Universal Immunization Program,India

Dr Anil Pattanaik
State RI Consultant ,UNICEF

Introduction

- Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease.
- It helps protect the child from life threatening diseases

Why Immunization?

- Full immunization gives the infant healthy life
- It is free or cheapest method to save the children from diseases.
- Before diseases occurrence it is prevented by which economy, energy and mortality can be prevented.
- Full immunization is attainable.
- It is a indicator to strong primary health service to children.

Immunization Programme in India

Milestones

2014: India declared Polio free
2015: Maternal & Neonatal Tetanus Elimination validation
2015: Mission Indradhanush
2017: Intensified Mission Indradhanush
2018: Gram Swaraj Abhiyan (GSA)/Extended GSA

Improving Coverage

NCCVMRC / NCCRC /NCCMIS

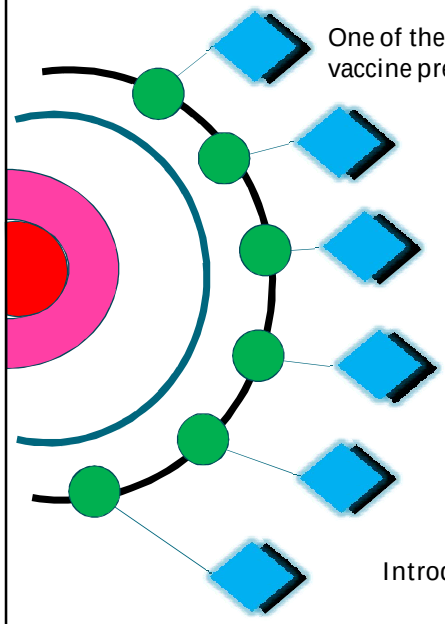
Improving Quality

EVM assessment
eVIN expansion
Capacity building of HR

New vaccines introduced

2015: Inactivated Polio Vaccine (IPV)
2016: Rotavirus Vaccine (RVV)
2017: Measles-Rubella (MR) Vaccine and
2021: Pneumococcal Conjugate Vaccine (PCV)

Universal Immunization Programme, Odisha



One of the largest public health programs and provides protection against twelve vaccine preventable diseases

Cohort of **7.4 million pregnant women** and **6.7 million new-borns** targeted annually.

>**28000 RI sessions** planned per year;> **1200 cold chain poin**ts for storing and distributing vaccines

Introduced newer vaccines IPV, Rotavirus Vaccine, MR vaccine and JE

Two milestones achieved

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

Universal Immunization Program

- Objectives
  - To 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

Indicators of Immunization

Full Immunization:

To fully immunize each child i.e. give 1dose of BCG, 3 doses of Pentavalent vaccine, 3 doses of OPV, 3 doses of RVV, 2 doses of IPV, 3 doses of PCV, 1dose of Measles Rubella and 1dose of JE before 1 year of age.

Complete Immunization:

Complete Immunization : Measles-Rubella 2nd dose, DPT Booster 1, OPV Booster ,PCV Booster and JE 2nd dose before 2years of age

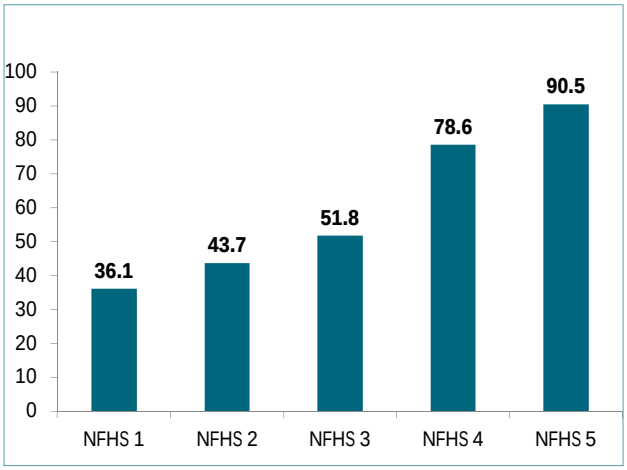
Drop out:

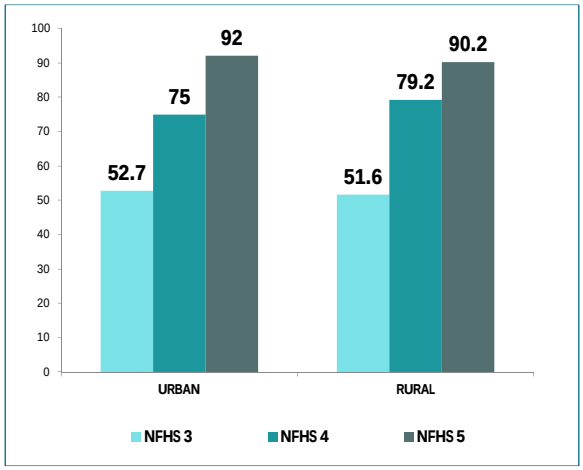
If a beneficiary left the vaccination schedule in between

Left out:

If a beneficiary never get vaccinated

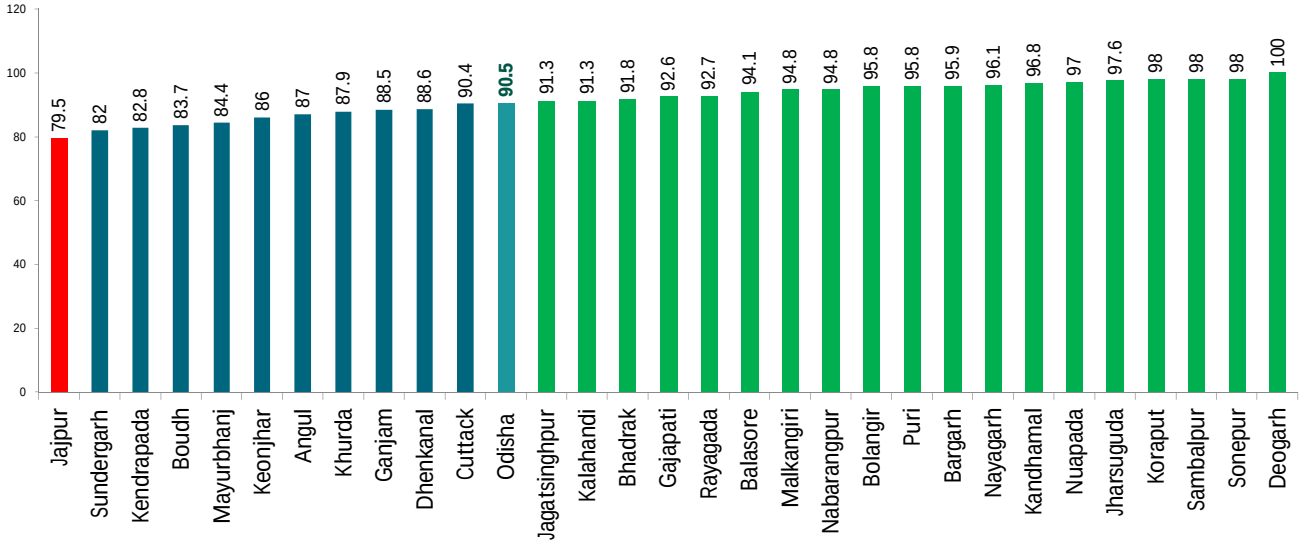
Trend of Full Immunization coverage, NFHS report





