Immunization Guide
FOR BLOCK PROGRAM MANAGERS
Foreword

The Universal Immunization Program, launched in 1985 for reducing deaths and disabilities due to vaccine preventable diseases has received a special impetus through the National Rural Health Mission (NRHM). The strengthening support provided by NRHM includes funds, resources, strategic guidelines and contractual manpower. Since 2005, when the NRHM came into effect, there has been an increasing trend in Immunization coverage and quality. The year 2012 declared as the “Year for Intensification of Routine Immunization” provides a special opportunity to improve immunization coverage and quality in the country. Health managers under the NRHM can significantly contribute towards achieving the goals of the universal immunization program.

The National Rural Health Mission has also provided management units with managerial personnel at block, district and state levels to enhance and support management activities related to health programs, personnel and finances. The block program managers, a part of the block units are closest to program implementation levels and have an important role in day-to-day Immunization Program management. Their roles and requirement in the immunization program are a mixture of technical, supervisory and managerial. The Block level managers can make the needed difference in improving immunization coverage and quality by enabling problem solving at local levels. This immunization guide has been prepared to improve and strengthen the involvement of Block program managers in immunization, keeping in mind their non-clinical background, expected roles and needs.

This guide has been compiled from existing handbooks for Medical officers, Health workers and Cold chain handlers in Immunization available with the Ministry of Health and Family Welfare, Government of India as well as from other related literature on Immunization, health management and communication from several sources. The compilation of this manual has been facilitated by UNOPS-NPI and NCHRC-NIHW with further testing, editing and inputs from WHO-NPSP, UNICEF, NIHW, MCHIP, PATH, BMGF and block program managers and immunization trainers from Orissa, Rajasthan and Bihar.

This guide is accompanied by a facilitators guide, and can be used during three day training at district or regional level. This training will include interactive and participatory class room sessions as well as visits to the facility, session and beneficiaries to observe activities and logistics related to immunization and village health and nutrition days.

I am sure that the trained Block program managers will be able to contribute more successfully to ensure better quality and coverage in immunization in their areas of work.

(Manoj Jhalani)
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### Abbreviations

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<td>AD syringes</td>
<td>Auto disable syringes</td>
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<tr>
<td>AEFI</td>
<td>Adverse effects following Immunization</td>
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<tr>
<td>AMC</td>
<td>Annual Maintenance Contract</td>
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<tr>
<td>ANM</td>
<td>Auxiliary Nurse Midwife</td>
</tr>
<tr>
<td>ARI</td>
<td>Acute Respiratory infections</td>
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<tr>
<td>ASHA</td>
<td>Accredited Social Health Activist</td>
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<tr>
<td>AVD</td>
<td>Alternate Vaccine Delivery</td>
</tr>
<tr>
<td>AWC</td>
<td>Anganwadi Kendra</td>
</tr>
<tr>
<td>AWW</td>
<td>Anganwadi Worker</td>
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<tr>
<td>BCG</td>
<td>Bacillus Calmette-Guérin</td>
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<tr>
<td>BDO</td>
<td>Block Development Officer</td>
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<tr>
<td>BMO</td>
<td>Block Medical Officer</td>
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<tr>
<td>BPM</td>
<td>Block Program Manager</td>
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<tr>
<td>CCH</td>
<td>Cold Chain Handler</td>
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<tr>
<td>CFC</td>
<td>Chloro floro carbons</td>
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<tr>
<td>CHC</td>
<td>Community Health Center</td>
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<tr>
<td>DF</td>
<td>Deep Freezers</td>
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<tr>
<td>DIO</td>
<td>District Immunization Officer</td>
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<tr>
<td>DPM</td>
<td>District Program Manager</td>
</tr>
<tr>
<td>DPT</td>
<td>Diphteria Pertussis Tetanus Vaccine</td>
</tr>
<tr>
<td>DT</td>
<td>Diphteria Tetanus Vaccine</td>
</tr>
<tr>
<td>DTaP</td>
<td>Diphteria Tetanus acelullar Pertussis Vaccine</td>
</tr>
<tr>
<td>DTP</td>
<td>Diphereria-tetanus-pertusis</td>
</tr>
<tr>
<td>EEFO</td>
<td>Early expiry first out</td>
</tr>
<tr>
<td>FIFO</td>
<td>FIRST IN FIRST OUT</td>
</tr>
<tr>
<td>GOI</td>
<td>Government of India</td>
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<tr>
<td>HSC</td>
<td>Health Sub Center</td>
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<tr>
<td>HW</td>
<td>Health worker</td>
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<tr>
<td>Hib</td>
<td>Haemophilus influenzae type b</td>
</tr>
<tr>
<td>ICDS</td>
<td>Integrated Childhood development services</td>
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<td>IFA</td>
<td>Iron and Folic Acid Tablet</td>
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<tr>
<td>Abbreviation</td>
<td>Extended form</td>
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<td>--------------</td>
<td>-----------------------------------------------</td>
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<tr>
<td>ILR</td>
<td>Ice-Lined Refrigerator</td>
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<tr>
<td>IPV</td>
<td>Injectable Polio Vaccine</td>
</tr>
<tr>
<td>JE vaccine</td>
<td>Japanese Encephalitis vaccine</td>
</tr>
<tr>
<td>MCV</td>
<td>Measles Containing Vaccine</td>
</tr>
<tr>
<td>MOHFW</td>
<td>Ministry of Health and Family Welfare</td>
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<td>MOIC</td>
<td>Medical Officer in Charge</td>
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<td>NRHM</td>
<td>National Rural Health Mission</td>
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<td>NVBDCP</td>
<td>National Vector Borne Disease Control Program</td>
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<tr>
<td>OPV</td>
<td>Oral Polio Vaccine</td>
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<tr>
<td>PHC</td>
<td>Primary Health Center</td>
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<tr>
<td>PIP</td>
<td>Program Implementation Plan</td>
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<tr>
<td>POL</td>
<td>Petrol/diesel/oil/lubrication</td>
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<tr>
<td>Polio NID</td>
<td>Polio National Immunization Days</td>
</tr>
<tr>
<td>PPP</td>
<td>Private Public Partnership</td>
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<tr>
<td>PRI</td>
<td>Panchayati Raj Institutions</td>
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<tr>
<td>RCH</td>
<td>Reproductive and Child Health</td>
</tr>
<tr>
<td>RCHO</td>
<td>Reproductive and Child Health Officer</td>
</tr>
<tr>
<td>RNTCP</td>
<td>Revised National Tuberculosis Control Program</td>
</tr>
<tr>
<td>SIA</td>
<td>Supplementary Immunization Activities</td>
</tr>
<tr>
<td>SNID</td>
<td>Sub National Immunization days</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>TT</td>
<td>Tetanus Toxoid Vaccine</td>
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<tr>
<td>UIP</td>
<td>Universal Immunization Programme</td>
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<tr>
<td>VHND</td>
<td>Village Health and Nutrition Days</td>
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<tr>
<td>VPD</td>
<td>Vaccine Preventable Diseases</td>
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<tr>
<td>VVM</td>
<td>Vaccine Vial Monitor</td>
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</tbody>
</table>
Learning Objectives

At the end of the unit you should be able to:

- Describe the importance of immunization and reasons for low immunization coverage.
- List the responsibilities of Block Program Managers in Immunization

Contents:

1.1 Why immunization?
1.2 Reasons for Low immunization coverage
1.3 Responsibilities of Block Health program manager in the Immunization Program

1.1 Why immunization?

- Immunization is one of the safest and most effective methods of preventing childhood diseases. Under the Universal Immunization Programme (UIP), significant achievements have been made in preventing and controlling the Vaccine Preventable Diseases (VPDs). Immunization has to be sustained as a high priority to further reduce the incidence of all VPDs, control measles, eliminate tetanus and eradicate poliomyelitis.
- Full immunization (i.e. received one dose of BCG, three doses of DPT, Hep-B and OPV each and one dose of Measles before one year of age) gives a child the best chance for a healthy life. Preventing disease before it occurs saves money, energy, and lives.
- Immunization is a key strategy to child survival. By protecting infants from VPDs, immunization significantly lowers morbidity and mortality rates in children. The security provided to families can lead to lower birth rates.

1.2 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 socio-economic 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.
1.3 Responsibilities of Block Health program manager in the Immunization Program

As a Block Programme Manager, you are responsible for managing immunization program at the Block. You will also be facilitating in capacity building of the HWs. Therefore, you need to be fully conversant with the job responsibilities and tasks of health workers. Your major responsibilities include the following:

1. **Micro planning for Immunization**
   - Guide the HWs to prepare sub center microplans including maps.
   - Compile sub center microplans and help prepare plan for supervision, alternate vaccine delivery and day-wise logistic distribution plan.
   - Ensure that updated map of the PHC (including AVD plan) is displayed.

2. **Maintaining beneficiary line-list at block level**
   - Ensure that health workers conduct annual survey to list all immunization beneficiaries and update this beneficiary list monthly.
   - Validate sample lists to ensure completeness, correctness and regular updating.
   - Support the data handler in compiling and maintaining the line list of beneficiaries with records of their successive vaccinations and analyze this list for program progress and intervention.

3. **Cold chain and logistics management**
   - Guide and supervise the Vaccine and Cold Chain Handler at the ILR points to properly store and transport vaccines and other related logistics
   - Monitor preventive maintenance of cold chain equipment
   - Ensure regular, adequate and proper supply of vaccines and other related logistics to ILR points
   - Supervise and ensure systematic distribution of vaccine and logistics to all sites during immunization session days

4. **Monitoring and Supervision**
   - Review the sub-center progress reports for completeness and accuracy.
   - Analyze the data from the reports to identify the problems.
   - Conduct field visits as per the supervision plan; ensure visits of other supervisory personnel.
   - Compile reports of supervisors; use information in review meetings.
   - Organize periodic review meetings at sector and block levels to review program performance and decide on course of action.
   - Facilitate capacity building of HWs and support staff in immunization.

5. **Advocacy and Communication**
   - Coordinate with MOIC and other sectors (ICDS/PRI/ education) for improving community mobilization and behaviour change communication activities.
6. **Immunization Program Review and Preparing Action Plan**
   - Coordinate comprehensive review of the immunization program at block level.
   - Prepare work-plan for the next year.
   - Prepare annual plan with budget corresponding to part C of PIP at block level in consultation with other stakeholders including field personnel involved in immunization.
Learning Objectives

At the end of the unit you should be able to:

• Describe how different types of vaccines work to provide immunity
• Explain the various initiatives undertaken by GoI to strengthen the Immunization Programme
• Know about vaccine preventable diseases and their related vaccines, doses, routes and other briefs.
• Identify vaccines administered in the National Immunization Programme, the ages at which they are given, the number of doses along with the site and route of administration.

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2.1 What is immunization and how vaccines work?
2.2 Initiatives undertaken to strengthen the Immunization Programme
2.3 Milestones in the Immunization Program in India
2.4 Vaccine Preventable diseases and vaccination briefs:
2.5 National Immunization Schedule for Infants, Children and Pregnant Women
2.6 Frequently Asked Questions on the Immunization Schedule

2.1 What is immunization and how vaccines work

Immunization is the process of giving vaccines (vaccination) to the development of body's protective response. Immunization significantly lowers the morbidity and mortality rates in children by protecting them from Vaccine Preventable Diseases (VPDs).

Vaccines contain either weakened or killed versions of viruses or bacteria. These are also called "antigens": Once introduced, they stimulate the immune system in the body to produce "antibodies" against the disease causing organisms. Each vaccine provides immunity against a particular disease; therefore, a number of vaccines are administered to children and women to protect them from many vaccine-preventable diseases.

Live attenuated vaccines are derived from disease-causing viruses or bacteria that have been weakened under laboratory conditions. They replicate in a vaccinated individual, but because they are weak, they cause either no disease or only a mild form of the disease. Due to higher antigen content following replication and prolonged antigen persistence, they usually require only one dose (except OPV) to provide life-long immunity. Examples are BCG, Measles, JE and Oral Polio Vaccine.

Inactivated or killed vaccines are produced by viruses or bacteria which are inactivated with heat or chemicals. They cannot grow in a vaccinated individual and so cannot cause the disease. They are less effective than live vaccines, requiring multiple doses for full protection as well as booster doses to maintain immunity. Use of adjuvants enhances response to non-live vaccines. Examples are whole-cell (pertussis); fractional protein based (diphtheria toxoid and tetanus toxoid) and fractional polysaccharide based conjugate (Haemophilus influenza type b or Hib)
Recombinant vaccines are produced by inserting genetic material from a disease-causing organism into a harmless cell, which replicates the proteins of the disease-causing organism. The proteins are then purified and used as vaccine. Example is Hepatitis B vaccine.

These vaccines vary in efficacy, according to the age at which the vaccine is administered and the number of doses given. Presence of maternal antibodies in early infancy interferes with the antibody production. For example, the measles vaccine is 85% effective at the age of 9 months and 95% at one year; three doses of DPT provide over 95% protection against diphtheria, 80% against pertussis and 100% against tetanus.

Herd Immunity or Community Immunity When a critical portion of a community is immunized against a contagious disease, most members of the community are protected against that disease because there is little opportunity for an outbreak. Even those who are not vaccinated for certain vaccines get some protection because the spread of contagious disease is contained. This is known as “community immunity.”

Immunization of children can go well beyond saving individual lives. It can also help in preventing large scale outbreaks of diseases as well as keeping the disease under control (or sometimes even eliminated or eradicated) in the area. You should always strive to achieve over 90% coverage for all doses of the vaccines for disease control to be effective.

2.2 Initiatives undertaken by GoI to strengthen the Immunization Programme

Immunization Program was first introduced in India in 1978 for providing BCG, DPT, OPV and Typhoid vaccines. The Universal Immunization Programme (UIP) was launched in 1985, to progressively cover the country. Indigenous vaccine production capacity was enhanced and national cold chain was established. The UIP achieved national coverage by 1990. The UIP aimed to reduce mortality and morbidity from the six vaccine preventable diseases (measles vaccine was added in 1985) and Vitamin A supplementation was included in 1990.

2.3 Milestones in the Immunization Program in India
2.4 Vaccine Preventable diseases and vaccination briefs:

What are vaccine preventable diseases?

Vaccines are now available to prevent certain diseases. In most cases if a potent vaccine is given correctly, that is at appropriate time, dosage and technique; it can prevent the disease from occurring in vaccinated individual despite his exposure to the disease. Diseases for which an effective vaccine has been made and is available for use are known as a Vaccine Preventable Disease (VPDs).

What diseases are prevented through vaccines used in the Universal Immunization Program (UIP)?

Presently, the Universal Immunization Program in India provides vaccines mainly to children below 5 years of age and pregnant women for the following vaccine preventable diseases:

1. Tuberculosis
2. Poliomyelitis
3. Diphtheria
4. Pertussis (whooping cough)
5. Measles
6. Tetanus
7. Hepatitis B
8. Japanese encephalitis (in endemic districts)

Some of these diseases have individual vaccines, as BCG (Bacillus Calmette-Guérin) for Tuberculosis, OPV (Oral Polio vaccine) for Poliomyelitis and Measles Containing vaccine (MCV) vaccine for Measles.

Some other diseases have combined vaccines so as to avoid multiple shots, for example DPT for Diphtheria, Pertussis and Tetanus. This is also called a triple antigen. A penta-valent vaccine (5 vaccines together) is also being introduced in certain states in the UIP. This combination vaccine includes DPT+ Hepatitis B vaccine+ vaccine for Haemophilus B. Japanese Encephalitis (JE) vaccine is also given in JE endemic districts of the country.

Vitamin A is not a vaccine, but a nutritional supplement which prevents many deficiency related conditions; however administration of Vitamin A is also a part of the Universal Immunization Program.

A简要 of each of these vaccines is given in the following pages.

A manager would need to have an understanding/knowledge of the

- The disease: to interact with the health workers, medical officers and general public.
- The vaccine: to physically verify the vials to monitor its potency.
- The schedule for the vaccine: to plan for vaccination sessions and monitor timeliness and completeness of immunization as per schedule.
- The packaging and dosing of the vaccines: for proper logistics management
- The site, route and mode of administration: to supervise the health worker

A Fully immunized infant is one who has received BCG, three doses of DPT, Hep-B and OPV each and Measles before one year of age
1. **Tetanus:**

**VACCINE:** [Tetanus toxoid](https://www.cdc.gov/vaccines/pubs/travel-vac/guides/travel-tetanus.pdf) packaged as liquid in 10 dose vial. (The vaccines DT, DPT, DTaP also protect against tetanus where tetanus toxoid is in combination with other antigens)

**DISEASE:**

**SCHEDULE:**

**DOSE:**

**SITE:**

**ROUTE:**

**METHOD:**

Remember: T series vaccines are destroyed if frozen and should be stored and transported in temperatures between 2 and 8 degrees Celsius.
2. Tuberculosis:

**VACCINE:** BGC (Bacillus Calmette-Guérin) powder in a 10 dose amber vial reconstituted with Normal saline

**DISEASE:**
- *history of contact with suspected/confirmed case of pulmonary TB*
- *Weight loss, cough and wheeze not responding to ARI antibiotics*

**SCHEDULE:**
- Give at birth or as early as possible in the first 12 months.

**DOSE:**
- Dose: 0.1 ml (0.05 ml for less than 1 month);
- Diluent: 1 ml sodium chloride; Vial: 10 doses

**SITE:**
- Left Upper Arm

**ROUTE:**
- Intra-dermal Injection

**METHOD:**
- Gently pull skin under arm to stretch skin at injection site

*Remember: after BCG vaccination, the skin gets raised and later a scar will form. However, BCG vaccination is not to be repeated even if the scar does not form. BCG if missed earlier can be given till 1yr of age of the child. After reconstitution, BCG should be used within 4 hours.*
3. Poliomyelitis:

**VACCINE:** Oral Polio vaccine (Trivalent: Sabin) liquid in a 20 dose vial with dropper

**DISEASE:**

* Sudden weakness & paralysis of leg(s), &/or arm(s) &/or trunk
* Paralysis not present at birth or due to serious injury/mental retardation

**SCHEDULE:**

Birth till 15 days, 1½ mths (6 wks), 2½ mths (10 wks), 3½mths (14 wks) booster shot at 16-24 months

**DOSE:**

Dose: 2 drops; Vial: 20 doses

**SITE:**

Mouth

**ROUTE:**

Put two drops directly in mouth of child

**METHOD:**

Oral administration

*Remember: During Polio supplementary rounds, other types of Polio vaccines may be used. These may be mono-valent OPV, bivalent OPV or even Injectable Polio Vaccine (IPV) These should be distinguished from the trivalent OPV to be used during UIP sessions.*
4. Diphtheria, Pertussis and Tetanus:

VACCINE: DPT (Trivalent) liquid in a 10 dose vial for injection

DISEASE:

- **Diphtheria**: Sore throat with gray patch(es) in throat
- **Pertussis (whooping cough)**: repeated & violent coughing, with: cough persisting for 2+ weeks, fits of coughing, cough followed by vomiting, typical whoop in older infants.
- **Tetanus**: suck & cry in first 2 days of life, Illness between 3-28 days of life, Inability to suck followed by stiffness of neck & body &/or muscle jerking

SCHEDULE:

- 1½ mths (6 wks), 2½ mths (10 wks), 3½mths (14 wks) booster shot at 16-24 months and at 5 yeras

DOSE:

- Dose: 0.5 ml; Vial: 10 doses

SITE:

- Outer Mid-thgh (Antero-lateral side of mid-thigh)

ROUTE:

- Intramuscular injection

METHOD:

- Stretch skin flat between finger & thumb on both sides of injection site

Remember: Giving DPT in buttocks may injure the sciatic nerve and cause paralysis. It should never be given there. Instead, it should be given in the outer mid-thigh. Between two doses of DPT there should be a gap of at least 4 weeks. DPT boosters are to be given at 16-24 months and in the 5th year.
5. Hepatitis B

**VACCINE:** Hepatitis B vaccines: packaged as liquid in 10 dose vial.

**DISEASE:** Infection of the liver causing yellow discolouration of skin and mucous membrane, sometimes lead to severe complications like liver failure or chronic disease carrier.

**SCHEDULE:**
- at birth within 24 hours of delivery
- 1½ mths (6 wks), 2½ mths (10 wks), 3½ mths (14 wks)

**DOSE:**
- Dose: 0.5 ml; Vial: 10 doses

**SITE:** Outer mid-thigh (Antero-lateral side of mid-thigh)

**ROUTE:** Intramuscular Injection

**METHOD:** Stretch skin flat between finger & thumb on both sides of injection site

---

*Remember: Hepatitis B vaccines are very cold sensitive and are destroyed if frozen and should be stored and transported in temperatures between 2 and 8 degrees Celsius.*
6. Measles:

**VACCINE:** Measles containing vaccine: packaged as powder in 5 dose amber colored vial. Needs reconstitution with a diluent which is: pyrogen free double distilled water.

**DISEASE:** Measles: fever with rash with cough or running nose or red eyes.

**SCHEDULE:**
- 9 months completed - 12 months (39 – 52 weeks).
- If a child does not receive Measles before the 12th month, give a dose as soon as possible before 5 years of age.

**DOSE:**
- Dose: 0.5 ml; Diluent: 2.5 ml double distilled water; Vial: 5 doses

**SITE:** Right Upper Arm

**ROUTE:** Pinch skin through left index finger & thumb

**METHOD:** Subcutaneous Injection

*Remember: Following reconstitution the measles vaccine has to be used within 4 hrs.*

*A second dose of measles is to be given with DPT booster at 16-24 months of age initially in select states of India and soon (following Supplementary Immunization campaigns) throughout the country.*
7. Vitamin A:

Vitamin A is not a vaccine but an important micronutrient for maintaining normal growth, regulating cellular proliferation and differentiation, controlling development, and maintaining visual and reproductive functions. However, it is included in the Universal Immunization schedule.

Vitamin A deficiency (VAD) increases the risk of disease and death from severe infections such as measles and diarrhoea. In young children VAD can also cause growth retardation. VAD affects many tissues in the body; however its effect is most apparent on the eye. Children with clinical VAD face difficulty in seeing in the night termed as ‘night blindness’. At a more severe stage, it results in Bitot’s spots, Corneal Xerosis/ ulceration, Keratomalacia and Corneal scar.

Preparation and dose: Vitamin A is usually packaged in amber colored bottles of 100 ml as a solution with oil base. It is also supplied with a 2 ml spoon with a marking in the middle indicating 1 ml. The dose of Vitamin A is 1 ml (half spoon) containing 1,00,000 International units of Vitamin A when administered between 9 -12 months and 2 ml (1 spoon) containing 2,00,000 IU when administered beyond 1 year.

Schedule: The first dose of Vitamin A is administered at 9-12 months along with measles. The second dose is scheduled with DPT booster at 16 months. Thereafter, 1 dose is to be given every six months till the age of 5 years, that is, a total of 9 doses till the age of 5 years. In many states Vitamin A is also given through Bi-annual campaigns, in which case, the same dose need not be repeated in the routine immunization sessions.

