86	83	83	69	86	11	-2	4	41	0	0	49
28	Rajasthan	1824830	97	23911	69	71	74	71	75	64	67	53	75	3	-5	15	105	70	108	424
29	Sikkim	11160	96	257	90	58	61	61	64	66	66	58	64	0	-10	-4	0	0	0	2
30	Tamil Nadu	1070510	99	5978	100	86	85	85	86	85	84	89	86	0	-1	2	6	0	0	184
31	Telangana	617000	98	12300	113	115	106	104	109	100	97	99	104	2	5	8	4	0	6	26
32	The Dadra And Nagar Havel	22600	100	2	92	50	46	46	51	53	52	38	51	1	-3	-3	0	0	0	1
33	Tripura	51250	97	724	89	92	100	91	95	87	86	43	95	9	-4	9	1	0	0	12
34	Uttar Pradesh	5658530	94	134510	58	89	86	81	88	78	75	53	87	6	1	11	366	93	54	565
35	Uttarakhand	190810	94	7864	89	92	92	88	93	83	83	52	93	5	-1	10	0	0	0	20
36	West Bengal	1436900	99	6774	80	87	96	94	96	95	95	72	96	2	-10	1	42	9	10	1378

* State Need Assessment of 2021-22 is taken as Estimated Infant Population.

** Targets provided by Ministry for DPT Booster (2021-22) is taken as estimated targeted population for DPT Booster (5-6 years).

***Percentage of children aged between 9 and 11 months who have been fully immunised (BCG, MCV-1 and 3 doses each of OPV & Penta)

Negative figure indicate that there is no drop-out but increase in coverage from compared antigen

NR- No Report, NA- Not Applicable

Disclaimer: Annual Dashboard is prepared in Jun 2022 using cumulative data of April 2021-March 2022, downloaded on 25th Jun 2022

State/UT wise Central Release & Expenditure under Routine Immunization under NHM from the F.Y. 2016-17 to 2021-22