State has achieved consistent improvement in Full Immunization coverage.
Odisha topped among all States in Full Immunization Coverage in NFHS-5

District wise Full Immunization coverage : NFHS-5



Immunization Key deliverables under NHM PIP

Indicator Statement (%)	Target 2023-24 (%)	Achievement (%) 2022-23	Achievement (%) 2023-24
Full immunization coverage	95	87.1	79.9
Hepatitis B Birth dose coverage	95	91.8	92.6
Penta 1 to Penta 3 Dropout	0	-1.5	- 3.6
Penta 3 to MR 1 Dropout	0	-3.7	- 2.1
MR 1 to MR 2 Dropout	0	3.7	- 2.9
Td 10 coverage	90.0	81.1	63.7
Td 16 Coverage	90.0	89.4	67.3

Universal Immunization Programme(UIP) (Since 1985)

- **No. of Vaccines : 11**

1. BCG	8. JEV (Japanese encephalitis Vaccine)
2. OPV	9. DPT (Diphtheria Pertusis Tetanus)
3. IPV	10. Td (Tetanus diphtheria)
4. Hep-B	11.PCV
5.Pentavalent Vaccine	
6.Rota Virus Vaccine	
7.MR(Measles & Rubella)	

Universal Immunization Programme(UIP) (Since 1985)

Protection from 12 VPDs

1. Tuberculosis	8.Diarhoea(Rota Virus Diarrhoea)
2.Poliomyelitis	9.Measles
3.Diphtheria	10.Rubella
4.Pertusis(whooping cough)	11.Japanese Encephalitis
5.Tetanus	12.Pneumococcal Diseases
6.Hepatitis-B	
7.Hib related Diseases - Bacterial Meningitis ,Pneumonia & others	

Common Diseases Prevented by Vaccination

VPD	Vaccine	VPD	Vaccine
Childhood Tuberculosis	BCG	Hepatitis B	Hep-B
Poliomyelitis	OPV,IPV	Diphtheria	Pentavalent
Measles	MR	Pertussis	Pentavalent
Rotavirus Diarrhoea	RVV	Tetanus (including Neonatal Tetanus)	TT (will is replaced by Td)
Pneumonia and meningitis caused by Haemophilus Influenzae Type B (Hib)	Pentavalent	Japanese Encephalitis (Only in endemic districts)	JE (Live & Inactivated)
		Rubella	MR

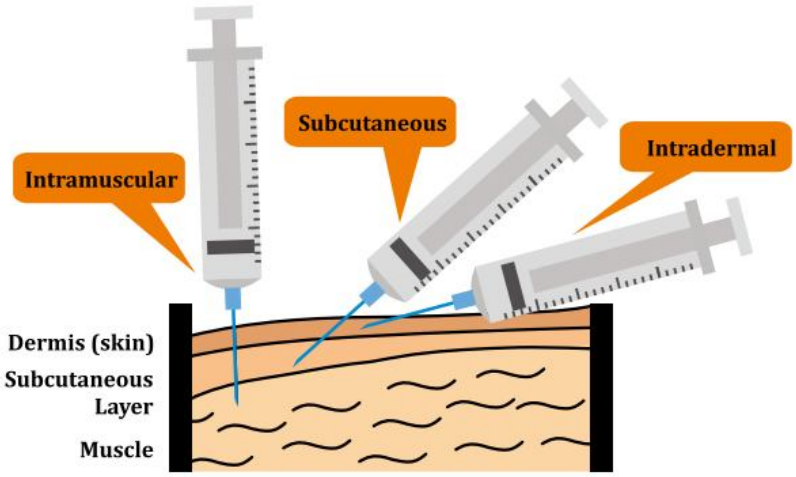
Components of RI Programme

1. Microplaning (Yearly Once ; Head count yearly twice)
2. Cold chain & Vaccine logistics management
3. Safe injection practices & Waste Disposal
4. AEFI
5. Record ,Reports and Data for action
6. VPD Surveillance.
7. Monitoring & Supportive supervision.
8. Communication (IEC /BCC)
9. Alternate Vaccine Delivery