Route of administration: Orally, always using the spoon supplied with the Vitamin A bottle.
8. Japanese Encephalitis:

**Vaccine:** live attenuated SA 14-14-2 JE vaccine.

Multi-dose vials with 5 doses, supplied with the diluent vial of 2.5 ml which contains Phosphate Buffer solution.

The vaccine should be reconstituted with the supplied diluent only.

After reconstitution it turns into a transparent orange red or light pink liquid.

After reconstituting the time of reconstitution should be noted on the vial. The reconstituted vaccine should be used within two hours of reconstitution, beyond which the vaccine should be discarded.

**Disease:** a person of any age, at any time of the year with sudden onset of fever and a change in mental status (drowsy, confusion, inability to talk, disoriented or coma) and/or convulsions. This usually follows infection by the Japanese Encephalitis virus introduced through a mosquito bite.

**Schedule** in UIP schedule, following campaigns in an endemic district, JE vaccine should be introduced to new cohorts (children who were underage/not born during the campaign) at 16 to 24 months along with DPT Booster.

**Dose:** 0.5 ml

**Site:** left upper arm

**Route:** subcutaneous

**Method:** pinch skin of left upper arm between thumb and index finger and give at 45 degrees

**Contraindications (situations when not to give vaccine):** High Fever (Vaccination to be done only after advise from a Medical officer), Severe malnourishment, Acute infectious disease, Ear infection, Tuberculosis, Heart, liver and kidney problems, Pregnancy, Allergy, Convulsions, Person treated with any immunosuppressive therapy, Person with a proven or suspected hypersensitivity to Kanamycin or Gentamicin.

Japanese Encephalitis vaccination is administered under Universal Immunization Program only in selected endemic districts following large scale vaccination campaigns.
### 2.5 National Immunization Schedule for Infants, Children and Pregnant Women

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>When to give</th>
<th>Dose</th>
<th>Route</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For Pregnant Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT-1</td>
<td>Early in pregnancy</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Upper Arm</td>
</tr>
<tr>
<td>TT-2</td>
<td>4 weeks after TT-1*</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Upper Arm</td>
</tr>
<tr>
<td>TT- Booster</td>
<td>If received 2 TT doses in a pregnancy within last 3 yrs*</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Upper Arm</td>
</tr>
<tr>
<td><strong>For Infants</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCG</td>
<td>At birth or as early as possible till one year of age</td>
<td>0.1 ml</td>
<td>Intra-dermal</td>
<td>Left Upper Arm</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>At birth or as early as possible within 24 hours</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>OPV-0</td>
<td>At birth or as early as possible within the first 15 days</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>OPV 1,2 &amp; 3</td>
<td>At 6 weeks, 10 weeks &amp; 14 weeks</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>DPT 1,2 &amp; 3</td>
<td>At 6 weeks 10 weeks &amp; 14 weeks</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>DPT 1,2 &amp; 3</td>
<td>At 6 weeks 10 weeks &amp; 14 weeks</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>Hep B 1, 2 &amp; 3</td>
<td>At 6 weeks 10 weeks &amp; 14 weeks</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>Measles</td>
<td>9 completed months-12 months.</td>
<td>0.5 ml</td>
<td>Sub-cutaneous</td>
<td>Right upper Arm</td>
</tr>
<tr>
<td>Vitamin-A (1stdose)</td>
<td>At 9 months with measles</td>
<td>1 ml (1 lakh IU)</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td><strong>For Children</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPT booster</td>
<td>16-24 months</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>Measles 2nd dose</td>
<td>16-24 months</td>
<td>0.5 ml</td>
<td>Sub-cutaneous</td>
<td>Right upper Arm</td>
</tr>
<tr>
<td>OPV Booster</td>
<td>16-24 months</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>Japanese Encephalitis**</td>
<td>16-24 months</td>
<td>0.5 ml</td>
<td>Sub-cutaneous</td>
<td>Left Upper Arm</td>
</tr>
<tr>
<td>Vitamin-A*** (2nd to 9th dose)</td>
<td>16 months. Then, one dose every 6 months up to the age of 5 years.</td>
<td>2 ml (2 lakh IU)</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>DPT Booster</td>
<td>5-6 years</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Upper Arm</td>
</tr>
<tr>
<td>TT</td>
<td>10 years &amp; 16 years</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Upper Arm</td>
</tr>
</tbody>
</table>

*Give TT-2 or Booster doses before 36 weeks of pregnancy. However, give these even if more than 36 weeks have passed. Give TT to a woman in labour, if she has not previously received TT.

** JE Vaccine, in select endemic districts after the campaign.

*** The 2nd to 9th doses of Vitamin A can be administered to children 1-5 years old during biannual rounds, in collaboration with ICDS.
2.6 Frequently Asked Questions on the Immunization Schedule

**BCG vaccine**

*Why give BCG vaccine only on the left upper arm?*

BCG is given on the left upper arm to maintain uniformity and for helping surveyors in verifying the receipt of the vaccine.

*Why do we give 0.05ml dose of BCG to newborns (below 1 month of age)?*

This is because the skin of newborns is thin and an intra-dermal injection of 0.1ml may break the skin or penetrate into the deeper tissue and cause local abscess and enlarged axillary lymph nodes. Dose of 0.05 ml is sufficient to elicit adequate protection.

*Why is BCG given only up to one year of age?*

Most children acquire natural clinical/sub-clinical tuberculosis infection by the age of one year. This too protects against severe forms of childhood tuberculosis e.g. TB meningitis and miliary disease.

*If no scar appears after administering BCG, should one re-vaccinate the child?*

There is no need to revaccinate the child even if there is no scar.

**OPV**

*Till what age can a child be given OPV?*

OPV can be given to children till 5 years of age.

*Can OPV and vitamin A be given together with DPT-Booster dose? Yes.*

*Can an infant be breastfed immediately after OPV? Yes.*

**DPT VACCINE**

*Why DT is replaced by DPT vaccine for children above 2 years of age?*

As Pertussis cases were reported in higher age group children and the risk of AEFIs was not found to be more after DPT vaccine as compared to DT vaccine.

*If a child could not receive DPT1, 2, 3 and OPV 1, 2, 3 according to the schedule, till what age can the vaccine be given?*

The DPT vaccine can be given until 7 years of age and OPV can be given till 5 years of age. If a child has received previous doses but not completed the schedule, do not restart the schedule and instead administer the remaining doses needed to complete the series.

*Why should there be a minimum gap of 4 weeks between two doses of DPT?*

This is because decreasing the interval between two doses may not obtain optimal antibody production for protection.

*Why give the DPT vaccine in the antero-lateral mid thigh and not the gluteal region (buttocks)?*

DPT is given in the antero-lateral mid-thigh and not the gluteal region to prevent damage to the sciatic nerve. Moreover, the vaccine deposited in the fat of gluteal region does not invoke the appropriate immune response.
**What should one do if the child is found allergic to DPT or develops encephalopathy after DPT?**

A child who is allergic to DPT or develops encephalopathy after DPT should be given the DTaP / DT vaccine instead of DPT for the remaining doses, as it is usually the P (whole cell Pertussis) component of the vaccine which causes the allergy/encephalopathy. It may be purchased with locally available resources.

**TT VACCINE**

If a girl received all doses of DPT and TT as per the NIS till 16 years of age and she gets pregnant at 20 years, should she get one dose of TT during pregnancy?

Give 2 doses of TT during the pregnancy as per the schedule.

Is TT at 10 years and 16 years is meant only for girls?

No, it is to be given to both boys and girls.

Can TT be given in the first trimester of pregnancy?

Yes, it should be given as soon as pregnancy is diagnosed.

**HEPATITIS B VACCINE**

Can Hepatitis B vaccine be mixed in the same syringe with DPT and given as one injection?

No, DPT and Hepatitis B vaccine (if supplied separately) cannot be mixed or administered through the same syringe.

Until what age can Hepatitis B vaccine be given?

According to the National Immunization Schedule, Hepatitis B vaccine should be given with the first, second and third doses of DPT till one year of age.

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

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

**MEASLES VACCINE**

Why give the Measles vaccine only on the right upper arm?

The Measles vaccine is given on the right upper arm to maintain uniformity and to help surveyors in verifying the receipt of the vaccine.

If a child has received the Measles vaccine before 9 months of age, is it necessary to repeat the vaccine later?

Yes, the Measles vaccine needs to be administered, according to the National Immunization Schedule i.e. after the completion of 9 months until 12 months of age and at 16-24 months. If not administered in the ideal age for Measles vaccine, it can be administered until 5 years of age.

What is a measles catch-up campaign?

A measles catch-up campaign is a special campaign to vaccinate all children in a wide age group in a state or a district with one dose of measles vaccine. The catch-up campaign dose is given to all children, both immunized and un-immunized, who belong to the target age group. The goal of a catch-up campaign is to quickly make the population immune from measles and reduce deaths from measles. A catch-up campaign must immunize nearly 100% of target age group children.
Why 2nd dose of Measles vaccine is introduced in the National Immunization Program?

Measles is highly infectious disease causing illness and death due to complications as diarrhoea, pneumonia or brain infection. One dose of measles vaccine at 9 months of age protects 85% of infants. With 2nd dose we aim to protect all the children who remain unprotected after first dose.

If a child comes late for the first dose, then can it get the second dose?

All efforts should be made to immunize the children at the right age i.e. first dose at completed 9 months to 12 months and second dose at 16 -24 months. However if a child comes late then give two doses of Measles vaccine at one month interval until 5 years of age.

If a child received one dose of Measles vaccine during an SIA campaign, should it receive the routine dose of Measles vaccine?

Yes, the child should receive routine doses of Measles vaccine according to the Immunization schedule irrespective of the measles SIA dose.

Why the amount of diluent provided by manufacturers is more than the amount of vaccine doses to be administered?

The manufacturer provides more quantity of diluent than required, e.g. for 5 dose measles vial the diluent is more than 2.5 ml and for 10 dose BCG vial, it is more than 1ml. The reason for this is to take care of the unavoidable vaccine wastage which occurs due to:

• Some dead space in the hub and needle
• Sticking of the vaccine to the inner wall of the vaccine vial and
• Inefficiency of the HWs to draw entire amount of vaccine from the vial.

Therefore, it is important to draw the entire amount of diluent from the ampoule and use it to reconstitute the vaccine.

JE VACCINE

If a child 16-24 months of age has been immunized with JE vaccine during an SIA, can it receive the JE vaccine again, as part of RI?

No, currently this is a single dose vaccine and should not be repeated.

If a child above 2 years (24 months) of age has not received the JE vaccine through either RI or an SIA, should s/he be given the JE vaccine?

Yes, the child is eligible to receive a dose of the JE vaccine, through RI, till the age of 15 years.

VITAMIN A

How many prophylactic doses of vitamin A should be given and till what age?

A total of 9 prophylactic doses of vitamin A should be given till 5 years of age.

What should be the minimum gap between two doses of Vitamin A?

The minimum gap between any two doses of vitamin A should be 6 months.

How should Vitamin A syrup be administered?

Vitamin A syrup should be administered using only the spoon/dispenser provided with each bottle. The half mark in the spoon indicates 100,000 IU and a level full spoon contains 200,000 IU of Vitamin-A.
What is the treatment schedule for children with clinical signs of vitamin A deficiency?
Administer 200,000 IU of Vitamin A immediately after diagnosis, followed by another dose of 200,000 IU, 1-4 weeks later.

What are the storage guidelines for un-opened bottles of Vitamin A solution?
Vitamin A solution must be kept away from direct sunlight and can be used until the expiry date.

How long can a bottle of Vitamin A be used, once opened?
A Vitamin A bottle, once opened, should be used within 8 weeks. Write the date of opening on the bottle.

Other than Vitamin A supplementation, what are other policy guidelines to prevent vitamin A deficiency?
These are promotion of:
- Early and exclusive breast feeding, including feeding of colostrum, rich in vitamin A.
- Regular consumption of dark green leafy vegetables or yellow and orange fruits and vegetables like pumpkin, carrots, papaya, mango, oranges along with cereals and pulses to a weaning child
- Consumption of milk, cheese, curd, ghee, eggs, liver etc.
- Lack of Vitamin A can cause night blindness and make one vulnerable to disease.
- Vitamin A deficiency can be prevented by taking milk, green vegetables and
- Vitamin A helps the body fight infections like measles and

ZINC

How does Zinc help in reducing the frequency of diarrhoea?
Zinc is a micronutrient. It helps in early recovery from diarrhoea, less watery stools, less frequency of stools and reduction in child deaths and hospitalization.

What is the dose of Zinc to be used along with ORS in the treatment of diarrhoea?
The dose of zinc for infants aged 2-6 months is 10 mg of dispersible tablet in expressed breast milk for 14 days. For children 6 months to 5 years of age, it is 20 mg of dispersible tablet for 14 days.

ALL VACCINES

If a child who has never been vaccinated is brought at 9 months of age, 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 different injection sites using separate AD syringes. It is safe and effective to give BCG, DPT, Hepatitis B, OPV and Measles vaccines and Vitamin A at the same time to a 9 months old child who has never been vaccinated.

If the mother/caregiver permits administration of only one injection during an infant’s first visit at 9 months of age, which vaccine should be given?
At 9 months of age, the priority is to give measles vaccine with OPV and Vitamin-A.

**Which vaccines can be given to a child between 1-5 years of age, who has never been vaccinated?**

The child should be given DPT1, OPV-1, Measles and 2ml of Vitamin A solution. It should then be given the second and third doses of DPT and OPV at one month intervals. Measles second dose is also to be given as per the schedule. The Booster dose of OPV/DPT can be given at a minimum of 6 months after administering OPV3/DPT3.

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

The child should be given first, second and third doses of DPT at one month intervals. The Booster dose of DPT can be given at a minimum of 6 months after administering DPT3 up to 7 years of age.

**Should one re-start with the first dose of a vaccine if a child is brought late for a dose?**

Do not start the schedule all over again even if the child is brought late for a dose. Pick up where the schedule was left off. For example: If a child who has received BCG, HepB-1, DPT-1 and OPV-1 at 5 months of age, returns at 11 months of age, vaccinate the child with DPT-2, HepB-2, OPV-2 and Measles and do not start from DPT-1, HepB-1 again.

**Why is it not advisable to clean the injection site with a spirit swab before vaccination?**

This is because some of the live components of the vaccine are killed if they come in contact with spirit.
Learning Objectives

At the end of the unit you should be able to:

• Guide and supervise the Vaccine and Cold Chain Handler at the ILR points to properly store and transport vaccines and other related logistics
• Monitor maintenance and facilitate repair of cold chain equipment
• Ensure regular, adequate and proper supply of vaccines and other related logistics to ILR points
• Supervise and ensure systematic distribution of vaccine and logistics to all sites during immunization session days

CONTENTS

3.1 What is the cold chain?
3.2 Vaccine sensitivities
3.3 How to maintain the correct temperature of vaccines?
3.4 ILR point or Cold Chain point
3.5 Vaccine and Cold Chain Handler
3.6 Responsibilities of the vaccinator
3.7 The cold chain equipment
3.8 Managing Logistics of Vaccines and Other Supplies
3.9 Emergency plan

3.1 What is the cold chain?

The “cold chain” refers to the people, equipment, and procedures designed to maintain appropriate temperatures for vaccines from the time they leave the manufacturer, through transportation and storage, until the point of use.

While cold chain handlers ensure maintenance of cold chain at cold chain stores, health workers are responsible to maintain the temperature of vaccines at the peripheral level. Health managers and supervisors are responsible to see that the cold chain handlers and the health workers are ensuring proper cold chain maintenance for vaccines at all times. If a vaccine is exposed to too much heat, light or cold, it can be damaged and lose its potency or effectiveness. If that happens, all the effort to give the vaccine to the child is lost.

3.2 Vaccine sensitivities

As indicated in the chart below, DPT, TT, and Hepatitis B vaccines will lose their potency if frozen. Reconstituted BCG, measles and JE vaccines are the most heat and light sensitive. Since these live vaccines do not contain preservatives, there is risk of contamination with staphylococcus aureus leading to Toxic Shock Syndrome and, therefore, they should be used within 4 hours of reconstitution (2 hours for JE vaccine).
Summary of Vaccine Sensitivities

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Exposure to heat/light</th>
<th>Exposure to cold</th>
<th>Temperature at PHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPV</td>
<td>Sensitive to heat</td>
<td>Not damaged by freezing</td>
<td>+2°C to +8°C</td>
</tr>
<tr>
<td>Measles</td>
<td>Sensitive to heat and light</td>
<td>Not damaged by freezing</td>
<td>+2°C to +8°C</td>
</tr>
<tr>
<td>BCG</td>
<td>Relatively heat stable, but sensitive to light</td>
<td>Not damaged by freezing.</td>
<td>+2°C to +8°C</td>
</tr>
</tbody>
</table>

Freeze Sensitive Vaccines

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Exposure to cold</th>
<th>Temperature at PHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
<td>Relatively heat stable</td>
<td>Freezes at -0.5°C (Should not be frozen)</td>
</tr>
<tr>
<td>DPT</td>
<td>Relatively heat stable</td>
<td>Freezes at -3°C (Should not be frozen)</td>
</tr>
<tr>
<td>TT</td>
<td>Relatively heat stable</td>
<td>Freezes at -3°C (Should not be frozen)</td>
</tr>
</tbody>
</table>

At the PHC level, all vaccines are kept in the ILR for a period of one month at temperature of +20°C to +80°C

Thermo-sensitivity of Vaccines

<table>
<thead>
<tr>
<th>Vaccines sensitive to heat</th>
<th>Most</th>
<th>Vaccines sensitive to freezing</th>
<th>Least</th>
</tr>
</thead>
<tbody>
<tr>
<td>• BCG (after reconstitution)</td>
<td></td>
<td>• Hep- B</td>
<td></td>
</tr>
<tr>
<td>• OPV</td>
<td></td>
<td>• DPT</td>
<td></td>
</tr>
<tr>
<td>• Measles</td>
<td></td>
<td>• TT</td>
<td></td>
</tr>
<tr>
<td>• DPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• BCG (before reconstitution)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• TT, HepB, JE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Make sure that all vaccines are stored at +2°C to +8°C

3.3 How to maintain the correct temperature of vaccines?

All vaccines are sensitive to heat. BCG and Measles vaccines are also light sensitive. Hepatitis B, DPT and TT vaccines lose their potency if frozen. Therefore correct temperature should be maintained when packing vaccines, transporting them from the PHC to the immunization session and storing them during the session. Vaccines need to be checked both for damage from excessive heat as well as from freezing.

a) How to check for heat damage?

Vaccine vial label has a small white square inside a blue circle, called a Vaccine Vial Monitor (VVM) that indicates cumulative exposure of that particular vaccine to heat. Read the VVM (Figure 4A) and determine whether the vaccines have been damaged by heat. If these vaccine vial monitors show change in colour to the discard point, then discard the vaccines.

Reading the VVM

1. The inner square is lighter than the outer circle. If the expiry date has not been passed: **USE** the vaccine
2. The inner square is still lighter than the outer circle. If the expiry date has not been passed: **USE** the vaccine
Discard Point:
3. The color of the inner square matches that of the outer circle: **DO NOT** use the vaccine

Beyond the Discard Point:
4. The color of the inner square is darker than the outer circle: **DO NOT** use the vaccine

VVM on a vaccine vial is to be checked (whether in usable stage) at every point of vaccine transfer and use: while receiving the vaccine, during storage, during distribution and finally before use by the health workers. If at any point the VVM turns into unusable stage, the vaccine vial should be discarded and never used.

b) How to check for cold damage (freezing)

To check for damage due to freezing (which can also take place due to direct contact of these vaccine vials with the ice packs). Discard the vial if it is frozen or it contains floccules.

*Discard T-series vaccines and Hepatitis B, if*
- Frozen
- Floccules after shaking

3.4 ILR point or Cold Chain point

An ILR point or cold chain point is a health institution (usually PHCs and CHCs) with an Ice Lined Refrigerator for storage of vaccines and a Deep Freezer for preparation of frozen ice packs. There is usually a generator as power back up. The function of the ILR point is to receive, store and further distribute vaccines, diluents and other logistics to another ILR point or directly to the session sites.

THE COLD CHAIN ROOM

**Cold Chain Room**

- Well Ventilated, airy room, no direct exposure to wind, sun, rain
- Rosters of Immunization sessions
- Job Aids: VVM interpretation stickers
- Each Equipment connected to a separate Voltage stabilizer
- Plug fixed to socket, No loose wiring
- Job Aids: Ice-pack preparation in Deep freezer
- Placement of Equipment, at least 10 cm. from the wall and from each other
- Equipment level and placed on blocks or stand
All ILR/Cold chain points have a designated area or room for keeping cold chain equipment. This should ideally be a separate room with restricted entry to keep the vaccines and cold chain equipment safe and secure.

The features of equipment kept in the cold chain room should be as follows:

- a separate well-ventilated room
- equipment placed at least 10 cm away from walls and from each other
- protected from rain or flooding and away from direct sunlight
- equipment placed level and on wooden blocks
- equipment permanently fixed to power socket, labeled “DO NOT UNPLUG”
- properly connected to one Voltage stabilizer per equipment
- locked and keys accessible to designated personnel

3.5 Vaccine and Cold Chain Handler

At every ILR point a senior male or female health worker (Pharmacist/staff nurse/ ANM/ LHV/ MMPW/ Health Supervisor) is given the charge of forecasting, indenting, receiving, storing and distributing vaccines and logistics, maintaining cold chain equipments and related records. This person is called the Vaccine and Cold Chain Handler. This Cold chain handler reports to the MO in charge of the PHC or CHC. However, as a Manager or supervisor you can support the MOs in supervising the working of the Cold Chain Handler. Try to visit each ILR point once a month and use the checklist at the end of this chapter to provide supportive supervision.

3.6 Responsibilities of the vaccinator

The responsibilities of the vaccinator at the immunization session site are to ensure the following:

- Proper and adequate receipt of vaccines, diluents and logistics for the immunization session
- Proper maintenance of cold chain at the session site
- All unused and unopened vaccine vials and diluent ampoules are returned in reverse cold chain on the same day
- Immunization waste generated at the session site is returned for proper waste disposal
- Report of the immunization session is sent to the ILR point on the same day.