Rs. In crore

S.N.	State/UT	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
		Release	Exp	Release	Exp	Release	Exp	Release	Exp	Release	Exp	Release	Exp
1	Andaman & Nicobar Islands	0.14	0.08	-	0.06	0.27	0.21	0.15	0.09	0.27	0.01	0.38	0.05
2	Andhra Pradesh	7.23	30.71	6.94	45.49	10.39	44.05	10.50	9.27	-	33.82	1.78	31.48
3	Arunachal Pradesh	2.39	1.81	1.89	4.15	3.10	0.78	2.50	3.09	1.55	2.87	2.36	3.62
4	Assam	14.80	24.68	17.24	19.13	17.63	31.00	18.87	23.82	26.82	24.63	18.94	23.74
5	Bihar	13.56	55.12	17.58	59.18	21.64	76.97	19.32	130.25	21.65	79.13	19.04	65.28
6	Chandigarh	0.27	0.06	0.11	0.28	0.19	0.01	0.40	0.01	0.13	0.01	0.08	0.02
7	Chhattisgarh	6.20	18.08	7.01	26.12	6.68	25.24	7.59	19.63	7.79	20.13	9.01	21.23
8	Dadra & Nagar Haveli	0.17	0.22	0.21	0.33	0.33	0.34	0.03	0.31	0.56	0.27	0.46	0.44
9	Daman & Diu	0.16	0.02	-	0.07	0.11	0.10	-	0.07	-	-	-	-
10	Delhi	5.50	3.57	9.88	3.80	2.40	5.02	0.40	6.66	1.80	4.21	1.12	4.88
11	Goa	0.14	0.15	0.18	0.14	-	0.07	0.29	0.14	-	0.12	0.04	0.13
12	Gujarat	8.84	31.12	8.47	31.58	12.66	52.38	12.60	34.37	9.49	37.62	9.76	33.94
13	Haryana	3.15	12.58	3.14	11.22	4.53	19.70	4.84	15.79	4.52	11.86	3.50	16.64
14	Himachal Pradesh	2.71	4.19	2.44	6.24	3.89	4.26	3.79	3.40	3.89	3.14	2.68	3.24
15	Jammu & Kashmir	5.48	2.96	6.62	3.21	6.56	6.60	7.88	4.12	6.50	2.87	5.36	3.76
16	Jharkhand	6.31	19.79	6.61	18.36	9.07	25.98	9.57	20.69	6.80	20.59	3.40	17.62
17	Karnataka	8.82	20.61	9.87	15.87	9.51	48.02	10.21	14.72	12.68	14.51	9.77	14.68
18	Kerala	3.65	10.33	4.27	15.02	5.52	12.06	5.65	9.74	5.52	15.29	5.52	16.10
19	Lakshadweep	0.02	0.03	0.02	0.04	0.03	0.03	-	0.05	0.05	0.04	0.05	0.01
20	Madhya Pradesh	14.80	45.37	16.39	48.01	15.93	56.47	15.70	63.93	21.24	56.59	20.67	57.88
21	Maharashtra	16.38	37.50	16.01	44.12	22.40	57.01	22.59	59.30	22.40	46.80	12.58	38.09
22	Manipur	1.13	1.02	2.23	1.79	1.33	3.57	1.99	1.78	1.93	0.72	0.89	0.68
23	Meghalaya	1.60	1.37	2.35	1.96	2.10	3.76	-	2.97	3.69	5.08	1.80	2.70
24	Mizoram	0.65	0.73	1.29	1.34	1.13	1.24	1.06	1.58	1.91	0.90	1.18	0.72
25	Nagaland	1.00	0.79	1.46	1.40	1.45	2.37	1.06	0.74	2.45	1.45	1.00	2.24
26	Odisha	7.35	22.28	7.84	28.42	11.73	27.48	12.13	42.94	5.86	26.30	11.73	27.23
27	Puducherry	0.97	0.23	0.45	0.32	0.14	0.11	0.16	0.25	-	0.10	0.11	0.16
28	Punjab	3.47	9.73	3.94	8.16	4.98	14.77	5.05	10.10	4.98	7.87	1.85	6.48
29	Rajasthan	14.92	29.62	16.51	26.24	21.40	31.45	21.60	38.76	20.99	33.04	10.77	40.18
30	Sikkim	0.29	0.46	0.48	0.40	0.38	0.35	0.41	0.33	0.83	0.09	0.42	0.31
31	Tamil Nadu	8.90	20.19	10.24	15.90	6.39	17.85	10.11	5.26	12.79	9.71	8.33	15.06
32	Tripura	1.61	2.03	1.11	11.67	2.11	3.67	1.69	1.98	2.45	1.99	2.89	1.78
33	Uttar Pradesh	27.00	101.11	31.81	132.32	43.99	180.28	51.62	140.15	44.00	139.81	22.51	94.72
34	Uttarakhand	3.34	8.97	3.37	11.67	5.34	7.85	5.00	11.65	5.34	7.29	2.97	7.40
35	West Bengal	10.34	28.90	9.84	20.72	14.85	22.44	13.75	39.16	14.85	40.33	14.85	33.56
36	Telangana	4.39	9.72	5.35	15.51	7.42	8.46	1.37	7.96	5.57	19.32	4.04	15.28
37	Ladakh	-	-	-	-	-	-	-	-	1.45	0.22	0.58	0.29

Note:

1. The above releases relate to Central Govt. Grants & do not include State share contribution.

2. Expenditure includes expenditure against Central Release, State release & unspent balances at the beginning of the year. Expenditure is as per available FMRs submitted by States/UTs, hence is provisional.

State/UT wise Central Release & Expenditure under Pulse Polio Immunization under NHM from the F.Y. 2016-17 to 2021-22