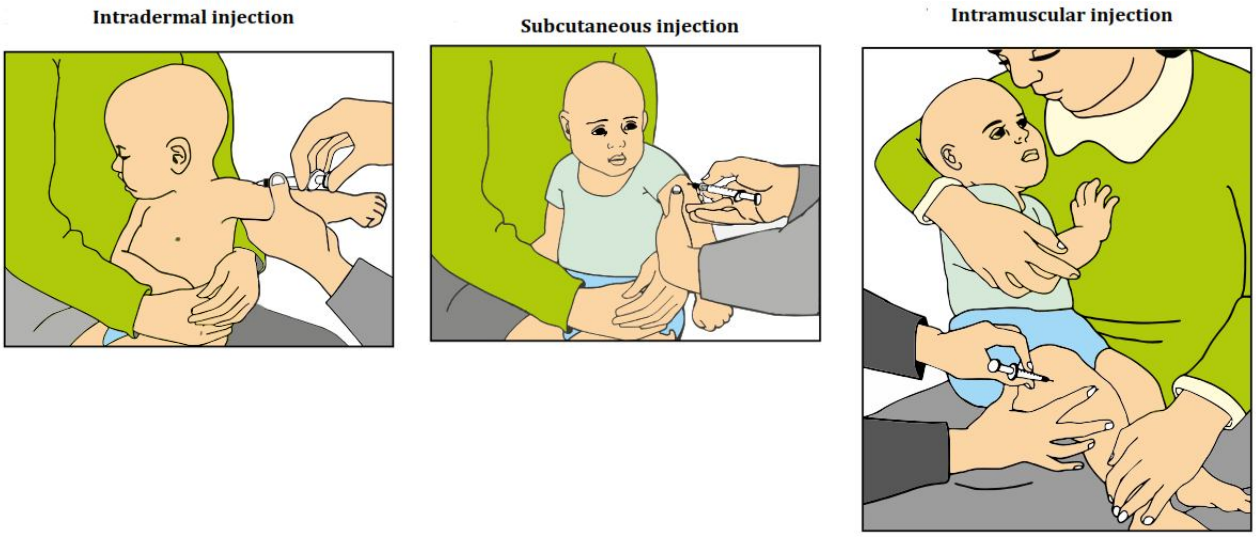
National Immunization schedule

	Age	Vaccination schedule
1	At birth	BCG, OPV-zero dose, Hep B-birth dose
2	1 ½ months (6 weeks)	OPV-1, Rota-1, fIPV-1, PCV-1 , Pentavalent-1
3	2 ½ months (10 weeks)	OPV-2, Rota-2,Pentavalent-2,
4	3 ½ months (14 weeks)	OPV-3, Rota-3, fIPV-2, PCV-2 , Pentavalent-3
5	9 months	MR-1, Vit A, JE-1*, fIPV3, PCV-Booster
6	16-24 months	DPT first booster dose, OPV-booster dose, MR-2, JE-2*
7	**5-6 years (up to 7 years of age)**	**DPT second booster dose**
	10 years	Td
	16 years	Td
	PW -Td	1st dose At the earliest and 2nd dose after 1month gap or 1 Booster dose

Different needle positions for vaccine administration



Injection site , Route & Positioning



Important issues related to RI coverage

- Health services– timely dispersal of funds, vacant SCs, weak tracking of children, fixed
- Timing of sessions, quality of service provided;
- Planning – weak or absent RI microplans, absence of validation of areas, difficulties in urban areas planning;
- Health financing – delayed incentive payments, project implementation plan (PIP) release and alternate vaccine delivery (AVD) payments;
- Programme leadership – supervision by MOs, involvement of MOs in RI microplanning,
- Involvement of other departments like Integrated Child Development Services (ICDS) and urban bodies;

Important issues related to RI coverage

- Policy related – delays in receiving guidelines;
- Human Resources- vacancies of ANMs and doctors, irrational distribution of ANMs;
- Training – regular training of manpower, refresher training, quality of training, availability of trainers;
- Vaccine and logistics – vaccine requirement calculations, vaccine shortages, vaccine
- wastage, maintenance of stock register;
- Health information – availability of IEC material, session site communication, interpersonal communication skills.

Frequently asked questions on Immunization

What are the upper age limits for various vaccines?

1. The upper age limits for vaccines used in UIP are
   - **BCG**: up to one year of age for childhood vaccination
   - **Hepatitis B (Birth dose):** Till 24 hours of birth
   - **Zero dose bOPV:** Till 15 days of birth
   - **bOPV**: Upto 5 years
   - **Pentavalent**: Till 1 year of life
   - **RVV**: Till 1 year of life
   - **PCV**: Till 1 year of life
   - **MR**: up to 5 years in UIP
   - **DPT**: up to 7 years, beyond this age administer the Td vaccine
   - **JE**: up to 2 years

2. Efforts should be made to ensure that all vaccines are given at recommended ages.

3. Pentavalent, IPV, PCV and Rotavirus vaccines, if at least one dose is given before one year of age, then remaining doses can be administered, and the schedule must be completed by two years of age of the child.
4. If the first dose is not administered before one year of age, Penta, IPV, PCV, RVV cannot be administered to the child under UIP.

If a child is brought late for a subsequent dose, should one restart with the first dose of a vaccine?

- No, do not restart the schedule again;
- Pick up where the schedule was left off.
- For example, if a child who has received BCG, Penta 1 and bOPV 1 at 5 months of age returns at 11 months of age, then vaccinate the child with Penta 2, bOPV 2, MR 1, Rotavirus vaccine 1, PCV 1 and JE 1 (where applicable).

If a child who has never been vaccinated is brought in at 9 completed months but before 12 completed months of age, then, can all the due vaccines be given to a child on the same day?

- Yes,
- all the due vaccines can be given during the same session but at recommended injection sites, using separate AD syringes.
- It is safe and effective to give BCG, Pentavalent, bOPV, IPV, MR, RVV, PCV, JE (where applicable) vaccines and Vitamin A at the same time to the 9-month-old child, who has never been vaccinated.
- If more than one injection has to be given in one limb then ensure that the distance between the two injection sites is at least 1 inch apart.

If a child who has NEVER BEEN vaccinated is brought in after completing 12 months of age, (beyond one year) what vaccines would you give?

- If a child has NEVER BEEN vaccinated and is more than 1 year of age. DO NOT give BCG,Penta, RVV, PCV, IPV.
- This child should be administered DPT 1(instead of Penta), bOPV 1, MR-1, JE-1 ((if applicable) and also Vitamin A solution.
- The subsequent doses of DPT (2 and 3), bOPV (2and 3), MR-2, and JE-2 should be given at an interval of 4 weeks.
- Give booster dose of bOPV and DPT at a minimum of 6 months after administering bOPV 3/DPT 3

Which vaccines can be given to a child between 1 and 5 years of age who has NEVER BEEN vaccinated?

- This child should be administered 3 doses of DPT, 3 doses of bOPV, 2 doses of MR and 2 doses of JE (where applicable) and 2ml of Vitamin A solution.
- These doses should be given at an interval of 4 weeks. Such a child will not receive BCG, Hepatitis B, Rotavirus, Penta and IPV.
- Give booster dose of bOPV/ DPT at a minimum of 6 months after administering bOPV 3/ DPT 3.