3.7 The cold chain equipment

Cold chain equipment, both electrical and non-electrical, is used for storing vaccines and/or transporting them at appropriate temperatures. Table 4.1 summarizes the cold chain equipment supplied under the UIP.
Table 3.1: Summary of Cold Chain Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Temperature</th>
<th>Storage Capacity</th>
<th>Holdover time*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep Freezer (Large)</td>
<td>-15°C - -25°C</td>
<td>200 ice packs or OPV stock for 3 months</td>
<td>43°C for 18 Hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(120,000 – 180,000 doses)</td>
<td>32°C for 22 Hrs</td>
</tr>
<tr>
<td>ILR (Large)</td>
<td>+2°C - +8°C</td>
<td>BCG, DPT, DT, TT, Measles, Hep-B Vaccine stock</td>
<td>At 43°C for 62 Hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for 3 months (60,000 doses)</td>
<td>At 32°C for 78 Hrs</td>
</tr>
<tr>
<td>Deep Freezer (Small)</td>
<td>-15°C - -25°C</td>
<td>100 ice packs</td>
<td>At 43°C for 18 Hrs</td>
</tr>
<tr>
<td>ILR (Small)</td>
<td>+2°C - +8°C</td>
<td>BCG, OPV, DT, DPT, TT, Measles, Hep-B vaccine</td>
<td>At 43°C for 62 Hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>stocks for one month (25,000 doses)</td>
<td>At 32°C for 78 Hrs</td>
</tr>
<tr>
<td><strong>Non-electrical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold Box (Large)</td>
<td>+2°C - +8°C</td>
<td>All vaccines stored for transport or in case of power failure (6000 doses of mixed antigen with 50 ice-packs/ 72-96 icepacks)</td>
<td>At 43°C for 6.5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At 32°C for 10 days</td>
</tr>
<tr>
<td>Cold Box (Small)</td>
<td>+2°C - +8°C</td>
<td>All vaccines stored for transport or in case of power failure (1500 doses of mixed antigen with 24 ice-packs/36 icepacks)</td>
<td>At 43°C for 6.5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At 32°C for 10 days</td>
</tr>
<tr>
<td>Vaccine carrier (1.7 litres)</td>
<td>+2°C - +8°C</td>
<td>All vaccines carried for 12 hours(4 Ice packs &amp; 16-20 vials)</td>
<td>At 43°C for 34 Hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At 32°C for 51 Hrs</td>
</tr>
</tbody>
</table>

*Holdover time is the time taken for increasing the temperature of vaccines at the time of power failure from its minimum range to its maximum range, subject to the condition that the equipment is functioning well. For example, if the inside temperature of an ILR is 2°C at the time of power failure, the time taken up to reach 8°C will be the holdover time of that ILR. Holdover time depends on the frequency of opening the lid, the quantity of vaccines kept inside with adequate space between the boxes, exposure to direct sunlight and, only in the case of non-electrical cold chain equipment, the condition of icepacks placed inside. Holdover Time varies from one manufacturer to the other.

(a) Vaccine carriers

Vaccine carriers are used for carrying vaccines (16-20 vials) to sub-centres or to villages. They maintain the cold chain during transport from the PHC for one day’s use in the field. Vaccine carriers have thick walls and lids and are made of a special material that prevents heat from passing through and reducing the potency of vaccines.

The inside temperature of a vaccine carrier is maintained between +2°C to +8°C with 4 conditioned ice packs for one day (if not opened frequently and foam pad is kept inside).

- Only vaccine carriers with 4 conditioned ice packs should be used. Day carriers with 2 ice packs should not be used.
- Do not leave vaccine carriers in the sunlight; this spoils vaccines that are sensitive to heat and light.
- Do not open the lid unnecessarily as this can allow heat and light into the carrier, which can spoil vaccines.
- Never use any screw driver or any other sharp shaft to open the lid of vaccine carrier.
- Do not drop or sit on the vaccine carrier: this can damage the carrier.
- Do not carry vaccines in handbag as this can spoil vaccines that are sensitive to heat.
(b) What are ice packs and how to use them?

- Ice packs are plastic containers filled with water. These are hard frozen in the deep freezer. Do not add salt to water.
- Ice packs are kept along the walls of the vaccine carrier and the cold box to keep them and their contents cold.
- Fill the ice pack with water up to the mark as shown in the Figure 4C and close the cap tightly.
- Clean the outer surface of the ice packs with dry cloth before putting these in the deep freezer for freezing.

(c) How to pack the vaccine carrier?

The vaccines should be collected on the day of immunization.

1. Check the vaccine carrier and make sure the lid fits tightly. Check the insulation for cracks.

2. **Conditioning of Ice packs**- Ice packs come out of the freezer at a temperature of about -20ºC. They need to be kept at room temperature for a period of time to allow the ice at the core of the icepack to rise to 0ºC. This process is called ‘conditioning’. Follow these steps:
   - Leave a 5 cm space all round each icepack.
   - Lay out icepacks, preferably in single rows but never in more than two rows.
   - Wait until there is a small amount of liquid water inside the icepacks.

   This will take up to one hour at +20ºC and rather less at higher temperatures. Shake one of the ice packs every few minutes. The ice is conditioned as soon as it begins to move about slightly inside its container. This prevents freezing of vaccines that may come in contact with the ice-packs.

3. **Place four conditioned ice packs** against the sides of the vaccine carrier.

4. Take the required amount of Measles, OPV, BCG TT, DPT and Hepatitis B vaccine, plus one vial of diluent for every BCG and measles vial (and JE if reqd.) and place inside a plastic zipper bag. Place this bag in the centre of the vaccine carrier as shown in Figur. This will prevent direct contact of the vaccine vials with ice packs and also prevent labels from peeling off from the vaccine vials. Keep the dropper for OPV also inside the vaccine carrier in the plastic bag.

5. Close the lid securely.
(d) How long can vaccines be kept in the vaccine carrier?

Usually, vaccines can be stored in a vaccine carrier for one working day only. However, this depends on the condition of the ice-packs and the ambient temperature. Vaccines can be kept safely in a vaccine carrier only as long as the ice packs remain at least partially frozen.

- Only use the diluent provided by the manufacturer with the vaccine.
- Store the diluent in the ILR at +2°C to +8°C at least 24 hours before use to ensure that the vaccine and diluent are at the same temperature when being reconstituted.
- Keep the diluents and droppers with the vaccines in the plastic zipper bag inside the vaccine carrier during transportation.
- Do not drop or sit on the vaccine carrier: this can damage the carrier.
- Do not carry vaccines in handbag as this can spoil vaccines, sensitive to heat.

(e) How to keep vaccines cold during immunization session?

Taking ice packs out of the vaccine carrier will shorten its cold life. During the immunization session, **only one ice pack can be taken out for keeping reconstituted BCG and Measles vaccines in the holes of the ice pack.** The ice pack, once taken out, should not be put inside the carrier till the end of the session. However, **DPT, TT or Hep B vaccines should never be kept on the ice pack.**

In most areas, the temperature in a vaccine carrier will stay below +8°C for one day. In order to achieve this:

- Keep the carrier in the shade and a cool place
- Keep the lid closed during the immunization session
- Reconstituted BCG and measles vaccine can be kept at +2°C to +8°C for a maximum of 4 hours (2hrs for JE)
- Write the time of reconstitution on the label of the vaccine vial and discard at the end of four hours

**Make sure that diluents are also at 2-8 degrees centigrade before reconstitution**

- Send all vaccines from PHC to the session site in the vaccine carrier with 4 conditioned ice-packs on the day of the immunization session.
- Return the unused vaccine vials from session sites to the PHC on the same day in the cold chain through alternate vaccine delivery.
- Keep a box labeled “RETURNED UNUSED” in the ILR for all unused vaccines that can be used in subsequent sessions.
- Discard vaccines that have been returned unopened more than thrice.
- Do not keep any used vials in the cold chain.
(f) Cold Boxes

Cold boxes are used to collect and transport monthly supplies of vaccines from district stores to the health facility. They are also used to store vaccines when the ILR is out of order and when defrosting the freezer to keep conditioned ice packs.

Before the vaccines are placed in the cold box, conditioned ice packs should be placed at the bottom and sides of the cold box. Thereafter, vaccines should be placed in cartons or polythene bags and placed in the cold box. The vaccines should be covered with a layer of conditioned ice packs before the cold box is closed.

Note that vaccines should be transported or stored in cold boxes only with a sufficient number of conditioned ice packs. In such a case, vaccines can be stored for around six days in a cold box. The temperature of the cold box should be monitored by keeping a dial thermometer inside the cold box.

(g) Deep Freezers (DFs)

Deep Freezers maintain a cabinet temperature between -15°C to -25°C; and store OPV and prepare ice packs at the district level. At the PHC level, Deep freezers are used only for preparation of ice packs and are not to be used for storing UIP vaccines. About 20-25 ice packs can be prepared by a 140 Liter DF in 24 hours with at least 8 hours of continuous electricity supply. See Figure 4.1 for correct placement of ice-packs in the DF.

Correct Placement of Ice-Packs in the Deep Freezer
Cold boxes are used to collect and transport monthly supplies of vaccines from district stores to the health facility. They are also used to store vaccines when the ILR is out of order and when defrosting the freezer to keep conditioned ice packs.

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Correct Placement of Ice-Packs in the Deep Freezer

(h) Ice Lined Refrigerators (ILRs)

ILRs maintain a cabinet temperature between +2°C to +8°C; and are used to store all UIP vaccines at the PHC/CHC/district levels. ILRs are lined with tubes or ice packs filled with water which freezes and keeps the internal temperature at a safe level despite electricity failure. ILRs can keep vaccine safe with as little as 8 hours continuous electricity supply in a 24-hour period. Since ILRs are top-opening, they can hold the cold air inside better than a front-opening refrigerators. Figure indicates correct placement of vaccines in the baskets of an ILR. If baskets are not available, store vaccines (other than OPV and Measles) over two rows of empty ice-packs kept on the platform of the ILR. Measles and OPV can be kept over two rows of empty ice-packs on the floor of the ILR. It is important to ensure that unopened vaccine vials which have returned from the field are to be kept in a separate container/box within the ILR (usually at the top) and should be distributed first to the session sites on the next vaccination day.

Correct Placement of Vaccines in the Ice-Lined Refrigerator
(i) Voltage Stabilisers

Voltage stabilizers are electronic equipments which ensure a constant output voltage of 220 Volts, whatever the input voltage. There are different types of stabilizers based on the input voltages but the output voltage would be around 220 V which is suitable for the working of the ILRs and DFs. Each equipment should be connected separately to an independent voltage stabilizer.

The stabilizers should be kept on stands and not on the ILRs and DFs. The wiring should be proper and not loose to prevent short circuits.

(j) Thermometers

Thermometers are dial or stem (alcohol). Both are used to measure the temperature during storage of vaccines. Alcohol thermometers are more sensitive and accurate as they can record temperatures from – 500C to + 500C and can be used for ILRs and deep freezers. Figure 4.3 shows a stem alcohol and a dial thermometer and describes their correct usage.

- Place a functional dial/stem thermometer in every cold chain equipment
- Hang it vertically in the centre, away from direct contact with vaccine boxes and walls.
- Do not take it out of the equipment or hold for long. Read it where it is placed.
- Use it to monitor and record temperature every morning and evening
- Take action to correct storage temperatures when the temperature record is outside recommended ranges
- Replace the thermometer immediately if broken

(k) Making an Inventory of equipment

Good practice to manage cold chain equipment is to have a equipment or stock register with listing of available equipment and their details. This is called an inventory. An inventory or Equipment stock register should have details of cold chain equipment such as model number, serial number, company, capacity (volume), date or month of manufacture, received on, received from and by, document of receipt, bill and details of warranty.

The dates of installation, repair and condemnation should also be mentioned for each equipment according to its condition.
(l) Preventive Maintenance

Preventive Maintenance of equipment means taking care of them on a regular basis (daily, weekly, monthly or after each use) before it gets non-functional. The table below outlines some of the tasks of preventive maintenance that will help in making the equipment useful for a long time.

<table>
<thead>
<tr>
<th>Table 3.2: Preventive Maintenance of Cold Chain Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ILRs/DFs Cold Boxes and Vaccine Carriers</strong></td>
</tr>
<tr>
<td><strong>Check Daily if</strong></td>
</tr>
<tr>
<td>- Exterior is clean</td>
</tr>
<tr>
<td>- Temperature is within prescribed limits (twice daily)</td>
</tr>
<tr>
<td>- Seal is tight and door shuts</td>
</tr>
<tr>
<td><strong>Check Weekly if</strong></td>
</tr>
<tr>
<td>- Frost is less than 0.5 cm thick (if more than 0.5 cm, then defrost)</td>
</tr>
<tr>
<td><strong>Check Monthly</strong></td>
</tr>
<tr>
<td>- If Equipment is defrosted and cleaned (adjust thermostat if necessary).</td>
</tr>
<tr>
<td><strong>After every use</strong></td>
</tr>
<tr>
<td>- Keep latches open and free from load and tension.</td>
</tr>
<tr>
<td>- Clean with detergent and dry</td>
</tr>
<tr>
<td>- Examine inside and outside surface for cracks</td>
</tr>
<tr>
<td>- Check that the rubber seal around the lid is not broken (if so, replace immediately)</td>
</tr>
<tr>
<td>- Hinges and locks are lubricated with machine oil.</td>
</tr>
</tbody>
</table>

If you need to defrost your refrigerator more than once a month:
- you may be opening it too often (more than three times daily); or
- the door may not be closing properly; or
- the door seal may need to be replaced.

(m) Repair

When equipments break down they need to be repaired. Usually there will be a cold chain technician (refrigerator mechanic) at the district headquarters whose responsibility is to repair these equipments. He has to be informed as soon as there is a breakdown.

**Cold Chain Sickness Rate** is the proportion of cold chain equipment out of order at any point of time. It should be kept to the minimum acceptable level of less than 2%. e.g. if there are 100 ILRs/Freezers in a district and 7 are out of order, the cold chain sickness rate on that day is 7%.

An efficient Sickness reporting system contributes greatly to reduce the cold chain sickness rate by reducing the **Down Time** of the equipment. **Down time refers to the time between breakdown of equipment and its repair or the period for which an equipment remains out of service** (e.g. if an ILR is out of order on 10th April, and is functional again on 20th April, the down time is 10 days). The down time should be less than two weeks for plains and three weeks for hilly terrain.

The reporting of the breakdown of equipment should be direct from “who wants the service” to “who will provide the service”, with information to other officers concerned. The aim is to maintain a **Response Time** of 48 hours for plains and 72 hours for hilly terrain. **The Response Time is the period between sending information regarding breakdown to actually attending** (e.g. if information about the breakdown of an ILR is sent on 10th April and the ILR is attended to on 12th April by a mechanic, the response time is 2 days).
**Condemnation of Cold Chain Equipment:** Cold chain equipment which is obsolete or unserviceable should be condemned according to State Government rules by state/district level committees. In the absence of state-specific rules for condemnation, follow the Rule 124 of General Financial Rules (GFR) and Government of India decisions read with Schedule VII of Delegation of Financial Power Rules.

A **float assembly** is a stock of spare units of cold chain equipment (at district/state headquarters) for immediate replacement of defective units (brought from the Primary Health Centers). The defective units once repaired go into the float assembly.

### 3.8 Managing Logistics of Vaccines and Other Supplies

Logistics management ensures regular and smooth flow of vaccines and other supplies to all health facilities. To ascertain that an appropriate amount of vaccine is always available, ensure that supplies are checked continuously, and records of all stock movements in and out of storage areas, are maintained.

Three commonly encountered problems in vaccine and logistics management are:

- **Stock-out:** A condition when no stock is available of a vaccine or other supply.
- **Inadequate Stock:** less than the buffer stock (i.e. less than 25% for vaccines and 10% for syringes)
- **Excess Stock:** more than the requirement for one month, including the buffer stock (i.e. more than 125% for vaccines and 110% for syringes).

Logistics management is a cyclical process and involves several steps, namely demand estimation, indenting, receipt, storage and distribution of vaccines and other supplies to health facilities in a timely fashion and at an optimum cost.

**Following are the steps involved in logistics management related to vaccines, diluents and AD syringes:**

**Step 1: Estimate Requirements and Indent**

Compile the microplans of all the sub-centers at the PHC level and estimate the requirement of vaccines and other supplies. UIP requires that at the:

- **PHC:** 1 month of vaccines and supplies are stored
• **District**: 3 months of vaccines and supplies are stored

Furthermore, ensure that the overall estimate includes a **buffer or safety stock** (25% for vaccines and 10% for syringes). The buffer stock serves as a cushion or buffer against emergencies, major fluctuations in vaccine demands or unexpected transport delays.

The problems of stock-out, inadequate or excess stock can be avoided if a **minimum/maximum inventory control system** is implemented. This system ensures that the quantity in hand is always between established maximum and minimum stock levels.

The **Minimum stock level** (also known as the re-order level) implies the least amount that you should have in stock or the level which, when reached, initiates a re-order; usually expressed as the number of weeks/months of supply. It is the amount of stock you will use in the time between placing and receiving an order plus the buffer stock. The minimum stock level is the level below which stocks should never drop without having placed an order.

The **Maximum stock level** implies the largest amount of stock that you should have, usually expressed as the number of weeks/months of supply. It is the minimum stock plus the amount of stock used between orders. The maximum stock level is set to guard against excess stock which results in losing vaccines to expiration before use.

*The relation between minimum, maximum and buffer stocks*

The Lead time refers to the time between ordering of new stock and its receipt. The lead time varies, depending on the speed of deliveries, availability and reliability of transport, and sometimes the weather. For instance, if a PHC’s monthly requirement of DPT is 280 doses, the Buffer Stock will be 70 doses (or 25% or one week’s supply). Additionally, if the Lead Time is one week, then the Minimum Stock (or Re-order) Level is the stock for one week and the Buffer Stock (70 doses + 70 doses = 140 doses). The Maximum Stock Level, therefore, will be the Minimum Stock and the stock used between orders (140 doses + 3 weeks stock of 210 doses = 350 doses).

If the stock level falls to the re-order level, inform the district vaccine stores for replenishment and place an indent to avoid any shortage or stock-out.
**Step 2: Receive**

During receipt, check and record the details of vaccines, diluents and other supplies and sign in the vaccine and logistics supply voucher. (See Appendix 4.3)

When the supplies reach the PHC, also enter the details in the vaccine and logistic stock register each time they arrive at the storage point, including Batch numbers, Expiry dates, VVM status, etc. (See Appendix 4.4)

**Step 3: Store**

Systematically arrange vaccines and supplies to facilitate issue of stocks whose expiry date is the closest i.e. distribute vaccine with the shortest shelf-life first, even if it arrived last. This system, commonly known as **EEFO (Earliest- Expiry-First-Out) is preferable to FIFO (First-In-First-Out) handling.**

While in storage, periodically conduct a physical inventory of all vaccines once every month and other supplies at least once every three months. Check and record the details at the bottom of the stock register.

Include only vaccine stocks that are suitable for use and kept in the cold chain. Any expired vials, heat-damaged vials or vials with VVMs beyond the discard point should not appear in the available stock balance and also should not be kept in the cold chain.

**Step 4: Issue and Use**

Follow the earliest expiry, first out (EEFO) procedure during distribution. Follow the FIFO principle if all the vaccines and supplies are of the same shelf-life.

**Check that the types and amount of vaccine, diluent and dropper are the same, as per microplan for that session site.**

Check the status of randomly selected vials for intact labels, expiry date, VVM and freezing.

Check and record details, in the stock register, of vaccines and supplies every time they leave the storage point for distribution to session sites and, eventually, the user. Calculate and record the end balance of the stock.

Ensure that the health worker is present to receive the stocks at the expected time of delivery and to record the receipt and status of vaccines and supplies in the Vaccine and Logistics Issue Register (See Appendix 4.5) with the date, signature of delivery person, and signature of PHC official.

At the PHC level, ensure that doses used, discarded and returned to the PHC at the end of the session are recorded in the stock register.

Since provision of immunization services depends on the simultaneous availability of a number of related supplies, shortages or stock-outs of any of these negatively impacts the program. “**Bundling**” ensures that vaccines are always supplied with diluents, droppers, AD syringes and reconstitution syringes, in corresponding quantities, at each level of the supply chain. Also supply other related items (e.g. Tablet IFA, ORS) required for the conduct of Village Health and Nutrition Day.
And then re-start with Step 1: Estimate Requirements…

Before you indent the next batch of vaccine, conduct a physical inventory to make sure that the ledger is accurate, i.e. all supplies issued to sessions are accounted for. Before indenting additional supplies for the next month, subtract your End Balance from next month’s stock requirements and include a 25% buffer stock.

The goal is to immunize the maximum number of infants and pregnant women. Encourage Health Workers to not hesitate in opening a new vial of vaccine for even one beneficiary. They may not have another opportunity to provide a dose to that infant or pregnant woman.

3.9 Emergency Plan for Vaccine Storage

- Jointly identify a range of alternative storage arrangements for vaccines in the event of equipment breakdown or electricity failure of more than 24 hours.
- Check identified alternative stores to ensure that they are functional, have adequate space and are capable of maintaining vaccines at the correct temperature.
- List out the resources and actions involved and the persons identified to carry them out.
- Include an updated list of emergency contact names, addresses and telephone numbers. Make sure that emergency contacts can be made both inside and outside normal working hours.
- Confirm the plan in writing and paste clear instructions in local languages on the cold chain equipment.
- Make all who are concerned aware of the requirements and the activities that may be necessary during emergency and educate/train them accordingly.
- Do not wait until an emergency occurs. Rehearse the plans before they are needed.

**PHC: Garhi, (Prepared: March 2012)**

**When to act:**
- ILR / Deep Freezer breaks down OR
- Electricity failure of more than 24 hours

**Who will act:**
- Kashinath Soni (Health Assistant Male and Cold Chain Handler)

**What to do:**

<table>
<thead>
<tr>
<th>ILR</th>
<th>Transfer vaccine to the cold box with conditioned icepacks. Place a thermometer inside the cold box.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Freezer</td>
<td>Freeze icepacks in Kejriwal ice factory at Navapura. Contact person Ashutosh Kejriwal (Ph. XXXXX)</td>
</tr>
</tbody>
</table>

In case of ILR/DF breakdown, immediately inform:

<table>
<thead>
<tr>
<th>Designation</th>
<th>Name</th>
<th>Phone (O)</th>
<th>Phone (O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOPHC</td>
<td>Dr Bhawar Singh</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>DIO</td>
<td>Dr Rathore</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>District Cold Chain</td>
<td>Sunil Kumar</td>
<td>XXXXX</td>
<td>XXXXX</td>
</tr>
<tr>
<td>Technician</td>
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</tr>
</tbody>
</table>

Record details of breakdown in inventory register and UIP Monthly PHC Performance Report.
### Appendix 4.1: Vaccine & Logistics Indent Form

<table>
<thead>
<tr>
<th>Item</th>
<th>Total amount received in current year</th>
<th>Balance available on date of indent</th>
<th>Amount requested</th>
<th>Item</th>
<th>Total amount received in current year</th>
<th>Balance available on date of indent</th>
<th>Amount requested</th>
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</thead>
<tbody>
<tr>
<td>BCG (doses)</td>
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<td></td>
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<td>BCG (doses)</td>
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<td>tOPV (doses)</td>
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<td>BCG Diluent (amp)</td>
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<td>Measles Diluent (amp)</td>
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<td>0.1 ml AD Syringes</td>
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<td>0.5 ml AD Syringes</td>
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<tr>
<td>5 ml Disposable Syringes</td>
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<td>5 ml Disposable Syringes</td>
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<td></td>
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<tr>
<td>VitA Syrup</td>
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<td>VitA Syrup</td>
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<table>
<thead>
<tr>
<th>Signature of Receiver:</th>
<th>Signature of Requester:</th>
<th>Signature of Receiver:</th>
<th>Signature of Requester:</th>
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</thead>
<tbody>
<tr>
<td>Name:</td>
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<td>Name:</td>
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<tr>
<td>Designation:</td>
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<tr>
<td>Address:</td>
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</tr>
</tbody>
</table>
# APPENDIX 4.2: VACCINE & LOGISTICS SUPPLY VOUCHER

<table>
<thead>
<tr>
<th>Item</th>
<th>Total amount received in current year</th>
<th>Balance available on date of indent</th>
<th>Amount requested</th>
<th>Item</th>
<th>Total amount received in current year</th>
<th>Balance available on date of indent</th>
<th>Amount requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG (doses)</td>
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<td>BCG (doses)</td>
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<tr>
<td>tOPV (doses)</td>
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<td>tOPV (doses)</td>
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<td>DPT (doses)</td>
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<td>DPT (doses)</td>
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<td>Measles (doses)</td>
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<td>Measles (doses)</td>
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<tr>
<td>BCG Diluent (amp)</td>
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<td>BCG Diluent (amp)</td>
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<td>Measles Diluent (amp)</td>
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<tr>
<td>0.1ml AD Syringes</td>
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<td>0.5 ml AD Syringes</td>
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<tr>
<td>5 ml Disp. Syringes</td>
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<td></td>
<td></td>
<td>5 ml Disp. Syringes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VitA Syrup</td>
<td></td>
<td></td>
<td></td>
<td>VitA Syrup</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Received above vaccines and logistics in quantity mentioned and in good condition.