Rs. In crore

S.N.	State/UT	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
		Release	Exp	Release	Exp	Release	Exp	Release	Exp	Release	Exp	Release	Exp
1	Andaman & Nicobar Islands	0.24	0.13	-	0.30	0.23	0.03	0.12	0.01	0.23	0.05	0.32	0.10
2	Andhra Pradesh	11.86	12.13	11.38	7.72	6.33	8.61	8.59	7.95	8.45	8.25	6.52	4.52
3	Arunachal Pradesh	3.88	0.90	3.11	2.03	2.76	0.85	2.24	0.78	1.38	0.33	2.10	0.44
4	Assam	24.26	6.71	28.30	10.08	15.73	4.75	16.84	6.22	23.94	6.37	16.90	3.61
5	Bihar	22.25	33.18	28.85	35.97	17.62	23.09	15.71	33.96	-	21.76	15.49	28.68
6	Chandigarh	0.46	0.12	0.18	0.30	0.19	0.26	0.40	0.18	0.19	0.17	0.08	0.16
7	Chhattisgarh	10.20	2.96	11.53	6.86	5.44	2.55	6.18	2.68	5.44	2.60	7.33	2.37
8	Dadra & Nagar Haveli	0.28	0.06	0.34	0.07	0.20	0.05	0.02	0.03	0.34	0.06	0.38	0.05
9	Daman & Diu	0.27	0.03	-	0.04	0.10	0.02	-	0.03	-	-	-	-
10	Delhi	7.33	8.21	3.10	8.43	-	5.17	0.40	2.88	2.15	5.40	1.12	7.08
11	Goa	0.23	0.14	0.29	0.25	0.11	0.12	0.21	0.16	0.11	0.14	0.03	0.12
12	Gujarat	14.52	7.28	13.90	19.17	7.83	6.94	1.90	12.92	-	0.14	1.76	0.12
13	Haryana	5.17	6.80	5.74	9.96	2.76	-	3.19	6.29	2.76	3.52	2.84	3.76
14	Himachal Pradesh	4.44	1.21	3.73	2.86	2.38	1.01	2.48	1.15	3.17	1.00	3.17	0.88
15	Jammu & Kashmir	9.00	2.13	10.88	4.40	5.34	1.90	6.31	2.04	5.29	1.93	4.36	1.66
16	Jharkhand	10.36	4.17	10.87	9.17	-	4.17	1.80	4.40	-	4.30	2.78	3.31
17	Karnataka	14.48	1.73	16.21	13.91	-	6.37	6.23	4.85	5.16	4.76	5.90	4.05
18	Kerala	5.99	3.16	6.99	2.69	4.49	0.19	3.71	1.12	4.49	1.51	4.49	1.28
19	Lakshadweep	0.03	-	0.03	0.03	0.03	0.02	0.03	0.02	0.04	0.02	0.05	0.00
20	Madhya Pradesh	24.26	7.90	26.87	18.35	12.96	0.82	2.28	14.57	8.65	7.30	16.82	7.62
21	Maharashtra	26.86	9.61	26.26	24.75	18.23	10.93	11.00	16.33	18.23	11.41	10.24	14.48
22	Manipur	1.86	0.73	3.67	2.27	0.89	0.47	1.79	0.42	1.74	0.31	0.79	0.28
23	Meghalaya	2.63	0.75	3.86	1.93	-	1.14	-	0.98	0.94	1.90	1.61	0.74
24	Mizoram	1.06	0.38	2.12	0.58	0.76	0.28	0.94	0.15	1.71	0.22	1.05	-
25	Nagaland	1.63	0.57	2.40	0.90	-	0.97	1.21	0.47	2.20	0.60	0.90	0.52
26	Odisha	12.05	3.37	12.86	2.49	9.55	6.86	7.95	3.95	7.16	2.72	9.55	2.46
27	Puducherry	1.20	0.00	0.73	0.27	0.32	0.08	0.36	0.07	0.21	0.06	0.24	0.07
28	Punjab	5.68	4.45	6.46	7.02	3.04	2.94	4.12	4.52	4.05	2.89	1.50	2.42
29	Rajasthan	24.45	11.25	27.04	16.13	13.11	10.00	14.06	9.00	13.51	8.04	8.76	8.61
30	Sikkim	0.48	0.15	0.81	0.23	-	0.13	-	0.06	0.75	0.03	0.38	0.10
31	Tamil Nadu	14.60	1.07	16.77	16.80	10.41	4.97	6.12	4.93	10.41	4.99	8.53	5.51
32	Tripura	2.64	0.69	1.80	7.92	-	0.54	1.52	0.54	2.18	0.52	2.59	0.48
33	Uttar Pradesh	44.28	79.05	52.17	107.18	-	43.96	28.38	87.16	35.07	20.26	17.94	2.82
34	Uttarakhand	5.49	4.37	5.53	7.92	4.35	5.57	4.11	4.85	4.35	3.86	3.28	4.08
35	West Bengal	16.96	19.35	16.11	32.79	-	20.20	11.19	17.85	9.06	18.61	12.09	18.02
36	Telangana	7.20	5.71	8.79	6.91	4.53	3.07	4.77	4.37	6.04	3.46	3.29	3.42
37	Ladakh	-	-	-	-	-	-	-	-	1.18	0.09	0.47	0.10

Note:

1. The above releases relate to Central Govt. Grants & do not include State share contribution.
2. Expenditure includes expenditure against Central Release, State release & unspent balances at the beginning of the year. Expenditure is as per available FMRs submitted by States/UTs, hence is provisional.