***Note:** In an unvaccinated child is more than **16 months** of age remember the interval between MR 1 and MR 2 is 4 weeks and for JE 1 and JE 2 (where applicable) the interval is **also 4 weeks.**

Which vaccines can be given to a child between 5 and 7 years of age who has never been vaccinated?

- Give of DPT 1, 2 and 3 at 4 weeks intervals.
- Give booster dose of DPT at a minimum of 6 months after administering DPT 3 up to the age of 7 years.
- In case the child is near to the 7th year, start with DPT. Once this child crosses 7 years, Td vaccine should be used in place of DPT for the remaining doses. Thereafter, this child continues to receive the Td vaccine at 10 years and 16 years as per the NIS.

Why is the birth dose of the Hepatitis B vaccine given only within 24 hours of birth?

- The birth dose of the Hepatitis B vaccine is effective in preventing perinatal transmission of hepatitis B only if given within the first 24 hours.

Why is Hepatitis B vaccine in combination with Pentavalent vaccine given only till 1 year of age?

- Hepatitis B in combination with Pentavalent vaccine if given after 6 weeks and upto 1 year of age because infections during the first year of age have a 90% chance of becoming chronic as compared to 30% during 1–5 years and 6% after 5 years. Persons with chronic infection have 15–25% risk of dying prematurely due to HBV-related liver cirrhosis and cancer.

What vaccine will be given to a child who has received at least one dose of pentavalent vaccine before his/her first birthday?

- If a child has received at least one dose of pentavalent vaccine before his/her first birthday, the child should be administered the due pentavalent doses at a minimum interval of 4 weeks, at the earliest available opportunity.

What should be done if a child has received one or two doses of Rotavirus vaccine in a private facility?

- If the parents want to vaccinate their child from the public sector after receiving one or two doses of Rotavirus vaccine in a private facility, the remaining doses may be provided as per the NIS. Under the UIP, interchangeability between different Rotavirus vaccines is permitted.

Channels of RI service provision

- Session sites
  - Fixed – in health facilities with cold chain (ILR and DF)
  - Outreach – in sub centres and in the community (VHSND sessions)
- Fixed day, fixed site
- ANMs and occasionally staff nurses
- School health programmes
- Campaigns

Logistics required for Conducting RI Sessions

At RI Session site:

- Vaccine in Vaccine carrier with 4Conditioned Icepacks
- ADS, Hubcutter, BMW bags (Red /Black/Blue), RCH register, ANMOL tab, MCP card, Duelist format
- Anaphylaxis kit

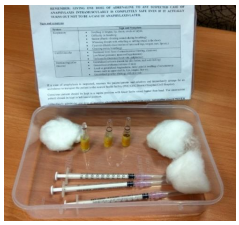
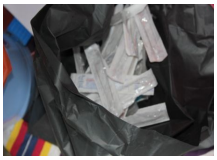
At Cold chain Point :

- ILR, DF, Cold Boxes, V.C ,Icepacks







After vaccination

- Ask the beneficiary to wait for 30 minutes to observe for any adverse reactions.
- Remind the caregiver when to return with the infant.
- In the event of any out-of-stocks of vaccine at the time of the session, inform the caregiver where and when to return for the next doses.
- Remind the caregiver about other services given during immunization session; for example,
- vitamin A supplementation or tetanus toxoid for women.
- If immunization campaigns are planned in the coming months, inform the caregivers about the
- date of the campaign, what vaccination is being given, and where the vaccination site will be.
- Offer relevant print information to caregivers who are literate.
- Ask the caregiver if they have any questions or concerns and answer them politely

After Closing of RI Session

- Segregate the vaccine vials (used and unused) and keep these inside in a properly sealed zipper pouch/bag in the vaccine carrier under the cold chain and ensure carrier is picked up by the AVD mechanism to deliver at the designated vaccine/cold storage point.
- Under no circumstances will the vaccine carrier/vaccines be kept in the field at places other than the designated cold-chain point such as ANM/LHV/other HW/ASHA/AWW's house, etc. In such an instance, the vials should be discarded and not used for subsequent sessions.
- At the vaccine storage/cold-chain point at the end of immunization day
- Cold chain handler should ensure appropriate segregation of the vaccines into opened and unopened vials, and follow the instructions as below:

After Closing of RI Session (at CCP)

Unopened vials

- If VVM is intact and in usable stage, retain the vial in ILR as per guidelines, and issue accordingly.
- If VVM is not in usable stage or there is partial/complete defacement of the label, retain the vial in a plastic box clearly marked "Not to be used" in ILR. Discard such vial after 48 hours or before the next session, whichever is earlier.

Opened vials

- Segregate the vials on which Open Vial Policy (OVP) is not applicable such as measles/MR / Rotavirus /BCG/JE and retain in a plastic box clearly marked **"Not to be used" in ILR.**
- **Discard these vials after 48 hours or before the next session, whichever is earlier. In** case of any reported AEFI, they will not be discarded but retained for investigation.
- Segregate the vials for which OVP is applicable such as OPV/DPT/Hep B/pentavalent/PCV/IPV as below:

After Closing of RI Session (at CCP)

If VVM is intact and is in usable stage, retain the vaccine vial in ILR as per guideline, subject to the condition that the vial is used within 28 days of opening (as found from date marked on the vial) and re-issue in the next session after ensuring that it has not exceeded 28 days after opening the vial.

If VVM is intact and is in usable stage, but the vaccine vial has exceeded 28 days after opening (as found from date marked on the vial),

- discard the vials after ascertaining that these vials are not required for AEFI investigation.

If VVM is not in usable stage or there is partial/complete defacement of the label, retain

- in a plastic box clearly marked **"Not to be used" in ILR. These vaccine vials should be**
- discarded after 48 hours or before the next session, whichever is earlier.
- If there is any vial, which has been used, and there is a report of an AEFI, that vial (even if it is in usable stage) has to be kept separately in a properly sealed zipper bag earmarked **"For AEFI investigation" in ILR under special custody and in the knowledge of the MO. This vial** should never be issued to anyone unless authorized by DIO.