Signature of Receiver: ____________________________
Name: ____________________________
Designation: ____________________________
Address: ____________________________
Remarks: ____________________________
### APPENDIX 4.3: STOCK REGISTER

(Note: all figures should be in doses, not in number of vials)

**Name of Item:** DPT  
**Storage Location:** Garhi PHC  
**Year:** 2008

<table>
<thead>
<tr>
<th>From (Supplier)</th>
<th>Batch No.</th>
<th>Issue Quantity</th>
<th>Batch No.</th>
<th>Issue Quantity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Stores</td>
<td>AG-100420</td>
<td>270 AG-100420</td>
<td>70 AG-100420</td>
<td>10 270 AG-100420</td>
<td>70 270 AG-100420</td>
</tr>
<tr>
<td>1/2 270</td>
<td>Dec-2009</td>
<td>Liquid</td>
<td>N.A.</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
</tbody>
</table>

**Date and Month**

<table>
<thead>
<tr>
<th>Date and Month</th>
<th>Opening Balance</th>
<th>Received</th>
<th>Issued</th>
<th>Returned Unused</th>
<th>End Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 270 District Stores</td>
<td>100</td>
<td>270 AG-100420</td>
<td>70 AG-100420</td>
<td>10 270 AG-100420</td>
<td>70 270 AG-100420</td>
</tr>
</tbody>
</table>

- **Quantity:**
  - Returned Unused: 10
  - End Balance: 70

**Remarks:**

On the last working day of every month, provide the following summary of the stock position:

**Opening Balance =** 70

**Closing Balance =** 270

**Received:** 270

**Issued:** 270

**Remarks:**

Only for TT, DPT, DT and HepB vaccines

End Balance =

100 + 270

Loss/Adjustment = 10

Indent for Next Month =

270 + 25% Buffer Stock: 70

Date and Signature of IO/ICC

**Remarks:**

On the last working day of every month, provide the following summary of the stock position:

Opening Balance: 100

Ist Physical Verification by Medical Officer

Remarks:

Date:
# APPENDIX 4.4: VACCINE & LOGISTICS ISSUE REGISTER

<table>
<thead>
<tr>
<th>Date (DD/MM/YY)</th>
<th>Doses of Vaccines</th>
<th>Number of Ampoules</th>
<th>Number of Syringes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BCG</td>
<td>DPT</td>
<td>tOPV</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>R</td>
<td>D</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

**Total**

(D: Distributed; R: Returned)

- **Village/Site for distribution**
- **Delivery Mode**
- **Name of HW**
- **IO/ICC Signature**
- **Supervisor Signature**

免疫接种指南

# APLIKASI 4.4: VAKSIN & LOGISTIK ISSUE REGISTER

<table>
<thead>
<tr>
<th>Tanggal (DD/MM/YY)</th>
<th>BCG</th>
<th>DPT</th>
<th>tOPV</th>
<th>Hep B</th>
<th>Measles</th>
<th>TT</th>
<th>DT</th>
<th>BCG Diluent</th>
<th>Measles Diluent</th>
<th>0.1 ml ADS</th>
<th>0.5 ml ADS</th>
<th>5 ml Disp.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>D</td>
<td>R</td>
<td>D</td>
<td>R</td>
<td>D</td>
<td>R</td>
<td>R</td>
<td>D</td>
<td>R</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total**

(D: Diterdistribusi; R: Kembali)

- **Tempat/Site untuk distribusi**
- **Moda pengiriman**
- **Nama HW**
- **IO/ICC Signature**
- **Signature Supervisor**
Unit 4: Safe injection practices and adverse effects following Immunization

Learning Objectives

At the end of the unit you should be able to:

- Explain the importance and advantages of safe injection practices.
- Demonstrate how to use AD Syringes.
- Demonstrate safe disposal of immunization waste.
- Understand the precautions to avoid adverse effects following immunization

CONTENTS

4.1 What is a safe injection?
4.2 What are the risks associated with unsafe injections?
4.3 Simple ways to improve injection safety
4.4 Auto disable syringes
4.5 Waste management in Immunization
4.6 Safety pit
4.7 Adverse Event Following Immunization

4.1 What is a safe injection?

A safe injection is an injection that does not cause harm to the recipient, the provider, or the community. Health workers should assume that all used injection equipment is contaminated and should not be used. They should take the necessary precautions to ensure that no person is potentially exposed to infection or accidental needle-stick injuries.

4.2 What are the risks associated with unsafe injections?

As health workers, we understand that reusing syringes and needles can cause cross-infection and put people at risk. The most common, serious infections transmitted by unsafe injections are Hepatitis B, Hepatitis C, and HIV (the virus that causes AIDS). Poorly administered injections can also cause injuries or drug toxicity when the wrong injection site, vaccine, diluent, or dose is used. It is important to prevent the risks of accidental needle-stick injury, and necessary to dispose off used syringes and needles safely to prevent risks to the community at large.
4.3 Simple ways to improve injection safety

The following tasks are suggested for health workers to ensure injection safety:

**Keep hands clean before giving injections**
- Wash or disinfect hands prior to preparing injection material.
- Avoid giving injections if the skin at the site of injection of the recipient is infected or compromised by local infection (such as a skin lesion, cut, or weeping dermatitis).
- Cover any small cuts on the service provider’s skin.

**Use sterile injection equipment, every time**
- Always use ADS for each injection and a new disposable syringe to reconstitute each vial of BCG and measles.

**Prevent the contamination of vaccine and injection equipment**
- Prepare each injection in a designated clean area where contamination from blood or body fluid is unlikely.
- If the injection site is dirty, wash with clean water.
- Always pierce the rubber cap of the vial with a sterile needle.
- Follow product-specific recommendations for use, storage, and handling of a vaccine.
- Do not touch the needle or rubber cap of vial with your finger.
- Discard any needle that has touched any non-sterile surface.

**Assume all used equipment is contaminated**
- Assume all used equipment is contaminated.

**Practice safe disposal of all medical sharps waste**
- Used sharps (needles) must be collected in a hub cutter and then carried to the PHC for safe disposal.

**Prevent needle-stick injuries**
- Do not recap or bend needles.
- Collect sharps in a puncture proof container (Hub cutter).
- Anticipate sudden movement of the child.
4.4 Auto-Disable Syringes

Auto disable syringes are syringes which are designed to work for only one single shot. They are now supplied to all health facilities under the Universal Immunization Program.

a) Features of AD Syringes

- Pre-sterilized in a sealed pack
- Have a fixed needle
- Available in two sizes with vaccine drawing capacity of 0.1 ml. and 0.5 ml.

b) Advantages of AD syringes

- AD syringes are designed to prevent the re-use of non-sterile syringes.
- The fixed-needle design reduces the empty space in the syringe that wastes vaccine and eliminates chances of entry of air bubbles into the syringe due to loose fitting of the needle.
- AD syringes are dose-specific (0.5 ml and 0.1 ml) and hence, drawing the plunger to the full length to the specified marking ensures the correct dose.
- AD syringes are pre-sterilized therefore eliminating the need to carry bulky equipment such as pressure cookers, stove, kerosene, etc. to the session site and help save time.

c) Injection technique of AD Syringes

In AD syringes the plunger can go back and forward only once. The plunger gets locked after the complete dose of vaccine is pushed in. Do NOT draw in air to inject it into the vial before drawing the vaccine. See Figure 5A for using the AD syringes correctly.

d) Handling syringes and needles safely

Do not touch any part of the needle at the time of drawing and administering the vaccine.

If any part of the needle is touched then it is important to discard the syringe and needle and use a new, sterile syringe.

Use only Auto Disable Syringe for each injection

4.5 Waste management in Immunization

Waste generated during immunization sessions will have to be disposed of properly as per Central Pollution Control Board guidelines.

The three types of waste generated during a session are as follows:

1. **Contaminated sharps**: Needles cut by hub cutter and broken ampoules and vials (inside hub-cutter)
2. **Contaminated non sharps**: Plastic part (barrel and piston) of used syringes, used and empty but unbroken/non-sharp vials and ampoules
3. **Others**: Plastic needle caps and wrappers of syringe

All the three types of waste generated should be brought back to the ILR point separately for disposal after decontamination.
To prepare **1% Hypochlorite solution**, dissolve 10-15g or 1 tablespoonful of bleaching powder in 1 liter of water, in a well ventilated area. Chlorine solutions gradually lose strength; therefore prepare freshly diluted solutions daily. Use clear water, because organic matter destroys chlorine. Since this bleach solution is also caustic, avoid direct contact with skin and eyes. Use plastic containers as metal containers are corroded rapidly and also affect the bleach.

30 Lt. (24” x 28”) **Red/ Black Plastic Bags** (Biodegradable) HDPE/LLDPE/PP made with virgin, non-chlorinated polymer material with minimum thickness of 55 micron, with easy to hold collar tie/knot arrangement and preprinted as per requirements of Bio Medical Waste Management Rules.
4.6 Safety pit

The treated needles/broken vials should be disposed in a circular or rectangular pit as shown below. Such a rectangular or circular pit can be dug and lined with brick, masonry or concrete rings. The pit should be covered with a heavy concrete slab, which is penetrated by a galvanized steel pipe projecting for about 1 meter above the slab, with an internal diameter of up to 50 millimeters or 1.5 times the length of vials, whichever is more. The top opening of the steel pipe shall have a provision of locking after the treated waste sharps has been disposed in. When the pit is full it can be sealed completely, after another has been prepared. For high water table regions where water table is less than 6 meters beneath bottom of the pit, a tank with above mentioned arrangements shall be made above the ground.

4.7 Adverse Event Following Immunization

An Adverse Event Following Immunization (AEFI) is a medical incident that takes place after an immunization, causes concern, and is believed to be caused by immunization. An AEFI may occur because of program error or sensitivity to vaccine or it may occur coincidentally. Whatever the cause, AEFIs must be taken seriously and the management must be rapid and professional.

Remember: Common, minor side effects, such as a slight fever, pain, swelling or redness at the site of the injection, and irritability usually resolve without any serious consequences. Hence, there is no need to report these reactions as AEFIs on a routine basis. They are normal reactions that become all right with extra fluids, rest and Paracetamol, when necessary.
Types of AEFIs

There are five categories of adverse events following immunization, depending on how they occur.

Table 4.1: Types of AEFIs

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vaccine reaction</strong></td>
<td>An event caused or precipitated by the active component or one of the other components of the vaccine (e.g. adjuvant, preservative or stabilizer). This is due to the inherent properties of the vaccine.</td>
<td>High grade fever following DPT vaccination</td>
</tr>
<tr>
<td><strong>Program Error</strong></td>
<td>An event caused by an error in vaccine preparation, handling or administration.</td>
<td>Bacterial abscess due to un-sterile injection</td>
</tr>
<tr>
<td><strong>Coincidental</strong></td>
<td>An event that occurs after immunization but is not caused by the vaccine. This is due to a chance temporal association</td>
<td>Pneumonia after oral polio vaccine administration</td>
</tr>
<tr>
<td><strong>Injection Reaction</strong></td>
<td>Event caused by anxiety about, or pain from the injection itself rather than the vaccine</td>
<td>Fainting spell in a teenager after immunization</td>
</tr>
<tr>
<td><strong>Unknown</strong></td>
<td>The cause of the event cannot be determined</td>
<td></td>
</tr>
</tbody>
</table>
Learning Objectives

At the end of the unit you should be able to:

• Guide health workers to prepare sub center microplans including maps
• Compile sub center microplans and help prepare plan for supervision, alternate vaccine delivery and day-wise logistic distribution plan.
• Prepare an updated map of the PHC (including AVD plan)
• Prepare micro plans for urban areas, VHND, Mobile teams and special immunization drives.

CONTENTS

5.1 Micro plan for immunization
5.2 Desk review for micro plan preparation
5.3 Block level meeting to update the sub-center micro plans
5.4 Steps in preparation of a sub-center micro plan
5.5 Micro planning for urban areas
5.6 Alternate Vaccine Delivery System and Alternate Vaccinators
5.7 Village Health and Nutrition Day
5.8 Mobile teams
5.9 Special immunization drives
5.10 Reviewing and updating micro plans
5.11 Making preparations for and conducting an Immunization session.

5.1 Micro plan for immunization

A basic micro plan for immunization would include:

• An Area Map (with villages/ Mohalla, hamlets, hard to reach areas, etc.) at the SC-level.
• An estimation of beneficiaries.
• An estimation of vaccines and logistics.
• A work plan, including:
  • Who will provide the services?
  • Who will assist in provision of the services (AWW, ASHA, Social mobilizers, Gram Panchayat members, NGOs etc)
  • Where will the services be provided (selection of sites)?
  • When will the services be provided (planning of sessions)?
Micro plans should aim to reach each and every child from each community, village and area. Each health worker is expected to prepare micro-plan for her sub-centre area with the help of AWWs and ASHAs. As a Block Manager, you need to guide the HWs in preparing SC micro-plans. You have to

- Ensure that health workers conduct annual survey to list all immunization beneficiaries and update this beneficiary list monthly.
- Validate sample lists to ensure completeness, correctness and regular updating.
- Support the data handler in compiling and maintaining the line list of beneficiaries with records of their successive vaccinations and analyze this list for program progress and intervention.

Prepare the Micro plan of your Block in consultation with medical officers, health supervisors and health workers by following the steps given below:

### 5.2 Desk review for micro plan preparation

- Get the list of villages/areas under each sub center at the block level.
- Cross verify this list with the village and areas lists (census, ‘e gram’, polio micro plan, village lists with BDO). Include migrant and mobile populations also.
- Identify the missed villages/areas and allocate them to existing sub-center/facility areas being covered by health workers. Sample format is given below:

<table>
<thead>
<tr>
<th>Name of Sub-center</th>
<th>Name of the HW</th>
<th>Name of village /Hamlet/Tola/Majra under the Sub-center per the HW including slums, nomads, construction sites, brick kilns</th>
<th>Name of village /Hamlet/Tola/Majra under the Sub-center as per polio microplan/ list from block including slums, nomads, construction sites, brick kilns</th>
<th>The area is covered in HW micro-plan</th>
<th>Population of each site</th>
<th>Population of each site</th>
<th>Included in updated Micro plan? if no, then special planning is required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

Note: Ensure that each and every village/area of the block is included in the RI-micro plan.

### 5.3. Block level meeting to update the sub-center micro plans

a) Share the updated list of villages/areas with the HWs in a meeting at block level.

b) Ensure that these villages/areas are now included in the micro plans to be prepared by health workers.

c) Ask HWs to include the missed areas in the map of the sub-center area and ask them to display it in the sub center.

d) Decide on the location and timing of the sessions with inputs from HWs.

e) Rationalize the workload among the health workers and prepare the quarterly work plan indicating the names of ANM, AWW/ASHA/other mobilizer and the day of immunization at each session site.

f) Prepare plan to inform the beneficiaries (through ASHA and AWW) about the time and place of immunization sessions and motivate them to come for vaccination.

g) Where there are vacant sub centers arrange for other health workers to include the related villages in their micro plan till a regular health worker is appointed.
**Note:** Ensure equitable distribution of areas among available health workers by considering the geographical distances, travel facilities and time taken to reach various areas as well as the population density and proximity of various villages and areas.

(1) **Guidelines for selection of immunization sites**

- Finalize the session sites after discussions with the AWW, ASHA, TBAs, other service providers and Panchayat/ Ward members.
- Consult community members and fix a mutually convenient site and time for the immunization session.
- Prefer to use government building (sub-centre or AWC) as Immunization site. In case, both do not exist then select other site such as Panchayat Bhawan, School etc, which is easily accessible to all sections of the community.
- For hard-to-reach areas, with few beneficiaries, plan session at a site close to the community.
- Do not change session sites and times unless required.

**ANM should share with AWW and ASHA:**

- The time and place of the next session
- Due list of beneficiaries, to ensure that they bring them to the session?

(2) **Guidelines for estimation of the number of sessions for each sub-centre**

Vaccination sessions may be organized at an interval of one, two or three months, depending on the expected injection load per immunization session.

- **Out-reach sites** (SC/ AWC etc. without vaccine storage facility)
  - For every 25-50 injections, plan one session per month.
  - For more than 50 injections, plan two sessions per month.
  - For less than 25 injections, plan a session every alternate month.

- **Fixed sites** (PHC/CHC/District Hospital or others where vaccine is stored)
  - For every 40-70 injections, plan one session per month.
  - For more than 70 injections, plan two sessions per month.
  - For a busy CHC/RH, plan daily sessions.

- **Hard to reach areas with population of less than 1000**
  - Plan minimum of 4 sessions in a year (one session every quarter)

*For hard to reach areas, a minimum of 4 sessions in a year (once every quarter) should be held.*
5.4 Steps in preparation of a sub-center micro plan *(see table 5.1)*

**STEP 1.** List all villages and hamlets in the sub-center area

**STEP 2.** Write the total population of each village based on actual headcount

**STEP 3.** Write Annual target of beneficiaries (pregnant women and infants)

For infants, it is actual headcount. For PW, the headcount provides a point estimate for only 6 months (as pregnancies in the first trimester may be undetected). Hence, multiply the headcount by 2 to arrive at an estimate for 12 months.

**STEP 4.** Write monthly target of beneficiaries (pregnant women and infants)

Divide the annual target of pregnant women and infants by 12 to get the monthly target.

**STEP 5.** Calculate the beneficiaries per month for each vaccine and Vitamin A

For example, if the monthly target for a village is 1 infant and 1 pregnant woman, then the beneficiaries for each vaccine and vitamin A (and injection load) for such a village can be calculated as follows:

- TT = Monthly target of pregnant women x 2 doses (2 injections)
- BCG = Monthly target of infants x 1 dose (1 injection)
- DPT = Monthly target of infants x 5 doses ³ (5 injections)
- OPV = Monthly target of infants x 4 doses ⁴
- HepB = Monthly target of infants x 3 doses (3 injections)
- Measles = Monthly target of infants x 2 doses (2 injections)
- JE = Monthly target of infants x 1 dose (1 injection)
- Vit A = Monthly target of infants x 9 doses

Therefore, a total of about 14 injections are required for a target of each infant per month. If the target is 2 infants then the injection load will be 28. This means that one session has to be held every month.

**STEP 6.** Calculate the requirement of vaccine vials and Vitamin A per month

- TT/BCG/DPT/HepB = \[\text{Beneficiaries per month} \times 1.33^\star \times \frac{10}{10}\]
- OPV = \[\text{Beneficiaries per month} \times 1.33^\star \times \frac{20}{20}\]
- Measles/JE = \[\text{Beneficiaries per month} \times 1.33^\star \times \frac{5}{5}\]

² Based on the specific needs, add the calculations of beneficiaries for the following doses:

- OPV-0 = Monthly target of infants x 1 dose
- HepB-Birth = Monthly target of infants x 1 dose.
- TT-10 = expected 10 yr old population x 1 dose
- TT-16 = expected 16 yr old population x 1 dose

³ Including 2 booster doses
⁴ Including 1 booster dose
• Vit A = ((monthly target of infants x 1 ml) + (monthly target of infants x 2 ml x 8)) x 1.11**  
  * Vaccines = 25% wastage rate or 1.33 WMF (Wastage Multiplication Factor)  
  * Vit A = 10% wastage rate or 1.11 WMF  
• 0.1 ml ADS = Beneficiaries for BCG x 1.11*  
• 0.5 ml ADS = Beneficiaries for (TT+ DPT+ HepB+ Measles+ JE) x 1.11*  
• Reconstitution Syringes = (BCG + Measles+JE vials) X 1.11*  
  * Syringes = 10% wastage rate or 1.11 WMF (Wastage Multiplication Factor)

Ensure that a minimum of one vial of each vaccine is available for every session. Also ensure that the ampoules of diluents are equal to the required number of BCG, Measles and JE vials.

STEP 7. Prepare the Work Plan / Roster

• List all the villages and hamlets in the Sub-Center area as in Step1.  
• Write distance of each village from ILR point (last vaccine storage point from where the vaccines are distributed to session sites).  
• Write names of AWW and ASHA  
• Monthly injection load per village and number of sessions required per month  
• Days of immunization session in each village

Ensure that each planned session is held, even in case of holiday or leave

STEP 8. Prepare a map of sub-centre showing:

• All villages and hamlets with their total population and annual target infants.  
• All Anganwadi centers, session sites and session days.  
• Distance from the ILR point and the mode of transport.  
• Landmarks as Panchayat Bhavan, School, Roads etc.

Prepare the map of the sub-center area and display at the sub-center
### TABLE 5.1: SUB-CENTER MICRO-PLAN (ANM: GEETA RANI)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Village</th>
<th>Total Population</th>
<th>Annual Target</th>
<th>Monthly Target</th>
<th>Beneficiaries per month for each vaccine &amp; Vitamin A</th>
<th>Vaccine vials &amp; Vitamin A per month</th>
<th>Syringes per month</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Kushalgarh (SC)</td>
<td>2995</td>
<td>96</td>
<td>90</td>
<td>8 8 16 8 40 32 24 16 72 3 2 6 3 4 5 151 9 107 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Nogama</td>
<td>970</td>
<td>32</td>
<td>29</td>
<td>6 3 15 12 27 1 1 2 1 2 2 57 4 40 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Kalinjra</td>
<td>1480</td>
<td>48</td>
<td>44</td>
<td>4 4 8 4 20 16 12 8 36 2 1 3 2 2 3 76 5 53 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Aajna</td>
<td>998</td>
<td>34</td>
<td>30</td>
<td>6 3 15 12 6 27 1 1 2 1 2 2 57 4 40 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hemta Ki Dhani</td>
<td>226</td>
<td>8</td>
<td>7</td>
<td>1 1 2 1 5 4 3 2 9 1 1 1 1 1 1 1 19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Formula**: Based on actual headcount x 2

- a = \( \frac{\text{Column a + 12}}{12} \)
- b = \( \frac{\text{Column b + 12}}{12} \)
- c = \( \text{Column x 2} \)
- d = \( \text{Column x 1} \)
- e = \( \text{Column x 5} \)
- f = \( \text{Column x 4} \)
- g = \( \text{Column x 3} \)
- h = \( \text{Column x 2} \)
- i = \( \text{Column x 9} \)
- j = \( \text{(Column e x 1.33) ÷ 10} \)
- k = \( \text{(Column f x 1.33) ÷ 10} \)
- l = \( \text{(Column g x 1.33) ÷ 10} \)
- m = \( \text{(Column h x 1.33) ÷ 10} \)
- n = \( \text{(Column i x 1.33) ÷ 5} \)
- o = \( \text{(Column j x 1.33) ÷ 5} \)
- p = \( \text{(Column x 1 ml) + (column x 8 x 2 ml)} \)
- q = \( \text{Column x 1.11} \)
- r = \( \text{Column x 11} \)
- s = \( \text{Column x 11} \)
- t = \( \text{Column x 11} \)
- u = \( \text{Column x 11} \)
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Village</th>
<th>Distance (kms) from ILR point</th>
<th>AWW</th>
<th>ASHA</th>
<th>Injections per month</th>
<th>Sessions required per month</th>
<th>Month 1</th>
<th>Month 2</th>
<th>Month 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wed</td>
<td>Sat</td>
<td>Wed</td>
</tr>
<tr>
<td>1</td>
<td>Kushalgarh (SC)</td>
<td>6</td>
<td>Anupma</td>
<td>Mina</td>
<td>104</td>
<td>Twice/ a mth</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2</td>
<td>Nogama (AWC)</td>
<td>7</td>
<td>Rukmani</td>
<td>Babli</td>
<td>39</td>
<td>Once/ a mth</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>3</td>
<td>Kalinjra (AWC)</td>
<td>12</td>
<td>Shaeela</td>
<td>Laali</td>
<td>52</td>
<td>Twice/a mth</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4</td>
<td>Aajna (PRI)</td>
<td>12</td>
<td>Madhavi</td>
<td>Kanta</td>
<td>39</td>
<td>Once/a mth</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5</td>
<td>Hemta Ki Dhani</td>
<td>14</td>
<td>Geeta</td>
<td>Kuribai</td>
<td>13</td>
<td>Once/ 3 mths</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
5.5 Micro planning for urban areas

While planning for urban areas consider these additional points:

- Formation of Urban Coordination Committee is important for planning.
- Map all administrative zones and wards, with clear demarcation of catchment areas of various public health service providers (Municipal or Health Department).
- Include all NGOs, Private and Charitable hospitals, AWCs etc.
- Include all slums (recognized and unrecognized) and other under-served areas.
- If there is a paucity of ANMs, hire alternate vaccinators, including private doctors, NGOs.
- Also involve local CBOs in social mobilization.
- If there are insufficient AWCs, plan sessions in schools, CBOs, youth clubs etc.
- Plan sessions more frequently, if required due to overcrowding in slums.

5.6 Alternate Vaccine Delivery System and Alternate Vaccinators

- **Alternate Vaccine Delivery System** means that the vaccine carrier is delivered from PHC to the session site by an independent person and ANM has to reach directly at the session site. It helps to start the session on time and the HW doesn’t have to come to PHC to collect or return vaccine and other logistics to the PHC at the end of the session.

- Alternate vaccine delivery mechanisms ensure that vaccines and other logistics are delivered to the outreach sites from the cold chain storage or ILR point. This helps to ensure that the sessions are held according to plan and on time.

- As managers you should ensure timely lifting up of all vaccines and logistics and delivery before scheduled start of outreach session; requisite quantities of vaccines and logistics are transported to the session site in good condition; feasible conditions and availability of reliable manpower and appropriate vehicles.

- Ensure that alternate vaccine delivery system is also used to return unused vaccines and logistics; materials for waste disposal and reports from the outreach session. Below is an example of “Updated Map of PHC with Alternate Vaccine delivery Route chart”

- **Alternate Vaccinators (AVs)** can be hired for:
  - Urban Slums
  - Areas with no ANM posted
  - Areas where posted ANM is absent since 2 months (e.g. Sick leave, Maternity Leave of ANM)
In Urban Slums, 1 session per month should be planned for 10,000 population. In other areas mentioned above, sessions should be planned on existing guidelines based on monthly injection load.

Competent Human Resources like retired ANMs or trained and well-qualified nurses, pharmacist can be hired as Alternate Vaccinators. If need be, train (as per the HW training handbook) these vaccinators prior to utilizing their services.

1 hired Alternate Vaccinator can be engaged for a maximum of 4 sessions per month. Alternate Vaccinators thus hired are to be paid an honorarium of Rs. 300 and contingency of Rs. 50 per session (total Rs. 350).

5.7 Village Health and Nutrition Day

Village Health & Nutrition Day (VHND) is organized at the Anganwadi Centre at least once every month to provide ante natal/ post-partum care for pregnant women. Promotion of institutional delivery, immunization, family planning & nutrition are the other various services being provided during VHNDs. The Routine Immunization micro plan can easily be integrated to a VHND micro plan as most of the villages would have one session planned per month. However where injection load is high in large villages and to ensure smaller hamlets and habitations without Aganwadi centers are not left out, it is advisable to plan additional Routine Immunization sessions in these places.

5.8 Mobile teams

Mobile teams constitute sending a small health team with adequate supplies and appropriate mobility arrangement to provide immunization and other outreach services in villages and areas which are other-wise difficult to reach. Mobile teams can be sent at least 4 times a year when these areas become accessible.

5.9 Special immunization drives/ immunization weeks

A series of immunization days or weeks planned for intensified activity in areas with poor coverage over a few months has shown to help in improving the immunization coverage.

Usually all areas with poor coverage are identified and micro plans are prepared to send immunization teams in those areas for a period of several days (usually 5-7). With intensified publicity and supervision along with the provision of additional resources it is possible to use these opportunities to rapidly improve the immunization coverage. Four rounds of these special drives are recommended in succession with a period of at least 28 days between each round.

5.10 Review and update the micro plans quarterly

As a program manager it would be helpful for you to review the micro plan for its essential components once it is prepared and then on a quarterly basis. Visiting sub center areas during the planning process would help in ensuring quality of the plans. The following steps are suggested:

a) Visit the session sites and community in high risk / priority areas with standard checklists
b) Provide supportive supervision and on the job training
c) Share the monitoring information regularly at BTF and Block review meetings
Routine Immunization checklist for Preparing / Reviewing Micro plans

<table>
<thead>
<tr>
<th>District:</th>
<th>Block / Urban area:</th>
<th>Planning Unit:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimation of Beneficiaries, Vaccine, Logistics &amp; Sessions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>All villages &amp; habitation identified by name</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>2</td>
<td>Beneficiaries &amp; vaccines, logistics correctly estimated?</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>3</td>
<td>Health worker roster / Session plan prepared</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>4</td>
<td>All identified migratory population sites included for RI services</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>5</td>
<td>Plan for providing TT booster dose at 10yr &amp; 16yr prepared</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td><strong>Alternate Vaccine Delivery (AVD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Session requiring Alt. Vaccine Delivery (AVD) identified</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>7</td>
<td>Persons identified for AVD</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td><strong>Mapping</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>District map showing Blocks &amp; planning unit area attached</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>9</td>
<td>Planning Unit Map showing Sub-Centers, Session sites, AVD and Migratory / High Risk areas prepared</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td><strong>Supervisory plan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Areas / Session sites assigned to each supervisor</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td><strong>Emergency plan for Vaccine storage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>SOP for &quot;What to do in case of breakdown&quot; written</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>12</td>
<td>Cold chain staff identified</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>13</td>
<td>Names &amp; contact information of persons to be contacted in case of emergency available</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td><strong>Communication and Social Mobilization plan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Communication risk analyzed sub-center wise</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>15</td>
<td>Appropriate communication activities planned</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>16</td>
<td>Persons responsible for each activity identified</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

5.11. Making Preparations and conducting an immunization session

a) Choose an appropriate location accessible to the community

Ideally, the immunization session sites should have:
- Adequate space to accommodate beneficiaries before and after being immunized; space for registration, immunizing and recording.
- A table for vaccines and injection equipment
- A seat on which a parent can sit while holding a child for immunization
- A seat for the health worker

<table>
<thead>
<tr>
<th>a</th>
<th>Source of clean water</th>
<th>j</th>
<th>Soap for hand washing</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>Vaccine carrier with 4 conditioned ice packs</td>
<td>k</td>
<td>Metal file to open ampoules</td>
</tr>
<tr>
<td>c</td>
<td>Vaccines, diluents and Vitamin A</td>
<td>l</td>
<td>MCH card/ Immunization card</td>
</tr>
<tr>
<td>d</td>
<td>AD Syringes</td>
<td>m</td>
<td>Immunization register</td>
</tr>
<tr>
<td>e</td>
<td>Disposable syringes</td>
<td>n</td>
<td>Counterfoils pertaining to the session</td>
</tr>
<tr>
<td>f</td>
<td>Hub cutter</td>
<td>o</td>
<td>Immunization tally sheets</td>
</tr>
<tr>
<td>g</td>
<td>Equipment for waste disposal – Black and Red bags</td>
<td>p</td>
<td>Table, stools and chair</td>
</tr>
<tr>
<td>h</td>
<td>Cotton swabs</td>
<td>q</td>
<td>BP apparatus*, Weighing machine*</td>
</tr>
<tr>
<td>i</td>
<td>Paracetamol liquid or tablets</td>
<td>r</td>
<td>ORS, Zinc and IFA tablets*</td>
</tr>
</tbody>
</table>

* Items to be included when immunization session is part of Village Health and Nutrition Day (VHND).
b) **Arrange for the equipment and supplies required**

(c) **Prepare due list of beneficiaries and share with AWW and ASHA to bring them for the session**

Prepare the list of due beneficiaries by consulting the following documents:

- Counterfoils of immunization cards
- MCH / Immunization register
- Register of AWW and ASHA
- Newborn tracking booklets of polio rounds.

(d) **Arranging the immunization session**

The health workers need to place all that is required within reach:

A table is required to hold the equipment and stationery used while giving immunization. On the table you should keep:

- Vaccine carrier
- Hub Cutter
- Immunization cards and records
- Cotton swabs
- Clean water for cleaning the injection site

Red and black bags are to be kept near the table, for disposing immunization waste. Also a bowl, water and soap is to be kept close-by for scrubbing the health workers' hands clean before beginning the immunization session and each time their hands come in contact with any un-sterile surface.

(e) **Conducting Immunization session**

The picture below shows a well organised vaccination session site. An area may also be kept for beneficiaries waiting their turn.
Selecting safe and potent vaccines

Before beginning the immunization session, and before giving each vaccine, the health worker needs to follow these steps to ensure that every dose given is safe and effective

- **Check label:** Make sure the label on the vaccine vial is attached and clear enough to read. If you find that the label is not clear enough to read or has come off, discard the vial.
- **Check vaccine and diluent:** Check that the vaccine and diluent being given are the correct one.
- **Check expiry:** Look for the expiry date on the vial. If the expiry date has passed, do not use the vial; **Discard it.**
- **Check the vaccine vial monitor (VVM)** on vaccine vials to make sure that the vaccine is in the usable stage.
- **Shake the T-series and HepB vials** to rule-out freezing or floccules.
- **Note down the batch number** of each vaccine vial and diluent.

Contraindications to immunization

All infants should be immunized except in these rare situations:

1. Anaphylaxis or a severe allergic reaction is an absolute contraindication to subsequent doses of a vaccine. Persons with a known allergy to a vaccine component should not be vaccinated.
2. Any serious AEFI reported during previous vaccination to the child with the same vaccine is also a contraindication. e.g. convulsion and encephalitis with a previous dose of DPT
3. High fever

_Mild fever, diarrhoea, and cough are not contraindications for immunization_
Learning Objectives

At the end of the unit you should be able to:

• Describe the importance of record keeping
• Screen children for immunization using the immunization card
• Record the information accurately in the prescribed registers
• Correctly file and use counterfoils to track beneficiaries
• Maintain records and submit reports in a timely manner

CONTENTS

6.1 Importance of Record-Keeping
6.2 Mother-child protection /immunization card and Counterfoils
6.3 Mother and Child Register / Immunization Register
6.4 Name based list of due beneficiaries and Tally Sheet
6.5 Coverage Monitoring Chart
6.6 Monthly Progress Report
6.7 Monitoring
6.8 HMIS Reports
6.9 Conducting a review and feedback meeting

6.1 Importance of Record-Keeping

Accurate, reliable, and timely information is critical to the success of any activity. The following records are the foundation of all the health information generated at the sub-center and higher levels:

• Infant immunization card
• Mother and child register / Immunization Register
• Name based due list and Tally Sheet
• Coverage Monitoring chart
• Monthly progress report

Records related to cold chain maintenance, vaccine use, adverse effects following immunization and any incidence of vaccine preventable diseases is also important for the Immunization program.

Immunization should not be looked at in isolation; reports related to antenatal care, deliveries, postnatal care and even eligible couples and family must be looked at together. Authentic and timely reports are helpful to understand the problems and bring corrective actions to a program.

Remember that the information from the Sub centers is the one that is compiled and sent upwards to the National level for policy and planning.
6.2 Mother-child protection /immunization card and Counterfoils

A correctly and completely filled mother child protection / immunization card contains mother’s and child’s name, date of birth, complete address and immunization status. The card is important for immunization for the following reasons:

- Reminds the parents which vaccines have been given and which vaccines are due
- It helps the health worker to monitor an individual pregnant woman and child's progress towards full immunization.
- Provides information about vaccination status if the beneficiary is from another area.

For Beneficiaries coming for the first time:

- Issue a new maternal child protection/immunization card to the pregnant woman at the time of first ANC visit.
- Assign a unique running number, such as ECR survey number or ANC number.
- Inform the mother that the same card would continue for her child too, hence it is important to keep it safe as she keeps other important documents like the ration card.
- Record the date, month and year of all entries clearly.
- **Write date of birth of the infant and not the age in months** If the beneficiary cannot give the exact date, try to get the exact dates using local calendar/ fairs and festivals.
- Do not leave any cells or columns blank.
- After filling up all the columns, retain the smaller portion of the card (counterfoil).
- Give the rest of the filled-in card to the parent of the child after immunization and ask her to bring the same card during her subsequent visits to the health centre in future.
- File the counterfoils according to the procedure described later in this section

If the immunization card is lost, issue a duplicate card and record previous

For the beneficiaries coming subsequently

- Ask to see each child's immunization record before giving immunization.
- Look for missed doses (if any) and complete according to the schedule.
- After every dose, ensure that the parent is informed of the next immunization date.
- Fill the counterfoil and the immunization card section meant for the parents.
- Give back the card to mother/parent of the child following immunization.
- Tell the mother that the card must be kept in a good condition. She must bring the card whenever the child is brought to the session site for immunization.
- At the end of each session, keep the counterfoils in the appropriate pocket of your tracking bag.
- Each month, look at the counterfoils in the tracking bag and make sure those children come for immunization. If they miss the session, ask the ASHA/AWW to follow-up with those families and ensure they attend the next session.
• Do not refuse vaccination for not bringing the card
• If the guardian informs that the card is lost, issue a new card with the information available from the immunization register or the counterfoil.
• Do not start doses all again even if the gap between the DPT / OPV doses is more than a month.
• If the child has not crossed the age of 7 years, give the next dose of DPT.
• Remember that a minimum gap of 4 weeks must pass between every injection/dose of DPT

Counter foils

It is observed over several years that the counter foil is not given due importance by the health worker and is neither issued, filed nor preserved properly. It is important because it helps in:

• Preparing a session wise name based list of due beneficiaries for sharing with ASHA / AWW / Mobilizer.
• Estimating the vaccine requirement for next sessions.
• Tracking the dropouts.
• Providing information, if the immunization card of the beneficiary is lost.

The counterfoils need to be filed separately for each session site. A cloth tracking bag with 14 pockets is a simple, easy to use tool for filing the counterfoils. The first 12 pockets indicate each of the 12 months of the year. The 13th pocket is for those who left/ died during the period and the 14th pocket is for fully immunized children.

Once a beneficiary is immunized, the counterfoil would be placed in the month (pocket) due for the next dose. For example, if a child comes for DPT-1 in January, DPT-2 is due in February. Update and place the counterfoil in the February pocket. When the DPT-2 dose is given in February, update the counterfoil and move to the pocket for March. When the DPT-3 dose is given in March, then update and place the counterfoil in September/October pocket since the child has to return then for measles. If some cards are left in the pocket at the end of the month, it indicates that the beneficiaries are the dropouts, move these cards to next month pocket and track them.

In case no tracking bag is available, counterfoils for each month can be separately tied with different rubber band and labelled. File counterfoils for each session site separately and do not forget to carry them to the session.

File counterfoils of each session separately for tracking of dropouts
• Prepare due list of beneficiaries from the counterfoils and the register and note the names of infants eligible for immunization.
• Share the due list of beneficiaries with ASHA and AWW to track them for the session.
• Track the due beneficiaries who have not visited the session.

6.3 Mother and Child Register / Immunization Register

The Mother and Child register tracks every pregnant woman and child born in the sub center area and is used to monitor pregnancy and immunization. Every mother and child’s immunization record must be entered in this register. It contains a number of columns for recording the immunization details, and the details about the health status of the mother and child. Use the Mother and Child register as follows:

• Allocate different pages of the register to different session sites. This would help you to easily locate the data of beneficiaries returning for subsequent vaccinations.
• Before each immunization session, update the register to include new pregnancies and births from the records of AWWs and ASHAs.
• Do NOT create a new entry in the register each time the mother returns with the infant for immunization. Update the register on the basis of counterfoils filled during the session.

Please note:

• If the beneficiary is not from your area, prepare and issue a new card and give vaccination. Enter the same in the MCH register in the non-resident column.
• If the beneficiary receives the immunization from private practitioners, record the same in the MCH register and the immunization card and write ‘P’ after the date.

Ask the AWW/ASHA for the name of the new borns and record them in the register so that they are not left out.

6.4 Name based list of due beneficiaries and Tally Sheet

For each session, these forms record the names of beneficiaries due for each vaccine, antigen-wise coverage by gender and age as well as vaccines and syringes issued and consumed. Use them as follows:

• Use counterfoils in tracking bags and the MCH register to prepare the list of due beneficiaries before each session.
• Share the due list of beneficiaries with ASHA and AWW to track them for the session.
• Use copy of the same sheet to record every dose of vaccine given.
• Cross check the list of due beneficiaries with the remaining counterfoils at the end of the session. Try to find out the reasons for drop outs.
• Administer the dose first and then record the coverage in the tally sheet.
• Use the completed tally sheets to prepare the monthly progress report.
### Table 6.1: Sample Combined Name-based List of Due Beneficiaries and Tally Sheet

**Date:** 10 March 2010  
**Session Site:** Nogama  
**SC:** Kushalgarh  
**PHC:** Garhi

<table>
<thead>
<tr>
<th>Name of Beneficiary</th>
<th>Sex</th>
<th>Age in mths</th>
<th>Name of Father/ Mother</th>
<th>Caste</th>
<th>Vaccines due</th>
<th>Vaccination and Vitamin A doses given</th>
</tr>
</thead>
</table>
| Guddan              | M   | 2           | Ram Narayan            | SC    | DPT1, OPV1   | TT PW)  
                          |     |             |                        |       |              | 1 | 2 | B | BCG |
| Simran              | F   | 10          | Mangesh Singh         | ST    | Measles      | OPV  
                          |     |             |                        |       |              | 1 | 2 | 3 |
| Tahir               | M   | 17          | Md. Nizamuddin        | General | DPT /OPV B | DPT  
                          |     |             |                        |       |              | 1 | 2 | 3 |
| Priyanka            | F   | 4           | Kiran Devi            | General | DPT3, OPV3 | OPV  
                          |     |             |                        |       |              | 1 | 2 | 3 |

**Remarks:** Left village

<table>
<thead>
<tr>
<th>Name of ANM:</th>
<th>Geeta Devi</th>
<th>Signature of ANM:</th>
<th>_________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of AWW/ASHA/Mobilizer:</td>
<td>Babli</td>
<td>Signature of AWW/ASHA/Mobilizer:</td>
<td>__________</td>
</tr>
</tbody>
</table>

* Write reason why beneficiary is not attending the session (e.g. left village, reluctant, sick, etc.)
6.5 Coverage Monitoring Chart

Coverage monitoring chart is a useful tool, which provides at-a-glance information on target figures and the immunization coverage, particularly in terms of left-outs and dropouts. The supervisor should plot the immunization data on the chart during visits to the sub-centre (as given in the Figure 8C). It should be updated every month. Here is an example for calculating coverage, dropouts and Left outs for DPT-1 and DPT-3. A similar chart can be prepared for other vaccines.

**Monitoring Chart**

The coverage monitoring chart has a vertical and a horizontal axis. Vertical axis is divided into 12 equal parts, each representing the monthly target. Write cumulative target against each month. If the yearly target of infants in a Sub-centre is 156 children, then the monthly target is 156/12 = 13 children. Therefore, the cumulative target for April will be 13; for May it will be 26 (13 + 13); for June it will be 39 (13 + 13 + 13); for July it will be 52 (13 + 13 + 13+ 13), etc.

On the horizontal axis, the months of the year are given starting from April to March. In the rows below each month, write the total number of children immunized with DPT1 and DPT3 during that month and also cumulative till that month. On the graph, plot the cumulative total of DPT1 for each month (on the right side of the column). Similarly, plot for DPT 3 in a different colour in the same column.

Calculate the total number of dropouts and the Dropout Rate (%) as follows:

\[
\text{Dropout Rate} = \left( \frac{\text{DPT1 cumulative total} - \text{DPT3 cumulative total}}{\text{DPT1 Cumulative total}} \right) \times 100
\]
6.6 Monthly Progress Report

The Monthly Progress Report is a report of the sub-centre submitted by the ANM at the end of each month. It contains information related to number of target beneficiaries, sessions planned and held, sessions held with alternative vaccine delivery, mobilizers engaged to mobilize children, sessions held with hired alternate/private vaccinators, coverage by sex, age and cases of VPDs and AEFIs seen.

The data reflected in this report is based on correctly filled tally sheets, MCH register and other records. The cumulative coverage will enable you to calculate the coverage of each antigen and the dropout rates. Since this is the basis of obtaining all coverage and epidemiological data at State and National levels, the data must be recorded completely and correctly as follows:

- Yearly target of infants must be based on actual head count.
- Immunization with each antigen dose needs to be filled in correctly.
- In the event of an adverse event following immunization (AEFI), make note of the same and report it to the PHC for follow-up.
- All VPDs seen by you including AFPs need to be reported to the PHC and this will enable your seniors to take action.

6.7 Monitoring

Monitoring is continuous review of program implementation to identify and solve problems so that activities can be implemented correctly and effectively. Monitoring involves regular collection and analysis of data on various aspects of the programme activities. It is like watching where you are going while riding a bicycle; you can adjust as you go along and ensure that you are on the right track.

As a program manager, you need to monitor the activities related to each component of the immunization program including the activities mentioned in the workplan e.g.