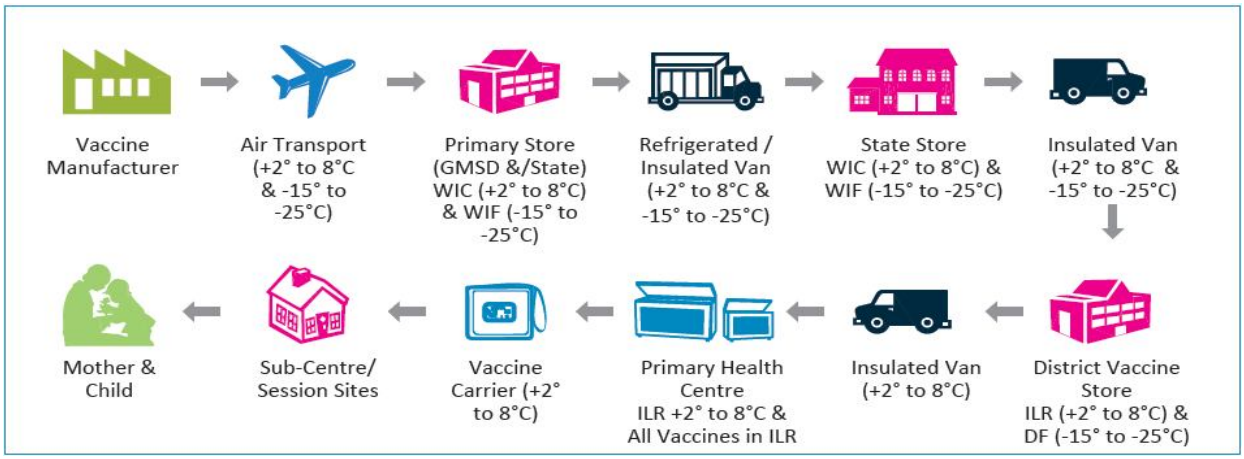
Remember

Remind parents about four key messages as follows:

- Even if the child is suffering from diarrhea, mild fever or malnutrition, it should be vaccinated.
- Unless a child is so sick that it has to be taken to hospital, do not stop its vaccination.

COLD CHAIN

- **COLD CHAIN** is a system of storing and transporting vaccines at recommended temperatures from the point of manufacture to the point of use.



The Cold Chain System

Ice Lined Refrigerator (ILR)

- Cabinet temperature: +2° to +8°C.
- Various temperature zones inside ILR.
- Lower part is cooler compared to the upper part as the cooler air is heavier and settles down at the bottom of ILR.
- Upper part preferred location for storing the freeze sensitive vaccines.

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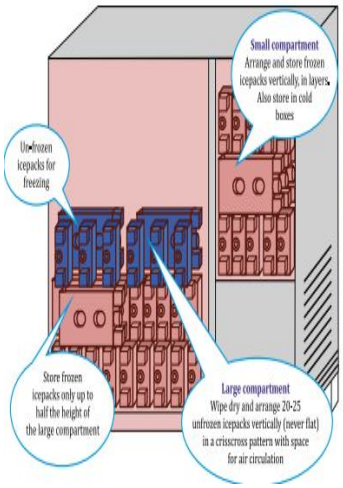
Deep Freezer (DF)

- A type of conventional refrigerator operating on 220 volts A.C. mains supply.
- Top opening lid to prevent loss of cold air during door opening.
- Temperature is maintained between -15° to -25° C.
- Little or limited holdover time
  - **Dependent on no. of frozen ice packs in it**
  - **Frequency of opening.**
- Used for
  - storage of vaccines (OPV & RVV) at District level & above
  - Preparation of Icepacks



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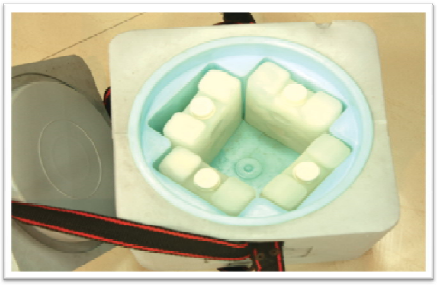
Cold Chain



- **Vaccine carriers**
  - With 4 frozen ice packs,

    it maintain a temperature of + 2°C to +8°C for 12 hours

- **Ice packs**
  - Plastic containers filled with water
  - These are frozen in the deep freezers and when placed in non-electrical equipments such as vaccine carriers and cold boxes, they maintain temperature and increase hold over time

Cold Chain at session Site

- While receiving the vaccine carrier, open it and check for the presence of **four well-sealed conditioned icepacks**; diluents and **usable VVM** on all vaccine vials. In case of any problems,
- Inspect vaccine vials for visible contamination, i.e. **check for any change in the appearance of vaccine**, any floating particles or cracks and leaks. DO NOT USE SUCH VIALS.
- **Mark all vaccine vials with date and time of opening at first use.**

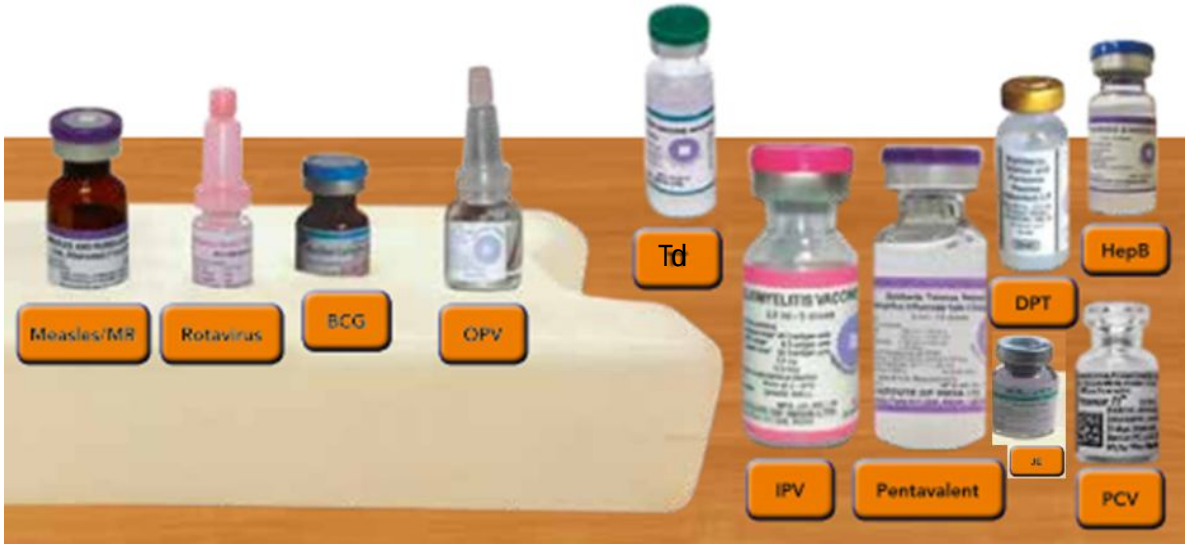
Cold Chain at session Site

- Note the name of the manufacturer, batch number and expiry date of the vaccine and diluent in the tally sheet.
- **ALWAYS VERIFY that you are USING THE CORRECT VACCINE for administration.**
- Always pierce the septum with a sterile needle for drawing vaccine from the multi-dose vials being used.
- OPV vial dropper should be recapped with stopper (small cap) after each use, and kept on the ice pack.
- Vials of DPT, Hep B, pentavalent, IPV, PCV and Td should not be kept on the ice pack.

Field tip: Magnifying glass for reading vaccine vial labels

Small handheld magnifying glasses were distributed to all ANMs in a district to enable them to read the small print of the vaccines vials. This has made it easier to see the small print and encouraged them to check the vials before using!!!

Cold Chain at session Site



Open Vial Policy

- **Open Vial Policy (OVP)** allows reuse of partially used multi-dose vials of applicable vaccines under the UIP in subsequent sessions (both fixed and outreach) up to 4 weeks (28 days) subject to meeting certain conditions
- This policy contributes to the **reduction of vaccine wastage**

Open Vial Policy	Yes	No
Vaccine	Hep B, OPV, DPT, Pentavalent, Td, PCV JE, and IPV	BCG, MR, RVV

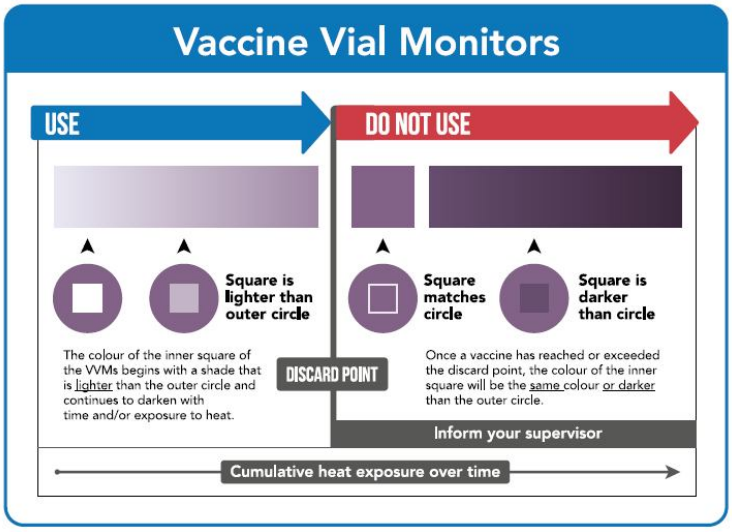
Conditions that must be fulfilled for the use of open vial policy

Any vial of the applicable vaccines opened/used in a session (fixed or outreach) can be used at more than one immunization session up to four weeks (28 days) provided that:

- The expiry date has not passed.
- The vaccines are stored under appropriate cold chain conditions both during transportation and storage in cold chain storage point.
- The vaccine vial septum has not been submerged in water or contaminated in any way.
- Aseptic technique has been used to withdraw vaccine doses. (That is needle/septum has not been contaminated in anyway)
- The vaccine vial monitor (VVM), has not reached/crossed the discard point.

Before use of Vaccine

- **Expiry date of vaccine**
- **VVM**
- **Date of Opening of Vaccine**
- **Freeze sensitive vaccines not frozen**



Dos and Dont's in cold chain and vaccine sensitivities

Dos

- Keep all vaccines in ILR at +2°C to +8°C at PHC
- Use diluent provided by the manufacturer with the vaccine
- Keep diluents in ILR at +2°C to +8°C at least 24 hours before use
- Use Rotavirus vaccine, reconstituted BCG, Measles/MR vaccine within 4 hours
- Discard all damaged vials for disinfection and disposal

Don'ts

- Do not keep in the cold chain:
  - Expired vials,
  - Frozen vials or
  - Vials with VVM beyond the end point
- Do not use Rotavirus vaccine or reconstituted BCG, and Measles/MR vaccines after 4 hours.
- Do not dispose damaged or empty vials in the village or surroundings of the session site

AEFI

Adverse Events Following Immunization

AEFI: DEFINITION

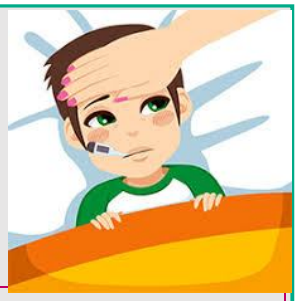
"An adverse event following immunization (AEFI) is any ***untoward medical occurrence which follows immunization****, and which* ***does not necessarily have a causal relationship*** *with the usage of the vaccine.*

The adverse event may be any unfavorable or unintended disease, symptom, sign or abnormal laboratory finding."