1. Staff availability at PHCs and SCs and their rational utilization.
2. Funds management for AVD, Alternate vaccinators, social mobilization, micro-planning and cold chain maintenance etc.
3. Micro-plans are prepared annually through participatory process and reviewed quarterly.
5. Stock management of vaccines and logistics at PHC/CHC.
6. Timely and adequate distribution of vaccines and logistics to the Health Workers at session sites.
7. Return of used and unused supplies and proper waste management.
8. Regular submission of HMIS reports from all SCs in time.
9. Regular supervisory visits are conducted as per the plan.
10. Review meetings are well planned and conducted effectively.
11. Data from monitoring and supervision is compiled, analyzed and used for corrective action.

As a block Program Manager/ supervisor, you can utilize various opportunities of review meetings and field visits to ensure that:

• MCH register is complete and updated regularly.
• Vaccination cards are available, filled properly and counterfoils are maintained.
• Name based due list of beneficiaries is prepared before the session.
• Completed Tally sheet is sent to the PHC after the session on the same day.
• Coverage monitoring chart is updated and displayed on the wall of SC, PHC and Block health facility.
• Monthly progress reports are regularly received from all the SCs and PHCs

6.8 Monthly HMIS reports

Data collected from monthly reports and other sources needs to be consolidated, stored and managed at each level. You need to check both:

<table>
<thead>
<tr>
<th>Quality of Individual Reports</th>
<th>Quality of the Reporting System</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Accuracy: miscalculation or misplacement of figures</td>
<td>1) Completeness of reporting reports received x 100 reports expected</td>
</tr>
<tr>
<td>• Consistency of data: with what is expected (based on previous experience)</td>
<td>2) Timeliness of reporting reports received on time x 100 reports expected</td>
</tr>
<tr>
<td>• Completeness of all entries</td>
<td></td>
</tr>
</tbody>
</table>

Maintain a chart that records timeliness and completeness of monthly reports from PHCs/SCs for tracking purposes (See Table 5.1). Late reports should not be rejected or ignored. Instead they can be submitted as an addendum to the monthly report or included in the next monthly report, with an explanatory note specifying the month of the data. Items for immunization related monthly reporting through HMIS formats are at Annex 5.1.

**Table 6.2: Timeliness and Completeness of Monthly Reports**

<table>
<thead>
<tr>
<th>District</th>
<th>Dates on which Reports Received (Deadline: 15th of every month)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Apr</td>
</tr>
<tr>
<td>SC 1</td>
<td>12</td>
</tr>
<tr>
<td>SC 2</td>
<td>23</td>
</tr>
<tr>
<td>SC 3</td>
<td>24</td>
</tr>
<tr>
<td>SC 4</td>
<td>14</td>
</tr>
<tr>
<td>SC 5</td>
<td>14</td>
</tr>
<tr>
<td>SC 6</td>
<td>12</td>
</tr>
</tbody>
</table>
6.9 Conducting a review and feedback meeting

It is important to set out fixed times for meetings to review the immunization program as well as give feedback to the stakeholders and workers involved directly with the implementation of the program activities. Usually meetings are held on weekly or monthly basis at PHC and CHC level. In some places task force or steering committees are also formed to oversee the immunization program and review its progress on a regular basis. As a program manager you can best utilize these opportunities by preparing the right information and ensuring that necessary feedback is given and corrective action is decided upon or taken up during the meeting.

Follow the steps as given below to make the meeting effective:

Ensure complete participation

- Ensure that Block/PHC Medical officer chairs the meeting and is apprised about the key issues that need to be discussed.
- Invite officers from the ICDS department as well as some helpful PRI representatives. If financial and data issues are to be discussed, involve the finance and data managers in the meeting.
- Inform participants to tell about the purpose of meeting and why their attendance is important.
- Follow-up your call with a meeting notice, including the purpose of the meeting, where it will be held and when, the list of participants and whom to contact if they have questions.
- Send out a copy of the proposed agenda along with the meeting notice.
- Get someone designated to record important actions, assignments and due dates during the meeting.
Develop Agenda and prepare key data for review

- Develop the agenda in consultation with key participants of the meeting. See Table 5.2 for a Sample agenda.

- In the agenda, assign topics to the presenters.

- Next to each major issue, include the type of action needed, the type of output expected (decision, action assigned to someone), and time estimates for addressing each issue.

- Prepare data analysis and information compiled from field reports and visits. Highlight any important finding in the data set and mark the same for discussion.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 - 10:15</td>
<td>Welcome &amp; objectives of the meeting</td>
<td>MOIC</td>
</tr>
<tr>
<td>10:15 - 11:15</td>
<td>Presentation on SC wise immunization coverage, dropouts &amp; left-outs using coverage monitoring charts</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>11:15 - 11:45</td>
<td>Feedback on supervisory visits &amp; monitoring data</td>
<td>ICC/Health Supervisors/Partners</td>
</tr>
<tr>
<td>11:45 - 12:30</td>
<td>Review of immunization register, Sub center reports. Sharing and updating of Health and ICDS Registers</td>
<td>CDPO, MOIC, ICC</td>
</tr>
<tr>
<td>12:30 - 13:00</td>
<td>Feedback on ASHA/AWWs/other community mobilizers’ involvement for mobilization of beneficiaries</td>
<td>MOIC/CDPO/BDO</td>
</tr>
<tr>
<td>13:00 - 13:15</td>
<td>Summary and conclusion</td>
<td>MOIC</td>
</tr>
</tbody>
</table>

Conduct the meeting

- Always start on time; this shows seriousness of the meeting.

- Welcome attendees, thank them for their time and introduce new members.

- Review the agenda, inform about the proposed topics, and change/add topics if required.

- Continue step wise covering the key issues decided in the agenda for the meeting.

- Present the appropriate data that may have bearing on the issue being discussed.

- Allow participation and give adequate time for clarifications and learning experiences.

- Ensure time management – ask attendees to help you keep track of the time.

- Keep a note of the key decisions made and key actions contemplated and summarize the same at interval and at the end for everyone’s knowledge.

- Try not to use meetings for report collection, ensure all reports are collected before hand and have been analyzed to generate the right decisions during the meeting.

- Keep note of any unresolved issues that need to be taken up with higher administrators, ensure that these are taken up later at the right forum before the next meeting.

- Ensure all the decisions and minutes are documented by the record keeper. It is helpful to keep a meeting register or file with all the minutes of various meetings.

- At the end of a meeting, review actions and assignments, and set the time for the next meeting and ask each person if they can make it or not (to get their commitment)

- Share the salient points of the meetings and minutes with all the participants as well as higher program authorities at the earliest preferably with in a week’s time.
Closing Meetings

- Always end meetings on time and attempt to end on a positive note.
- At the end of a meeting, review actions and assignments, and set the time for the next meeting and ask each person if they can make it or not (to get their commitment).
- Clarify that meeting minutes and/or actions will be reported back to members in at most a week (this helps to keep momentum going).
- Share the salient points of the meetings and minutes with all the participants as well as higher program authorities.
Unit 7: Supportive Supervision

Objectives

At the end of the unit you should be able to:

• Understand the difference between supportive and control supervision
• Determine the steps in conducting supportive supervision
• Use information from supervisory visits for corrective action
• Understand the common problems and solutions observed during supervision.

CONTENTS

7.1 Supervision
7.2 Steps for Conducting Supportive Supervision
7.3 Collection/compilation/Analysis and use of supervisory visits data for further program improvement
7.4 Common issues observed during monitoring and supervision of the immunization program

7.1 Supervision

Supportive supervision is a process of helping staff to continuously improve their own work performance. It is carried out in a respectful and non-authoritarian way with a focus on using supervisory visits as an opportunity to improve the knowledge and skills of health staff.

The difference between monitoring and supervision is that monitoring is usually concerned with aspects of the programme that can be counted, whereas supervision deals with the performance of the people working within the programme including giving them support and assessing conditions in the health facility.

Some aspects of monitoring are closely connected to supervision. During the supervisory visit, the supervisor can monitor by taking notes and recording data, such as how many trained health workers at the session are giving injections according to the protocols, and the vaccines and supplies available. However, a person who monitors does not always come in contact with the staff, for example, when reviewing reports to count the number of health workers who attended training.

Thus, supervision must involve interaction with staff, and usually also has an element of monitoring. Monitoring does not often or automatically have a supervisory element.

Traditionally, many supervisors used an authoritarian inspection or control approach to supervision. This approach is based on the thinking that health workers are unmotivated and need strong outside control to perform correctly. However, it has been shown that a supportive approach, where supervisors and health workers work together to problem-solve and improve performance, delivers improved results for the immunization program.
Table 7.1 compares the characteristics of the control approach and the supportive approach.

<table>
<thead>
<tr>
<th>Control approach</th>
<th>Supportive approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Focus on finding faults with individuals.</td>
<td>• Focus on improving performance and building relationships.</td>
</tr>
<tr>
<td>• Supervisor is like a policeman.</td>
<td>• More like a teacher, coach, mentor.</td>
</tr>
<tr>
<td>• Episodic problem-solving.</td>
<td>• Use local data to monitor performance and solve problems.</td>
</tr>
<tr>
<td>• Little or no follow-up.</td>
<td>• Follow up regularly.</td>
</tr>
<tr>
<td>• Punitive actions intended.</td>
<td>• Support provided.</td>
</tr>
</tbody>
</table>

7.2 Steps for Conducting Supportive Supervision

**Step 1:** Set Up a Supportive Supervision System

The three main “Rs” for an effective supportive supervision system are as follows.

Right Supervisors: a core set of supervisors, well-trained on supportive supervision techniques and with updated information and skills on immunization issues. As the supervisors will be providing on-the-job training to health workers, it is important that the supervisors are themselves well informed and trained. As an initial step, provide refresher training for the core supervisors. The training could be on new policies or reporting procedures, changes to the immunization schedule etc or on supportive supervision techniques and participatory approaches.

The following are steps suggested for making and preparing a team for regular supervision of field level activities.

- Build the team from persons who are available and have the job responsibility to supervise health / development programs at field level
• Select from persons within the health and related departments e.g. ICDS
  • Discuss who in the present set-up of the area (block/sector/CHC/PHC) concerned can be identified as supervisor from health /ICDS and other related departments
  • Enlist these supervisors by name and designation
• Allot them areas of work
  • Make an area map showing distribution of supervisory areas.

Right Tools: availability of Supervisory checklists and forms (for recording observations, recommendations and follow up) and training materials and job aids (to update skills of health workers during supervision visits).

Keep a compilation of Government guidelines and orders regarding immunization program. You should use the session and house-to-house monitoring format (Annexure 1 and 2) while supervising immunization sessions. In addition, you need to supervise the activities of community needs assessment survey, preparing micro plans, organizing and conducting community level and sector meetings and managing the vaccines and logistics at facility levels.

For supervising session sites, keep a copy of the Micro plan or roster. It will aid in not only finding the exact session site but also in comparing the names and numbers mentioned in the micro plan. Moreover if one session is canceled the supervisor can visit another site based on the micro plan.

Right Resources: sufficient mobility, time allocated for supervision and follow-up.

For supervision to be effective, the supervisors must be equipped with the right and adequate resources to help them do their tasks.

Program managers and supervisors need to ensure that they have the necessary resources such as transport/ mobility arrangements, per diem, fuel needed to visit health workers in action.

The other big resource is your time as well as the time of the other supervisors in your team. Supervisors should make their own work plans with sufficient time allotted to oversee and help the field level workers.

STEP 2: Plan Regular Supportive Supervision Visits

Regular supportive supervision visits are an integral part of the micro-plan and include three main “Ws” as follows

Where to conduct visits: You can select priority areas based on the following criteria:
• Data analysis shows
  • High number of unimmunized children
  • Regular cancelled sessions
  • Lower coverage that expected,
  • High drop-out rates,
  • Reports not sent regularly
• Reports by other supervisors reveal poor interaction between workers and community or poor injection practices.
• Geographical considerations:
  • Hard-to-reach areas,
  • Farthest villages of the block,
  • Urban slums.
• areas with recent outbreaks of measles/AEFI cases; high risk areas for diphtheria, tetanus or measles
• new health workers who may need training on immunization practices
• areas with little or no visits in the past
• problems identified by health staff or the community

The supervision plan should incorporate supervisory activities at facility, outreach and home levels.

When to conduct visits: Once you have prioritized areas to be visited over the next quarter/year, prepare a Plan for supervision with at least 4-8 visits planned per month. Consider the following issues:

• Plan visits on immunization session days.
• Supervise both fixed as well as outreach sessions.
• Inform the health worker about the scheduled supervision visit and never go without informing.
• Prepare the supervision plan taking into account the distance, transportation difficulties, or constraints due to weather and travel conditions.
• Schedule enough time to visit the site fully, and if possible provide on-site training; for example it may take two hours or more to meet the needs of a single supportive supervision visit.
• Carry checklists and practical tools/Job aids to provide on site training.

What to do during visits: Although certain topics can be planned in advance, interventions may become evident during the visit or during discussions with health workers. Review data of the site, previous supervision reports, filled checklists and data for that PHC/ session site to identify the topics to cover during the visit.

STEP 3: Conduct Supportive Supervision Visits

During a supervisory visit to a health facility or a session site, conduct the following main steps.

Collect information: Explain the purpose of your visit and use the checklists (See Annex 5.2 to 5.4) to:

• observe the health-facility environment and the health worker giving vaccination
• review the adequacy of vaccines & logistics
• review the records
• talk with parents and community members
• review recommendations from past visits
• Conduct a house to house survey using the Rapid Immunization Coverage Assessment checklist.
• Do not intervene or correct the health worker while he/she is working, unless you feel that harm will be done to the beneficiary without your intervention.

Before conducting supervision, study the checklist. Activities may not take place in the order as it is in the check-list so it would be necessary to have a good idea of what to look for, what to ask and what to elicit during the supervision exercise. Opportunities for problem solving and training may
also come in between and this could be undertaken in the flow of the processes rather than within compartmentalized timings.

**Problem-solve and provide feedback:**

After the data collection, you should work with health-facility staff as a team to

**Describe the problem and its impact**

- Focus on the problem and not individuals.
- Tackle one problem at a time.
- Be specific in explaining the problem. If possible, back it up with facts, rather than judgment alone.

**Discuss the causes of the problem with health staff**

- Identify the cause of the problem by asking “why” repeatedly and having open dialogue with the staff. Is it due to lack of skills or to an external factor?
- Do not blame others or blame the system.
- It may sometimes be necessary to seek explanation from other sources (e.g. community members, data, etc.).

**Implement solutions and monitor regularly**

- Best solutions to field-level problems are with the health workers and the community themselves. Ask them for their suggestions and help them find resources within their day-to-day settings.
- Develop, through common consensus, an implementation plan that details what needs to be done, by whom, how and when.
- Some problems may need to be addressed at a higher level; raise the issues related to the problem at a higher level as well as follow up on the solutions.
- Implement those solutions that can be implemented immediately e.g. training on how to use hub cutter.
- Follow up on progress.

**Provide feedback to the health staff concerned**

- If you have some bad behavior to comment on, begin with the positive, and be specific about weaknesses, rather than simply saying, “That was not done well”.
- Give health workers reasons for their success or failure. Don’t just say “Well done”. Give a reason saying, “Well done. You correctly read the VVM and took the appropriate action.” Don’t say “you are wrong” but rather “there may be a problem. The data from your tally sheet do not match the data in the UIP reporting format. How can this be corrected?”

**Provide on-the-job training:**

“When we hear we forget
When we see we remember
When we do we know”
The above proverb sums up the importance of on job training. Field conditions provide more realistic environment and opportunities for health workers to learn. Follow these main steps when teaching a skill:

1) Explain the skill or activity to be learned.
2) Demonstrate the skill or activity using an equipment, model, or role-play.
3) Allow the health workers to practice the demonstrated skill or activity.
4) Evaluate the health workers’ ability to perform the skill according to the correct procedure and give constructive feedback.

Utilize the opportunity of the visit to update the health workers knowledge about current immunization policies, guidelines and recommendations e.g. many health workers remain ill informed about the age till when vaccines can be administered and lose out on vaccinating children after a certain age; they are often amazed and thankful for new guidelines on the extended ages for vaccination.

**Record results of supervision**

During each supervisory visit, remember to fill in your check lists properly and completely. After the visit, prepare a report to submit it to your higher authorities; maintain a supervisory report register which can be later used to share your supervisory findings in meetings.

This report is vital for planning corrective measures as well as for use in future supervisory visits. The sample Supervisory Visit Report (Table 5.4) summarizes the key points from a supervisory visit and meeting.

*Table 7.2: Sample Report of Supervisory Visit*

<table>
<thead>
<tr>
<th>Problems identified</th>
<th>Solution(s)</th>
<th>By whom</th>
<th>By date</th>
<th>Completed-Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrong injection technique</td>
<td>Demonstrate correct technique</td>
<td>MO</td>
<td>8 Mar.</td>
<td>Y</td>
</tr>
<tr>
<td>HW does not know how to use</td>
<td>On-site training on use of chart</td>
<td>MO</td>
<td>8 Mar.</td>
<td>Y</td>
</tr>
<tr>
<td>the Coverage Monitoring chart</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccine carrier had a crack</td>
<td>Replace VC</td>
<td>MO</td>
<td>14 Mar.</td>
<td>N</td>
</tr>
<tr>
<td>ST children under-vaccinated</td>
<td>Involve ASHA, AWW to identify and</td>
<td>MO and</td>
<td>31 Mar</td>
<td>N</td>
</tr>
<tr>
<td>due to poor tracking</td>
<td>mobilize ALL beneficiaries</td>
<td>CDPO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STEP 4: Follow-up

Supportive supervision does not end with the conducted visit and you should plan for follow-up, which may include the following:

**Follow up on agreed actions** by supervisors and supervised staff

**Analyze data from reports regularly** and establish regular communication with supervised staff to see if recommendations are being implemented.
**Provide feedback to all stakeholders** discussing equipment supply and delivery problems with higher levels

**Conduct follow-up visits**

**During the follow-up visits**

- Review reports from previous supervision visits and continue to work on the issues raised.
- Tell health workers what you have learned from the previous visit, in order to avoid repeating the same information.
- Observe health workers to see if bad behaviors or attitudes have been corrected and, if it is the case, congratulate them.
- Check if any perceived lack of improvement is due to hidden problems that need to be addressed.
- Fulfill promises made at the previous visit (i.e. if supplies or technical information/documentation had been promised).

### 7.3 Collection/compilation/Analysis and use of supervisory visits data for further program improvement

As supervision is not a one-time affair and neither is it done by one individual; once regular supervisory visits are established, a large number of supervisory reports will become available. You should

- Arrange for regular compilation of data and information from these supervisory reports.
- Select some critical indicators from within the supervision format to look at over a period of time.
- Identify the progress in the program over a period of time, or if there are any gaps or areas lacking improvement.
Compile this information in a dashboard containing few tables and graphs of critical processes so that at any time a snapshot as well as a progressive view of program activities can be seen. This dashboard can also contain information from other sources, such as coverage reports.

These tables, graphs and critical information can be used during review meetings, future supervisory visits, trainings of health workers and mobilizers and while preparing the annual program implementation plans.

### 7.4 Common issues observed during monitoring and supervision of the immunization program

#### Human Resource issues
- Vacant sub-centers
- Inadequate hiring of alternate vaccinators for urban and vacant rural areas
- Irregular distribution of the workload/areas among the health workers within a Block
- Absenteeism of Health workers
- Lack of designated cold chain handlers at cold chain points.
- Lack of regular capacity building/ skill up gradation of health staff

#### Micro-planning issues
- Micro plan not prepared or incomplete with only roster of the HW.
- Missed areas and population groups e.g. Migratory and mobile population; urban slums, hamlets and geographically distant population are not included.
- Map of the sub-center and PHC not prepared / displayed
- Alternate Vaccine Delivery plan and Supervision Plan are not prepared
- Special planning for Hard to reach and problem areas is not done.
- Micro-plans are not reviewed at regular intervals

#### Operational Issues
- All the planned sessions are not held by ANM - leave, post vacant, not going to the site.
- Session sites detailed in Microplan are not followed by the ANM
- Poor attendance at outreach sessions due to poor mobilization by ASHA and AWW
- List of due beneficiaries for the sessions is not prepared by ANM/ ASHA/ AWW
- Late start of session and early closing of session site
- Non-availability of all vaccines and logistics at the session site
- Coverage Monitoring chart and tracking bags not available at PHC or SC
- Key IPC messages not conveyed to the beneficiary/ caregiver
- Incorrect route /site /technique used for vaccine administration
Cold chain and logistics management

- No trained dedicated person in charge of cold chain at PHC level
- Guidelines for correct storage of vaccines and diluents in ILR not followed
- Twice a day temperature not recorded; recording by cold chain handler not monitored
- Contingency plan for emergencies not prepared / followed.
- Preventive maintenance of Cold Chain Equipment not in place.
- Presence of anti snake venom/other drugs and eatables in ILR along with Vaccines
- Stock register not updated for record of issue and balance of vaccines and other logistics
- Timely indenting of vaccines and logistics is not done and stock outs are reported
- Principles of storage and issue of stock are not followed.

Recording and Reporting system and use of data for action

- MCH register not updated regularly and not used to prepare due list of beneficiaries.
- Casual recording in Immunization card and counter foils not maintained by the health workers
- Due list cum tally sheets are not used for session wise recording
- No system for identification and tracking of drop-outs and left outs
- Monthly reports -Incomplete and delayed
- Reports not analyzed for feedback and action
- AEFI and VPD cases not being reported or underreported

Injection safety and Waste Disposal

- Hub cutters not carried to session sites
- Functional Hub cutters, red and black bags not available / not being used
- Disinfection of Immunization Waste not practiced before disposal
- Waste disposal pits for needles not constructed/ used at PHCs

Monitoring and Supervision

- Supervisory visits not planned / conducted by Health and ICDS supervisors
- Review meetings at block level are not used for providing feedback of monitoring and use of data for action

Community involvement and communication

- Weak coordination with other related agencies and sectors; private and NGO sector
- Lack of information, education and communication activities and social mobilization activities leading to poor utilization of services
**Annex 7.1: Immunization Related Reporting under NRHM**

Ministry of Health and Family Welfare  
(Monitoring and Evaluation Division)  
Monthly Return under NRHM  
Due for submission on 5th of following Month

Name of State / District:.................................................................................................................................................................................

Reporting Month: ....................................................................................................................................Year...............................................