Vaccine Adverse Events

MINOR REACTIONS

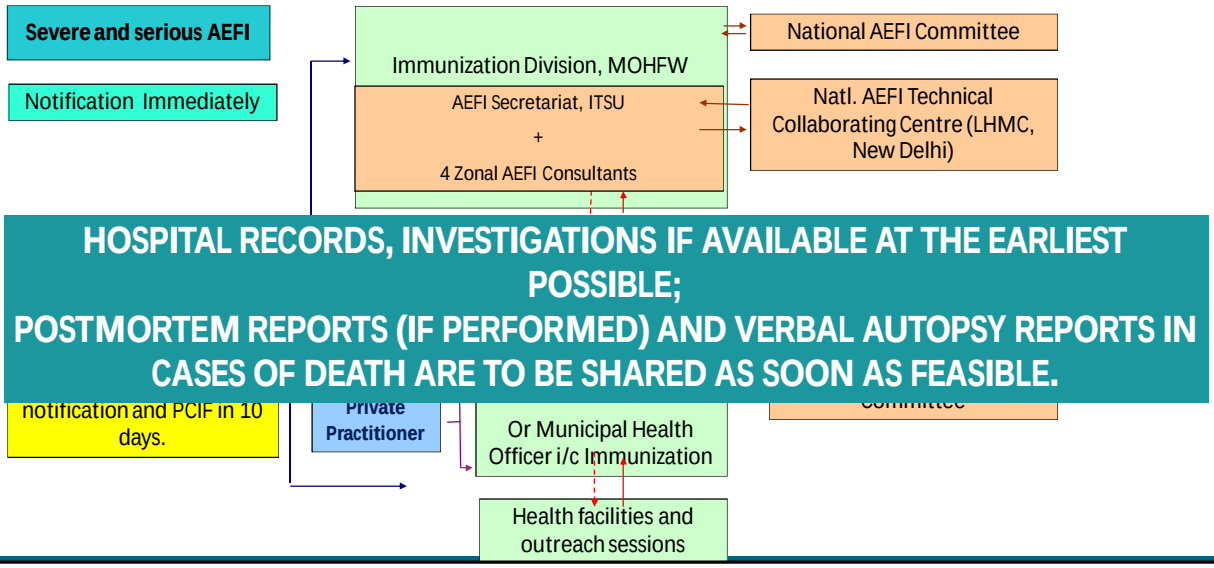
- Usually occur within a few hours of injection and resolve after short period of time and pose little danger.
- Minor vaccine reactions are part of the body's immune system reaction and is generally self-limiting.



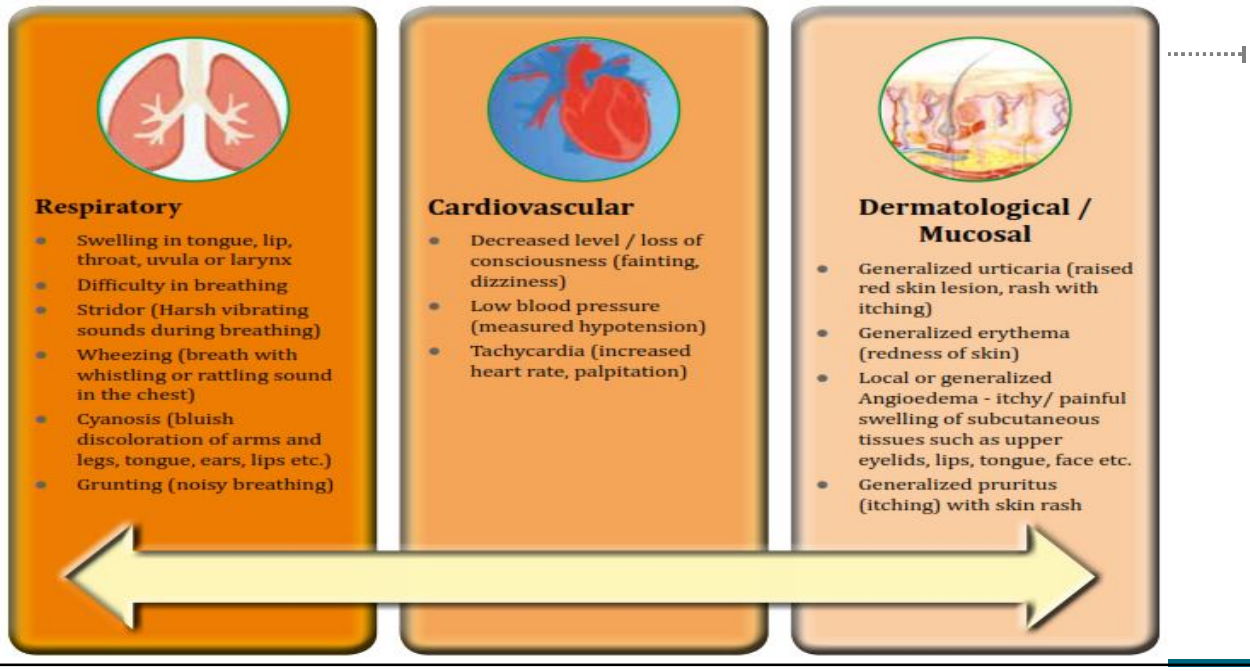
Ex-	
Pain, swelling &/or redness at injection site with or without fever	DPT containing vaccine (pentavalent), Tetanus
Papule (lump) which becomes ulcerated & heals leaving a scar	BCG vaccination
Fever, rash, &/or conjunctivitis	Measles/MR vaccine

cold sponging, others.

AEFI Organizational Structure & Reporting Timeline



Sign & Symptom of Anaphylaxis



Managing AEFI

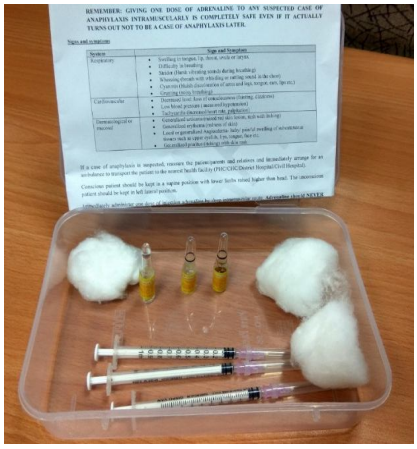
- **Ensure recipients wait for 30 minutes at session site after vaccination**
- After vaccination, inform the vaccine recipient
  - About any minor events which may occur
  - Visit the nearest health facility in case of any adverse event/discomfort/illness
- Anaphylaxis kit with inj. adrenaline within expiry date at outreach session site
- Inform Medical Officer immediately by telephone about serious/severe AEFIs
- Emergency numbers (102, 108, etc.) for transporting case to AEFI management center / higher health facility with vaccinator team

AEFI management centre

- Each outreach session site linked to an AEFI management centre.
- AEFI management centres - any health facility with a doctor and paramedical staff
- Vaccinator should have contact details of medical officer, address of AEFI management centre
- Mobility support to BMO / PHC MOIC to respond to AEFIs
- All MOs acting as supervisors will carry an AEFI management kit.
- **An AEFI management kit at all AEFI management centres should have– Inj. adrenaline, inj. Hydrocortisone, Ringer lactate/Normal saline (1), 5% dextrose (1), IV drip set (1), scalp vein sets or IV cannula (2), disposable syringes – 5 ml with 24/26G IM needle (2 sets) and blank CRFs.**

Adverse Events following Immunization

- **Vaccine reaction**
  - An event caused or precipitated by the active component or one of the other components of the vaccine.This is due to the inherent properties of the vaccine
- **Program Error**
  - An event caused by an error in vaccine preparation, handling or administration
- **Coincidental**
  - An event that occurs after immunization but is not caused by the vaccine.This is due to a chance association
- **Injection Reaction**
  - Event from anxiety about, or pain from the injection
- **Unknown**
- **Common minor vaccine reactions**



Anaphylaxis Kit

AEFI REGISTER FOR FOCAL POINT/SECTOR PHC/BLOCK PHC /PHC LEVEL 2016 (Nandej PHC)

Week No.	Name of sub-centre	Name of vaccine recipient	Father's Name	Age	Date of vaccination	Name of vaccines given	Batch number of vaccines given	AEFI noted (symptoms)	Category (minor/serious /severe)	Case seen by M O i/c (yes/no)	Case Reporting Format (CRF) filled? (yes/no)
1	Devdi	Monika	Prabakaran	21 days	01/06/2016	BCG, OPV	BCG 037G5047 OPV S-151	Abcess	severe	Yes	Yes
12	Nandej	Hari Prasanth	Sathiya Prakash	20 months	23/3/2016	DPT, Measles	DPT TA627B/14 Measles 003F5084	Pain & swelling	minor	Yes	No
15	Barejadi	Baby of Kavitha	Venkatesh	1 day	13/4/2016	BCG, OPV	BCG 037G5041 OPV 63AS10115201	Mild fever	minor	No	No
17	Harniyav	Sabari	Raja	75 days	27/4/2016	Penta, OPV	Penta 124P5056 OPV Pbv1505062	Sudden unexplained Death	serious	Yes	Yes
25	Devdi	Yashika Sree	Ranjith	17 months	22/6/2016	DPT, Measles	DPT 3A2696 Measles 003F5052	Mild fever	minor	No	No
28	Heerapur	Sivakasi	Selvaarasu	70 days	15/7/2016	DPT	TA651A/14	pain & swelling	minor	Yes	No
29	Nandej	Sanjay	Subramani	66 months	22/7/2016	DPT	TA651A/14	seizures, febrile	severe	Yes	Yes
29	Harniyav	Keethimalini	Selvaraj	66 months	22/7/2016	DPT	TA651A/14	Mild fever	minor	Yes	No
29	Nandej	Dhanusuya	Arumugam	67 months	22/7/2016	DPT	TA651A/14	Persistant cry	severe	Yes	Yes
33	Gamadi	Riyashudeen	Shapudeen	20 months	17/8/2016	DPT, Measles, OPV	DPT TA6518/14 Measles 003F5129 OPV PBV1505059	Rash	Severe	Yes	Yes
34	Heerapur	Kamalesh	Kumaravel	83 months	24/8/2016	DPT	15GTAG022A	High grade fe	severe	Yes	Yes
40	Gamadi	Vijaya Sri	Kumar	18 months	10/05/2016	DPT, Measle, OPV	DPT 15GTAG022A Measles 003F5129 OPV 68CV01276023	Seizures, Febrile	serious	Yes	Yes

Reasons for Low Immunization Coverage

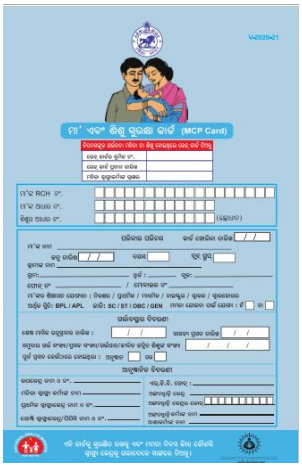
- Failure to provide immunization at planned outreach, sub-center or PHC sites
- Dropouts Children who receive one or more vaccination, but do not return for subsequent doses
- Unreached populations
- Children whose parents do not know about immunization or face socioeconomic barriers to utilize services
- **Lack of geographic access:** Children who live too far away from a health center or outreach site to realistically complete a full immunization schedule
- **Resistant populations:** Children whose parents do not believe in immunization services, even though a health center is within reach
- **Missed Opportunities:** Children who visit the health center for some other reason, but are not screened for immunization by health workers

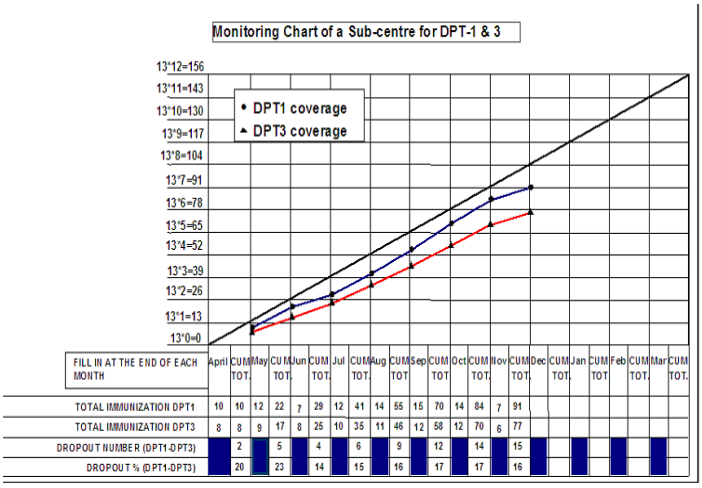
Injection Safety and Waste Disposal

- Hand wash before Vaccination
- Use of Appropriate Diluents
- Use of AD syringes
- Don't touch the needle of the Syringes before Inoculation and cut the hub of the ADS after vaccination
- The principles followed are:
  - Segregation of waste at source (at the session site)
  - Transportation to the PHC or CHC
  - Treatment of sharps and potentially bio-hazardous plastic waste
  - Disposal of sharps in sharp pits and treated plastic waste through proper recycling

Steps to ensure safe disposal of immunization waste

Records /Reports /Data for Action





- Left out = Target - BCG ; Drop out = $\frac{\text{Penta1-Penta3 X 100}}{\text{Penta 1}}$

THANK YOU