<table>
<thead>
<tr>
<th>Part A</th>
<th>REPRODUCTIVE HEALTH</th>
<th>Numbers reported during the month</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Ante Natal Care Services (ANC)</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Number of pregnant women given</td>
<td></td>
</tr>
<tr>
<td>1.4.1</td>
<td>TT1</td>
<td></td>
</tr>
<tr>
<td>1.4.2</td>
<td>TT2 or Booster</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Total number of pregnant women given 100 IFA tab.</td>
<td></td>
</tr>
<tr>
<td>M10</td>
<td>CHILD IMMUNIZATION</td>
<td></td>
</tr>
<tr>
<td>10.1</td>
<td>Number of infants 0 to 11 months old who received the</td>
<td></td>
</tr>
<tr>
<td>10.1.01</td>
<td>BCG</td>
<td></td>
</tr>
<tr>
<td>10.1.02</td>
<td>DPT1</td>
<td></td>
</tr>
<tr>
<td>10.1.03</td>
<td>DPT2</td>
<td></td>
</tr>
<tr>
<td>10.1.04</td>
<td>DPT3</td>
<td></td>
</tr>
<tr>
<td>10.1.05</td>
<td>OPV 0 (Birth dose)</td>
<td></td>
</tr>
<tr>
<td>10.1.06</td>
<td>OPV1</td>
<td></td>
</tr>
<tr>
<td>10.1.07</td>
<td>OPV2</td>
<td></td>
</tr>
<tr>
<td>10.1.08</td>
<td>OPV3</td>
<td></td>
</tr>
<tr>
<td>10.1.09A</td>
<td>Hepatitis-B0</td>
<td></td>
</tr>
<tr>
<td>10.1.09</td>
<td>Hepatitis-B1</td>
<td></td>
</tr>
<tr>
<td>10.1.10</td>
<td>Hepatitis – B2</td>
<td></td>
</tr>
<tr>
<td>10.1.11</td>
<td>Hepatitis – B3</td>
<td></td>
</tr>
<tr>
<td>10.1.12</td>
<td>Measles</td>
<td></td>
</tr>
<tr>
<td>10.1.12B</td>
<td>Measles 2nd dose (No. of children more than 16 months of age)</td>
<td></td>
</tr>
<tr>
<td>10.1.13</td>
<td>Total number of children aged between 9 and 11 months who</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Total (a) to (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.2</td>
<td>Number of children more than 16 months who received the</td>
<td></td>
</tr>
<tr>
<td>10.2.1</td>
<td>DPT Booster</td>
<td></td>
</tr>
<tr>
<td>10.2.2</td>
<td>OPV Booster</td>
<td></td>
</tr>
<tr>
<td>10.2.3</td>
<td>Measles, Mumps, Rubella (MMR) vaccine</td>
<td></td>
</tr>
<tr>
<td>10.3</td>
<td>Immunization status</td>
<td></td>
</tr>
<tr>
<td>10.3.1</td>
<td>Total number of children aged between 12 and 23 months who</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Total (a) to (b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Part A  REPRODUCTIVE HEALTH

<table>
<thead>
<tr>
<th>Numbers reported during the month</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.3.2 Children more than 5 years given DTS</td>
</tr>
<tr>
<td>10.3.3 Children more than 10 years TT10</td>
</tr>
<tr>
<td>10.3.4 Children more than 16 years given TT16</td>
</tr>
<tr>
<td>10.3.5 Adverse Event Following Immunization (AEFI)</td>
</tr>
</tbody>
</table>
  (a) Abscess |
  (b) Death |
  (c) Others |
| 10.4 Number of immunization sessions during the month |
  10.4.1 Planned |
  10.4.2 Held |
  10.4.3 Number of sessions where ASHAs were present |
| 10.5 Others (Japanese Encephalitis (JE) etc. Please specify) |
  10.5.1 Number of children more than 16 |
  10.5.2 |
| 10.5.3 |

<table>
<thead>
<tr>
<th>M11 Number of Vitamin A doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1 Administered between 9 months and 5 years</td>
</tr>
</tbody>
</table>
  11.1.1 Dose-1 |
  11.1.2 Dose-5 |
  11.1.3 Dose-9 |

<table>
<thead>
<tr>
<th>M12 Number of cases of childhood diseases reported during the month (0-5 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1 Diphtheria</td>
</tr>
<tr>
<td>12.2 Pertussis</td>
</tr>
<tr>
<td>12.3 Tetanus Neonatorum</td>
</tr>
<tr>
<td>12.4 Tetanus others</td>
</tr>
<tr>
<td>12.5 Polio</td>
</tr>
<tr>
<td>12.6 Measles</td>
</tr>
<tr>
<td>12.7 Diarrhoea and dehydration</td>
</tr>
<tr>
<td>12.8 Malaria</td>
</tr>
<tr>
<td>12.9 Number admitted with Respiratory Infections</td>
</tr>
</tbody>
</table>

### Part D  Monthly Inventory status

<table>
<thead>
<tr>
<th>Stock Position (during the month)</th>
<th>Balance from previous month</th>
<th>Stocks received</th>
<th>Unusable stock</th>
<th>Stock Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.1 Vaccines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
  16.1.1 DPT |
  16.1.2 OPV |
  16.1.3 TT |
  16.1.4 DT |
  16.1.5 BCG |
  16.1.6 Measles |
  16.1.7 JE |
  16.1.8 Hepatitis B |
<table>
<thead>
<tr>
<th>Stock Position (during the month)</th>
<th>Balance from previous month</th>
<th>Stocks received</th>
<th>Unusable stock</th>
<th>Stock Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A solution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syringes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1 ml (AD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5 ml (AD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0 ml (Disposable)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PART E Mortality Details**

<table>
<thead>
<tr>
<th>Infant / Child Deaths up to 5 years by cause</th>
<th>Between 1 and 11 mths</th>
<th>Between 1 year and 5 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever related</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Annex 7.2: RI Block/PHC/CHC Supervision Checklist

#### Block Level Monitoring Format for Routine Immunization

For (*) marked questions multiple responses may be applicable; “NOB” means “Not Observed”

**Name of Monitor:** ..........................................................................................................................

**Organization:**
- [ ] Govt.
- [ ] WHO/NPSP
- [ ] UNICEF
- [ ] Others

**Designation:** .............................................................................................................................

**Date:** dd / mm / yyyy  **Day:** Wed  **Time:** ..........................................................

**State code**

**District** .................................................................................................................................

**Block/Urban Local Planning Unit** ..........................................................................................

**Setting:** [ ] Rural  [ ] Urban

**Type of Health Facility:**
- [ ] CHC
- [ ] PHC
- [ ] Urban Health Post
- [ ] Others  
- [ ] Polio HRA  [ ] Yes  [ ] No

---

**Check Records and Observe at Block Health Facility and Tick, whichever is applicable**

<table>
<thead>
<tr>
<th>Check</th>
<th>Fixed Site</th>
<th>Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Has the MOIC received training on RI</td>
<td>□ Never  □ Within 1 Yr  □ &gt; 1 Yr back</td>
<td></td>
</tr>
<tr>
<td>2 Updated Block level RI Microplan available</td>
<td>□ NA  □ Incomplete  □ Complete</td>
<td></td>
</tr>
<tr>
<td>3 RI Microplan / ANM Roster displayed prominently</td>
<td>□ Yes  □ No</td>
<td></td>
</tr>
<tr>
<td>4 Specific Plan for hard-to-reach areas available</td>
<td>□ Yes  □ No</td>
<td></td>
</tr>
<tr>
<td>5 AED plan available</td>
<td>□ Yes  □ No</td>
<td></td>
</tr>
<tr>
<td>6 RI Coverage Monitoring Chart displayed at health facility</td>
<td>□ Yes  □ Chart made but not displayed  □ Chart not made</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Staff</th>
<th>Position</th>
<th>Medical Officer</th>
<th>ANM</th>
<th>AWW</th>
<th>ASHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sanctioned</td>
<td>In place</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 8 Joint Supervisory Visit Plan for ICDS & Health Supervisors available: | □ Yes  □ No |

<table>
<thead>
<tr>
<th>9 Total Number of RI sessions during last completed month (Give n)</th>
<th>Planned</th>
<th>Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Site</td>
<td>Others</td>
<td>Sub Centres</td>
</tr>
<tr>
<td>Outreach</td>
<td>ICDS Centres</td>
<td>Others</td>
</tr>
</tbody>
</table>

| 10 Number of sessions by Alternate Vaccinators | Planned : .......................................  Held : ....................................... |
| 11 Plan for organization of missed session available | □ Yes  □ No |
| 12 Daily RI sessions held at Block Level Health Facility | □ Yes  □ No |
| 13 Number of Monitoring visits made by Block officials during last month | □ Yes  □ No |
| 14 Filled Monitoring formats sent to District HQ for necessary action | □ Yes  □ No |
| 15 Number of Supervisory visits made by Health Supervisors during the last month | Session site : ...............................  House - House : ............................... |
| 16 Number of Supervisory visits made by district officials to the block in last 3 months | □ Yes  □ No |
| 17 Session wise reporting done at Block Health Facility by All ANM’s | □ Yes  □ No |
| 18 RI review meeting done at block level during last month | □ Yes  □ No |
| 19 Inter sectoral Coordination Meeting held during last month for RI related issues | □ Yes  □ No |
| 20* The Departments/Sectors and Agencies that participated in the review meeting | □ Administration  □ Health  □ ICDS  □ Panchayat Raj |
| □ Education  □ Urban  □ Others ....................................... |
| 21 SOE’s being submitted to District HQ on monthly basis | □ Yes  □ No |
| 22 Updated Vaccine & Logistics Stock Registers available | □ Yes  □ No |
| 23 Updated Vaccine Distribution Register available | □ Yes  □ No |
| 24 Whether ILR is in working condition | □ Yes  □ No |
| 25 Whether Deep-Freezer is in working condition | □ Yes  □ No |
| 26 All available vaccines stored inside ILR : | □ Yes  □ No |

| 27* Which of the vaccines/diluents are adequately available at block level for next one week | □ BCG  □ BCG Diluent  □ DPT  □ JE |
| □ Measles  □ Measles Diluent  □ DT  □ JE Diluent |
| □ OPV  □ Hepatitis B  □ TT  □ Pentavalent |
| □ AD (0.1ml) Syringes  □ 5 ml Reconstituted Syringes  □ Blank RI Card |
| □ AD (0.5ml) Syringes  □ Vitamin A Solution  □ Counterfoils |

| 28* Which of the logistics are available at block level | □ ORS Packet  □ Plastic Spoon/cap for Vitamin-A  □ ORS Packet |
| □ Paracetamol  □ Tracking Bag  □ Paracetamol |
| □ Nutritional Supplements  □ B P Apparatus  □ Functional Hub Cutter  □ IFA Tablet |

| 29* Any Stock out of any vaccine or logistic experienced in last 3 months | □ No  □ OPV  □ DPT  □ Measles  □ Others |

<p>| 30 Temperature inside ILR between +2 to 8°C | □ Yes  □ No |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Frozen DPT/DT/TT/Hepatitis B vaccines present inside ILR</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>32</td>
<td>Expired vaccines present inside ILR</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>33</td>
<td>Other medicines (besides vaccines) stored inside ILR</td>
<td>☐ Yes ☐ No (Specify)</td>
</tr>
<tr>
<td>34</td>
<td>Returned vials retrieved from VCs &amp; CBs returned from session</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>35</td>
<td>Ice packs correctly placed inside Deep freezer</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>36</td>
<td>Temperature log books for all equipment maintained and updated</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>37</td>
<td>Generator of Block Health Facility is functional</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>38</td>
<td>Cold Chain Handler status</td>
<td>☐ None fixed ☐ Fixed but untrained ☐ Fixed &amp; Trained</td>
</tr>
<tr>
<td>39</td>
<td>Constructed Sharp Disposal Pit available at Block Health Facility</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>40</td>
<td>All Sharps and Plastic Waste is being disposed off as per the norms</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>41</td>
<td>VPD case reported during last month</td>
<td>☐ AFT ☐ Measles ☐ Diphtheria ☐ JE</td>
</tr>
<tr>
<td>42</td>
<td>Adverse Event reported during last month</td>
<td>☐ Serious ☐ Non-Serious</td>
</tr>
</tbody>
</table>

Signature of Official
### Annex 7.3: RI Session Site Supervision Checklist

**Session Monitoring Format for Routine Immunization**

For (*) marked questions multiple responses may be applicable. “NOB” means “Not Observed”

<table>
<thead>
<tr>
<th>Name of Monitor:</th>
<th>Organization:</th>
<th>Govt.</th>
<th>WHO/NPSP</th>
<th>UNICEF</th>
<th>Others</th>
<th>Designation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: d/m/y:</td>
<td>Time:</td>
<td>Day: Wed</td>
<td>Others:</td>
<td>Last Polio SIA date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State code:</td>
<td>Block/Urban Planning:</td>
<td>Block / Urban Planning:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub Center / Urban Planning:</td>
<td>Name of session:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reason for monitoring:**
- HR: | MG: | SL: | XR: | VS: | Type of Session Site: |
- Fixed site: | Outreach: |

**Q1 to Q24: Observe and Tick, whichever is applicable**

1. Is session held: Yes | No
2. If session is not held, reason for session not held: A2 | B2 | C2 | D2
3. Who has brought vaccines & logistics to this session: Alternate Vaccine Delivery (AVD) | ANM | Supervisor | Others

4. a) Vaccines & diluents kept in Vaccine Carrier (VC): Yes | No
   b) Vaccines & diluents in zipper bag: Yes | No
   c) How many icepacks are in the Vaccine Carrier: Four | Less than four

5. Which of the vaccines/diluents are available at session site:
   - BCG: Yes | No
   - BCG Diluent: Yes | No
   - DPT: Yes | No
   - JE: Yes | No
   - Hepatitis B: Yes | No
   - DT: Yes | No
   - OPV: Yes | No

6. Has ANM recorded the following:
   - Vaccine Batch No: Yes | No
   - Vaccine Expiry date: Yes | No
   - Diluent Batch: Yes | No
   - Diluent Expiry date: Yes | No

7. Observe vaccines vials ANM is using or going to use (unopened vials in VC). Is any vial found in the mentioned condition?
   - If yes, Tick and record the vaccine:
     - Without label: Unreadable label:  
     - Expired Vaccine Vial:
     - Frozen Vaccine (DPT, TT, Hepatitis-B, DT):  
     - JE vaccine reconstituted more than 4 hours back:

8. Which of the mentioned Logistics are available:
   - AD (0.1 ml) Syringes
   - AD (0.5 ml) Syringes
   - Sml Reconstitution Syringes
   - Vitamin-A Solution
   - Blank RI Card
   - Counterfoils
   - IFA Tablet
   - Plastic Spoon/cap for Vitamin-A
   - Tracking Bag
   - Functional Hub Cutter
   - Zinc Tablet
   - B P Apparatus

9. Which of the mentioned Logistics are available
   - Weighing machine
   - ORS Packet
   - Paracetamol
   - B P Apparatus

10. Is due list available with the ANM: Yes | NOB

11. Is due list available with the Mobiliser: Yes | NOB

12. Has ANM written time of reconstitution on reconstituted vial/s: Yes | NOB

13. Which kind of syringe is ANM using to inject vaccines:
   - AD syringe
   - Glass syringe
   - Disposable Syr

14. Is DPT vaccine given on outer (anterolateral) aspect of mid thigh:
   - Yes | No

15. Route of Measles vaccine given:
   - Sub Cutaneous
   - Intramuscular
   - Intradermal

16. Site of Measles vaccine given:
   - Right Upper Arm
   - Others

17. Is ANM touching any part of the needle while giving injection: Yes | NOB

18. Is ANM following “no recapping” procedure after giving injection: Yes | NOB

19. Is ANM cutting each syringe with hub cutter just after use: Yes | NOB

20. How is ANM segregating immunization waste:
   - Red & Black bag
   - Others
   - Not done

21. How is ANM recording after vaccinating each child:
   - No record
   - Tally sheet
   - Others

22. Is ANM delivering all 4 Key Messages to the care-givers (see back):
   - Yes | NOB

23. If all 4 Messages are not delivered, the most commonly missed message:
   - Message 1
   - Message 2
   - Message 3
   - Message 4

24. Is ANM advising the caregivers to wait for 30 mins after vaccination:
   - Yes | NOB

25. Who has mobilized you to this session site:
   - Caregiver 1
   - Caregiver 2
   - Caregiver 3

### Q26 to Q29: Ask the ANM/Vaccinator following questions and Check the records, if needed

#### Q26
- a) Will you vaccinate, if a child comes with mild fever?
  - Yes
  - No

#### Q27
- b) Will you vaccinate, if a child comes with loose motions?
  - Yes
  - No

#### Q28
- c) How do you dispose off the immunization-waste?
  - Hub-cutter not functioning
  - Hub-cutter not available
  - ANM/vaccinator present but vaccine/logistics not available
  - ANM
  - Vaccinator
  - Others

#### Q29
- d) Will you vaccinate, if a child comes with Hard to reach?
  - Yes
  - No

### Notes
- Responses keys for *Reason for monitoring*:
  - A2: Hard to reach
  - B2: Slum
  - C2: Refusing community
  - D2: Vacant Sub Centre

- Responses keys for Q19:
  - A3: ASHA
  - B3: ICDS worker
  - C3: ANM
  - D3: NGO
  - E3: PRI personnel
  - F3: Others
  - G3: SHG
  - H3: ICDS worker
  - I3: NGO
  - J3: Others

- Responses keys for Q27:
  - A5: Dumped near session site
  - B5: Carried to PHC
  - C5: Open burning
  - D5: Others

- Responses keys for Q28:
  - A4: Vaccines & diluents kept in Vaccine Carrier (VC):
    - No
    - YES
    - NOB

- Responses keys for Q29:
  - A1: Is session held:
    - Yes
    - No

- Responses keys for Q24:
  - A1: Q19
    - Yes
    - No

- Responses keys for Q26:
  - A1: Q25
    - Yes
    - No
## 4 Key Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message 1</td>
<td>What vaccine was given and what disease it prevents.</td>
</tr>
<tr>
<td>Message 2</td>
<td>When to come for the next visit.</td>
</tr>
<tr>
<td>Message 3</td>
<td>What are the minor side-effects and how to deal with them.</td>
</tr>
<tr>
<td>Message 4</td>
<td>To keep the immunization card safe and to bring it along for the next visit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATE</th>
<th>State Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;N ISLANDS</td>
<td>AN</td>
</tr>
<tr>
<td>ANDHRA PRADESH</td>
<td>AP</td>
</tr>
<tr>
<td>ARUNACHAL PR.</td>
<td>AC</td>
</tr>
<tr>
<td>ASSAM</td>
<td>AS</td>
</tr>
<tr>
<td>BIHAR</td>
<td>BI</td>
</tr>
<tr>
<td>CHANDIGARH</td>
<td>CH</td>
</tr>
<tr>
<td>CHHATTISGARH</td>
<td>CG</td>
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<tr>
<td>D&amp;N HAVELI</td>
<td>DN</td>
</tr>
<tr>
<td>DAMAN &amp; DIU</td>
<td>DD</td>
</tr>
<tr>
<td>DELHI</td>
<td>DL</td>
</tr>
<tr>
<td>GOA</td>
<td>GO</td>
</tr>
<tr>
<td>GUJARAT</td>
<td>GU</td>
</tr>
<tr>
<td>HARYANA</td>
<td>HA</td>
</tr>
<tr>
<td>HIMACHAL PRADESH</td>
<td>HP</td>
</tr>
<tr>
<td>JAMMU &amp; KASHMIR</td>
<td>JK</td>
</tr>
<tr>
<td>JHARKHAND</td>
<td>JH</td>
</tr>
<tr>
<td>KARNATAKA</td>
<td>KA</td>
</tr>
<tr>
<td>KERALA</td>
<td>KE</td>
</tr>
<tr>
<td>LAKSHADWEEP</td>
<td>LK</td>
</tr>
<tr>
<td>MADHYA PRADESH</td>
<td>MP</td>
</tr>
<tr>
<td>MAHARASHTRA</td>
<td>MH</td>
</tr>
<tr>
<td>MANIPUR</td>
<td>MN</td>
</tr>
<tr>
<td>MEGHALAYA</td>
<td>ME</td>
</tr>
<tr>
<td>MIZORAM</td>
<td>MZ</td>
</tr>
<tr>
<td>NAGALAND</td>
<td>NA</td>
</tr>
<tr>
<td>ODISHA</td>
<td>OR</td>
</tr>
<tr>
<td>PONDICHERRY</td>
<td>PD</td>
</tr>
<tr>
<td>PUNJAB</td>
<td>PB</td>
</tr>
<tr>
<td>RAJASTHAN</td>
<td>RJ</td>
</tr>
<tr>
<td>SIKKIM</td>
<td>SI</td>
</tr>
<tr>
<td>TAMIL NADU</td>
<td>TN</td>
</tr>
<tr>
<td>TRIPURA</td>
<td>TR</td>
</tr>
<tr>
<td>UTTAR PRADESH</td>
<td>UP</td>
</tr>
<tr>
<td>UTTARAKHAND</td>
<td>UA</td>
</tr>
<tr>
<td>WEST BENGAL</td>
<td>WB</td>
</tr>
</tbody>
</table>

### Notes

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### Annex 7.4: RI Household Monitoring Format

#### House to House Monitoring Format for Routine Immunization

- **Name of Monitor:** _______________________________  
  - **Organization:** [ ] Govt. [ ] WHO/NPSP [ ] UNICEF [ ] Others  
  - **Designation:** _______________________________  
  - **Date:** ____________ [ ] ____________ Time: ____________

- **State Code (see back):** __________________________  
  - **District:** __________________________  
  - **Block/Urban Local Body:** __________________________  
  - **Sub Centre:** __________________________  
  - **Village/Area:** __________________________  
  - **At least one session held for this area in last 3 months:** [ ] Yes [ ] No [ ] Not Known

*Reason for monitoring:* [ ] HR [ ] MG [ ] SL [ ] XR [ ] VS [ ] MOB [ ] VDPV [ ] WPV [ ] OTH  
- **Setting:** [ ] Rural [ ] Urban  
- **Polio HRA:** [ ] Y [ ] N  
- **ASHA identified:** [ ] Y [ ] N [ ] NA$  
- **AWW identified:** [ ] Y [ ] N [ ] NA

#### Response Keys

**Keys for Question 5:**
- No history of migration = 1  
- In-migrant to this place for <6 months = 2  
- In-migrant to this place for 6 months or more = 3  
- Breadwinner is outmigrant = 4

**Keys for Question 6:**
- Unemployed = 1  
- Main worker (>8m a year) = 2  
- Marginal worker (<6m) = 3  
- Others = 4

**Keys for Question 7:**
- Unemployed = 1  
- Main worker (>8m a year) = 2  
- Marginal worker (<6m) = 3  
- Others = 4

**Keys for Question 14:**
- Unaware of need for immunization = 1  
- Did not know where to go to get immunization = 2  
- Did not know when to go to get immunization = 3  
- As child was sick care giver did not vaccinate = 4  
- Fear of pain from injection = 5  
- Fear of side effects = 6  
- Past experience of AEFI in family/ neighborhood = 7  
- Adverse media reports = 8  
- No faith in immunization = 9  
- Inconvenient session location = 10  
- Inconvenient timing of session = 11  
- Long waiting time = 12  
- Vaccinator’s behaviour not friendly = 13  
- As child was sick health worker did not vaccinate = 14  
- Non-availability of vaccine at centre = 15  
- Other (Specify) = 16  
- Do not know why = 17

**To calculate due doses, refer to ready reckoner on back of the format**

<table>
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<tr>
<th>Sl. Particulars / Questions</th>
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<tr>
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<td>Religion (H=Hindu / M=Muslim / O=Others)</td>
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<td>At least one session held for this area in last 3 months</td>
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<td>Keys for Question 6:</td>
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<td>Keys for Question 7:</td>
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<td>Keys for Question 14:</td>
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<tr>
<td>Vaccination status of one child per house: From RI card write 'Date' for each vaccine received. If RI card is not available, ask parents. Write 'Y' for doses received and 'N' for missed doses.</td>
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</table>

For (*) marked questions multiple responses may be applicable.  $ NA = Not Applicable.  $ MOP = Mother and Child Protection Card.
Unit 8: Advocacy, Communication and Community Participation

Learning Objectives

At the end of the unit you should be able to:

• Describe the need for and methods to address demand side issues to improve immunization program
• Use various aspects of communication to improve the utilization of immunization services
• Effectively utilize communication materials and communication methods to improve immunization coverage
• Make an effective communication plan to improve immunization.

Contents:

8.1 Introduction
8.2 What are the reasons for Drop-outs and how to deal with them?
8.3 What are the reasons for Left-outs/Un-reached population and how to deal with them?
8.4 Using Inter-Personal Communication to increase demand
8.5 Holding an effective community meeting
8.6 Advocacy with leaders, influencers, organizations and groups
8.7 Social mobilization and Behavior change communication
8.9 Arrange for visibility and awareness of services
8.10 Making a comprehensive communication plan

8.1 Introduction

Your role as a health manager/supervisor at block/sector level is to ensure that community has confidence in the immunization program; it supports and demands the immunization services; the services are provided at a time and place convenient to them and all the target beneficiaries are timely vaccinated.

In terms of immunization, the community where you work can typically be divided into three groups. The three groups can be represented as shown in figure 9.1.

• **Dropouts** are children who receive one or more vaccination, but do not return for subsequent immunization.
• **Left outs/un-reached population** are children and women who do not utilize the immunization services for reasons including lack of geographic access.

Your aim, as a health manager/supervisor is to expand the inner circle to cover the entire universe of eligible children.

### Involving community to support immunization

Community members can support the immunization programme by:

- Helping decide the place and time of the sessions to ensure a convenient service
- Arranging a clean outreach site (school, Panchayat Bhawan, etc.)
- Informing other community members about the immunization sessions (e.g. through announcements, messages from community volunteers, flags or banners at session sites informing about the day and time of the immunization sessions)
- Registering patients, crowd-control, and making waiting areas more comfortable (by providing shade and organizing space and seating)
- Identifying and referring newborns and/or infants who have recently arrived in the community and sharing the list with HW to include in the Immunization register
- Motivating fellow community members to use immunization services
- Transporting vaccines and HWs
- Identifying dropouts and left-outs, making home visits when children are behind schedule, to explain immunization and to motivate caregivers
- Communicating with local people and informing HWs about suspected Vaccine-Preventable Diseases (VPDs) and Adverse Events Following Immunization (AEFIs)

### Why bother about dropouts?

People who “drop-out” of the immunization system are the easiest to reach and convince to return for full immunization. If you focus your efforts on reducing dropouts, you can increase coverage significantly in your area

### 8.2 What are the reasons for Drop-outs and how to deal with them?

<table>
<thead>
<tr>
<th>Possible Reasons</th>
<th>Possible Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents do not return because sessions are not held as planned or vaccines are unavailable</td>
<td>• Ensure that each planned immunization session is held despite holidays and in case of HW’s leave, by alternate vaccinators.</td>
</tr>
</tbody>
</table>
| Parents are not told what vaccines are due, when they are due and why they are needed | • HW /AWW/ASHA to always tell 4 key messages to mothers using simple language understood by parents.  
  • HWS to provide filled in immunization cards to all beneficiaries and to write the next due date on the card.  
  • Ask caregivers to repeat the information given to them in order to increase the chance that they will remember when to return.  
  • Publicize the immunization schedule. |
### Possible Reasons | Possible Interventions
--- | ---
HWs do not know which children are due and what vaccines are due | - Prepare due list of beneficiaries from immunization registers and counterfoils in tracking bags.  
- Involve community teams (AWW, ASHA, NGOs etc) and share with them the list of dropouts to remind parents about the importance of full immunization and inform them about the date and time of the next session.

HWs have not shown parents respect or conveyed an interest in the child’s health (e.g. long waits, HWs shouting at mothers for forgetting the card or bringing the baby in late) | - Communicate with and treat parents with respect, warmth and friendliness.  
- Show concern for the parents’ particular situation.  
- Praise and encourage the parents for bringing their children for immunization. Encourage parents to ask questions.

Session timings are not suitable for the community | - Re-schedule immunization session timings, as per the convenience of the beneficiaries e.g. If you find that parents leave for work on farms during 7am to 1 pm, you can hold the session from 2 pm to 5 pm.

Parents develop misconceptions about immunization | - Visit dropouts before the next session to find out the reasons why they missed the session. Often, people have misconceptions about immunization, particularly with measles. Talk to them, answer their questions and doubts, and provide advice accordingly.

AEFI in the community discourages parents to immunize their children | - HWs to always tell mother/care-givers about common side effects that may occur and what to do should they occur.

Children and mothers are not immunized when coming to the HWs for curative care (missed opportunities) | - When providing other services, always keep an eye out for eligible children visiting the session with a parent or sibling.  
- Ask about their immunization status or refer to the list of due beneficiaries and provide services, as appropriate.  
- Put a reminder about immunization in the facility’s waiting area.

HWs do not understand/explain to caregivers that immunization may be given to mildly ill children (false contraindication) | - HWs should convince parents about the fact that immunization can be safely provided to mildly ill children.

Families leave the village | - Provide immunization services to children from outside the area, if they are brought to the session, and provide their parents with a follow-up schedule.

### Every opportunity should be used for vaccination

#### 8.3 What are the reasons for Left-outs/Un-reached population and how to deal with them?

### Possible Reasons | Possible Interventions
--- | ---
All newborns and infants not identified and listed | - Involve AWW/ASHA/TBA to identify and share lists of newborns and children.

Parents not motivated to immunize children because of their poor understanding of its purpose and importance | - Orient community leaders and encourage them to talk to parents about immunization.  
- Provide talks and counseling on the importance of immunization.  
- Teach about immunization in health fairs and other events.  
- Use other Communication channels such as local cable television, Wall paintings and posters, Mosque and temple announcements.
### Possible Reasons

<table>
<thead>
<tr>
<th>Possible Reasons</th>
<th>Possible Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session site too far away (e.g. border populations)</td>
<td>• Include all the areas in the micro plan by consulting polio micro-plans and prepare list of eligible children.</td>
</tr>
<tr>
<td></td>
<td>• Plan to visit remote sites at least once every two or three months (plan at least 4 immunization sessions a year).</td>
</tr>
<tr>
<td>Refugees/ Families that fear contact with government (e.g. lack proper documents)/ scheduled castes or tribes/ poor Migrants/ Nomadic groups/Homeless families/Urban slums/street children</td>
<td>• Determine where these populations reside.</td>
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<tr>
<td></td>
<td>• Visit the communities and work with local mobilizers / educators and community groups/leaders to discuss reasons why they have never accessed immunization services.</td>
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<td></td>
<td>• Provide information on the importance of vaccination, the date, time and place of the nearest session.</td>
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<td></td>
<td>• Develop a list of children who have never accessed immunization services in the area.</td>
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<tr>
<td>Sessions too infrequent or timings and days not convenient/ not understood</td>
<td>• Plan sessions after consulting the community (e.g. early in the morning/late evening).</td>
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<tr>
<td>Cultural or Religious reasons for refusal of vaccination (myths, rumors and misconceptions)</td>
<td>• Find out the reasons for reluctance by talking directly to communities/leaders.</td>
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<tr>
<td></td>
<td>• Try to address their misconceptions, doubts, and fears by listening to them and offering support.</td>
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<tr>
<td></td>
<td>• Involve community leaders, ASHA, AWW and other staff working within that particular community in order to encourage their fellow members to have their children immunized.</td>
</tr>
<tr>
<td>Financial or gender barriers to immunization (e.g. husbands disallow wives to attend sessions because of time/lost labor, expense and/or fear of side effects)</td>
<td>• Counsel opinion leaders and influential persons about the danger of VPDs and the benefits of immunization.</td>
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<td></td>
<td>• Encourage peer counseling by fathers of children who accept immunization.</td>
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<td>• Publicize the fact that immunization services are entirely free.</td>
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</tbody>
</table>

### How can you deal with lack of geographic access?

You can bring the issue to the attention of your MOPHC, and supervisors and request them to reorganize your catchment area in order to provide immunization services to unreached populations. Sometimes, the best solution will be to visit the remote site once every two or three months and conduct at least 4 immunization sessions in a year.

### 8.4 Using Inter-Personal Communication to increase demand

The health worker and the community mobilizer (ASHA, other community workers) are in direct contact with parents and caregivers. The most important contribution they can make towards increasing demand is by being a friendly, efficient, interested person, who sincerely cares. As a manager/ health supervisor you would have to encourage the health workers and community link persons to smile, be friendly, and reassure both parents and children. This ensures that parents will listen to their advice, change their behaviour, and return for a full course of immunization for their children.

**Tips for effective communication with parents at the facility or outreach session**

- Act respectfully towards the mother/parent.
- Praise parents/caregivers for bringing their children for immunization.
- Give clear information on side effects and the date for next visit.
Remind parents about four key messages as follows:

1. What vaccine was given and what disease it prevents
2. When and where to come for the next visit.
3. What are the minor side effects and how to deal with them.
4. To keep the immunization card safe and to bring it along for the next visit.

Inform care-givers mothers about the next due date for vaccination

Use the vaccination card to remind parents when to return with their child

Vaccination cards for each child are important communication tools. Educated parents can determine from the cards, the type of vaccine and dosage given and the dosage due. For those less educated, recognizing a vaccine by how it is delivered is one way of keeping abreast of their child’s schedule.
8.5 Holding an effective community meeting

Health workers as well as health managers would need to meet the community members from time-to-time. Village health and sanitation committee meetings are occasions where it is possible to interact with the community on health, nutrition and sanitation related matters. Be sure to discuss the drop-out list and take community support for reducing them.

- Hold at a convenient time and place (e.g. on market days or close to places of worship)
- Identify local community representatives who would participate in the meeting
- Provide a comfortable and welcoming environment for the discussion.
- Listen to the community, find out what the community already knows about vaccine-preventable diseases and immunization
- Provide information, using basic language, on the importance of immunization, the status of the immunization program and where and when services are available. Dispel misinformation and doubts that sometimes surround immunization
- Encourage them to ask questions so that everyone can be better informed.
- Use stories, short plays, songs and visual aids to hold the group's attention and make meetings interesting
- Involve as many group members as possible in the discussion and ask them to suggest solutions to problems
- Help mobilize resources for immunization

Prepare the roster of immunization sessions and display at session site and sub-center
8.6 Advocacy with leaders, influencers, organizations and groups

The primary objective of advocacy is to ensure that policy-makers, leaders, networks, and influencers understand the vital importance of immunization for the health of children. The reasons for advocacy are broadly to:

- Draw support from a variety of stakeholders in creating an enabling environment in which the immunization programme can be implemented effectively.
- Strengthen vaccine management practices, including logistics, to ensure availability of safe and effective vaccines at all times.

Effective advocacy will be able to ensure that immunization is highly valued; every child has equal access to routine immunization and more children are protected against more diseases.

As a program manager, **YOU are the best advocate for the immunization program. Ownership of the program begins with YOU** and your endeavor should be to build up co-owners and partners for immunization in your area.

Remember that all advocacy efforts require careful planning, commitment, resources, and energy. When you are able and willing to sustain your advocacy efforts over the long term, meaningful change can occur.

Steps in effective advocacy:

1. Gathering information
2. Building a plan and engaging allies for activity
3. Measuring the effectivity of the results of your advocacy

8.7 Social mobilization and Behavior change communication

Social or Community mobilization is primarily Interpersonal communication (IPC) and is the tested approach to mobilize communities to know about, understand, and adopt routine immunization. The messages that the mobilizer gives can be greatly enforced through the use of strategically developed mass media and IEC material.

Behavior change communication is a process of imparting information so as to bring about attitudinal and behavioural changes in the stakeholder group such that practices are improved in a sustained and gender-sensitive manner.

Community involvement for demand generation should not begin once the services are made available but much earlier from the planning phase itself. Village health and sanitation committee can help in planning, implementation and evaluation of the immunization program as mentioned in HW handbook.
Immunization related behavior among health workers

- Perform immunization tasks correctly, including those that ensure safe injections.
- Emphasize the importance of vaccination.
- Fill out the vaccination card and explain what is being written.
- Respond to doubts and fears in a reassuring manner.
- Respond to questions clearly, in a simple, easy to understand language.
- Inspire the parent/caregiver by congratulating for completion of immunization of the child.
- Give requisite 4 key messages to the care givers clearly and consistently;
  - What vaccine was given and what disease it prevents
  - What are common side effects and how to deal with them
  - Where and when to return for the next immunization
  - To keep the immunization card safe and to bring it along for the next visit

Short case studies

Two nomadic communities have settled near two villages of a block for several years. Roshni and Meena are two ANMs who have both been assigned one each of these communities to provide outreach health services. Both of them have made their session micro plan to visit their areas once a month. One year after they have started visiting these areas, on an outreach session day, the health manager of the block visits both these areas as given in the micro plan. This is what he finds:

**Roshni:**

Roshni is not present in the area at 10 a.m. Most people are unaware of when she comes and where the session is held. Very few mothers know about vaccination and few can remember seeing her during the course of the year. Of the pregnant women and children interviewed only 1 pregnant woman has been vaccinated with a single shot of TT, that also in her husband’s village which is in another district. She has not got her second dose as yet. The manager calls up Roshni in her mobile and she tells him her location which is the house of the village headman of the main village adjoining the nomadic area. The manager finds her in the given location and she has arranged her session site there with banners, vaccines, chairs and table. She also arranges tea for the manager as soon as he arrives.

When asked about the vaccination status of the nomadic people Roshni complains that there is no ASHA or mobilizer for the area. She went there to the area where the nomadic population lived, the first two months to call them but they did not cooperate; they did not provide her a room, or table, or chair. As the village headman of the main village was of the same caste as her and provided all the arrangements, she set up her site at his house. The nomadic people do not come to her session site although she is regular and sincere. She feels that they are dirty and impolite and refuse vaccines.

**Meena:**

At 11.30 am, Meena is found working in the middle of the nomadic community’s area on a mat on a floor beneath a large tree. She is surrounded by women and children. She is seen given a DPT dose to a small infant and after the vaccination; she spends time telling the mother about the possible side effects, gives her some medicine and tells her the need to bring the child again the next month for the next dose of the vaccine. The mother smiles in acknowledgement and accepts the card as Meena again explains what has been written in the card and to bring the card again in the next visit.
During the manager's interaction with Meena, he finds out that, like Roshni, she had problems in the initial months. However she did not feel they were impolite and dirty and felt that they just needed some help. An opportunity arrived when one of the women of the village went into complicated labour. Meena herself accompanied this woman to the hospital where she gave birth to a healthy baby girl. The infant was vaccinated in the hospital with the birth dose vaccines and later also continued the rest of the vaccines from Meena at her outreach site. Seeing this other villagers soon started coming to Meena for vaccination; a few even helped with the floor mat and mobilization. Soon all the nomadic population understood vaccines were good for them. They came timely for their vaccines and children and pregnant women completed their vaccine series.

- Discuss about Roshni and Meena’s behaviors and the outcome in their work

8.9 Arrange for visibility and awareness of services

Arranging for visibility and awareness of immunization and outreach health services to the general public and particularly to beneficiaries is the initial and the perhaps the easiest step of communication. Most of the materials made available to districts and blocks are developed at national and state levels after careful planning, designing and testing.

For Routine Immunization, designs for banners and posters have been developed at the national level which the states may use. Some of the specimens are given here.

As a manager how would you plan for the effective use of communication material? The materials generally available to you may be in the form of posters, wall paintings, tin boards, hoardings, banners, stickers, fliers or handouts and sometimes even audio jingles and video snippets. You will have to plan when and how to use them.

You should read the content and see the pictures of the material available to you before arranging for their placements. Make sure that what is written or shown is consistent with the guidelines of the program. Banners and posters in the local language should always be preferred. In the posters above, one stresses on birth dose vaccination following institutional deliveries and the other encourages the beneficiaries to ensure that the child completes the vaccine doses as per immunization schedule. Where would you plan to use these posters? If banners have to be put up at outreach sites banners in which of the two designs would you prefer to use?
8.10 Making a comprehensive communication plan

The following steps will help you and your communication team members to prepare a comprehensive communication plan for your area.

1. Identify your communication problem

2. Decide on the best communication method/method mix to address the problem

3. Plan meticulously on all aspects and implement accordingly

<table>
<thead>
<tr>
<th>Problem Identification</th>
<th>Communication Method(s)</th>
<th>Detailed Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro plan revised and new session sites operational</td>
<td>Folk media, Poster and banner, Wall printing</td>
<td>Drum beaters in villagers announcing about new outreach sites locations and their timings. Poster and banner for each new session site. Wall writing in community hall as well as new session site announcing session days, services and timings.</td>
</tr>
<tr>
<td>New vaccine introduced in the National schedule</td>
<td>Hoarding, FAQs, IPC sessions, Movie skit and flip charts</td>
<td>Hoarding in the hospital campus showing new vaccine, its benefits and schedule. FAQs to health workers and mobilizers including IPC sessions of manager with health workers and health workers thereafter with mobilizers and guardians. Movie skit and flip chart to help explain details about new vaccines.</td>
</tr>
<tr>
<td>Rumour in village X about side effects of measles vaccine</td>
<td>IPC, Folk artist performance</td>
<td>IPC with influences and guardians to explore root and reasons of rumour. Fold artists performance to dispence rumours: puppet show</td>
</tr>
<tr>
<td>Newly elected village representatives enthusiastic work for peoples health</td>
<td>Advocacy, Fliers and handouts</td>
<td>Advocacy with these members during their meetings. Fliers and handouts explaining basic information as well as how they can contribute</td>
</tr>
<tr>
<td>one sector in the block has high drop out rate</td>
<td>IPC, Social mobilization, Job aids on 4 key messages</td>
<td>IPC of supervisory staff with health workers and mobilizers to understand their performance and reasons for drop out followed by counselling. Training of health workers and mobilizers on effective counselling, tracking and IPC drop-out beneficiary families.</td>
</tr>
<tr>
<td>Village with newly formed self help group wanting to participate in Immunization</td>
<td>Due list wall writing, My village my home poster</td>
<td>Self help group trained to assist mobilizer on calling due beneficiaries, training on preparation and use of due-lists training on making “My Village My Home” poster and each member entrusted with following up with a group of beneficiaries.</td>
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</tbody>
</table>
Unit 9: Immunization Program Review and Preparing Block Action Plan

Learning Objectives

At the end of the unit you should be able to:

• compile, collate, analyze and use data effectively for program management
• Periodically review the immunization program and initiate corrective measures.
• Coordinate a comprehensive annual review of the program.
• Develop a realistic work plan for the next year.
• Prepare a program budget for the next annual cycle.

CONTENTS

9.1 Conducting Immunization Program Review
9.2 Preparing annual Work plan
9.3 Developing budget plan for the next financial year
9.4 Performance budgeting

9.1 Conducting Immunization Program Review

You may be aware that Programme management is a cyclical process involving different stages of planning, implementation, review and evaluation and back to planning and budgeting again. As a good manager you need to review the program periodically to identify the weak areas and improve upon them. Monthly meetings are good opportunities for program review. Sometimes, programs can be reviewed quarterly especially if there are specific activities to be completed during different aspects of the annual program cycle e.g. micro plan revisions for immunization should usually be completed by the first quarter of the year. In addition quarterly reviews help to track progress and make mid-course corrections. However the year end review should include the financial aspect of program management.
To undertake systematic review of the program, you need to follow these steps:

1. Get your review team together
2. Compile relevant data
3. Analyze the data to identify the issues
4. conduct appropriate discussions with various stakeholder groups
5. Prepare a plan of action for the following year.

The following is a list of indicators for immunization program review:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Multiplying factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full immunization coverage rate</td>
<td>% of children who have reached 1 year of age and have been fully immunized (that is, received one dose of BCG, 3 doses each of OPV, DPT and Hepatitis B and 1 dose of measles).</td>
<td>Total number of children who have reached one year of age in a given period for a given area and are fully immunized.</td>
<td>Total number of children who have reached one year of age during the same period and for the same area.</td>
<td>100</td>
</tr>
<tr>
<td>BCG measles drop-out rate</td>
<td>% of children under 1 year of age who were given BCG vaccine but did not receive measles vaccine</td>
<td>Difference between cumulative doses of BCG and Measles administered to children below 1 year.</td>
<td>Cumulative doses of BCG administered</td>
<td>100</td>
</tr>
<tr>
<td>DPT1 DPT3 drop-out rate</td>
<td>% of children under 1 year of age who were given DPT1 vaccine but did not receive DPT3 vaccine</td>
<td>Difference between cumulative doses of DPT1 and DPT3 administered to children below 1 year.</td>
<td>Cumulative doses of DPT1 administered</td>
<td>100</td>
</tr>
</tbody>
</table>

### 9.2 Preparation of Work plans

A work plan with outputs defined, activities listed along with timelines and persons responsible would be useful for a manager.

The type of format where activities and tasks are marked along a timeline is called a Gantt chart.

The sample given below may be followed once activities, timelines and persons responsible to improve the immunization program are identified.
### Block level sample Workplan for Immunization Program

**District:** XXXXX  \  **Block:** YYYY

**Expected Outcome:**

Improve Full Immunization coverage to >90%

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timeframe (in months)</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target @1 yr</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity 1: Microplan review and revision</strong></td>
<td>0-3</td>
<td>% of HSC and PHC microplans reviewed, revised and submitted to block</td>
<td>0</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>Health sub-center and PHC micro plans reviewed and revised with participation of Health worker, ASHA, AWW</td>
<td>4-6</td>
<td></td>
<td>40%</td>
<td>0%</td>
<td>Cold chain handler</td>
</tr>
<tr>
<td>7-9</td>
<td></td>
<td>% ILR points with stock outs observed during supervision</td>
<td>80%</td>
<td>100%</td>
<td>Cold chain handler</td>
</tr>
<tr>
<td>10-12</td>
<td></td>
<td>% Cold chain equipment functional</td>
<td>60%</td>
<td>100%</td>
<td>Cold chain handler</td>
</tr>
<tr>
<td><strong>Activity 2: Cold chain and logistics management</strong></td>
<td></td>
<td>% of outreach sessions with AVD mechanism</td>
<td>10%</td>
<td>90%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>All cold chain points maintaining stock of all vaccines and diluents above buffer levels</td>
<td></td>
<td></td>
<td>20%</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>All ILR and DF functional with twice daily temperature recording</td>
<td></td>
<td></td>
<td>20%</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>Outreach Sessions sites where logistics delivered through Alternate Vaccine Delivery</td>
<td></td>
<td></td>
<td>20%</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>Safety pits constructed and functional at each PHC</td>
<td></td>
<td></td>
<td>20%</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td>Functional hubcutters, red and black bags available</td>
<td></td>
<td></td>
<td>20%</td>
<td>100%</td>
<td>Block Program Manager</td>
</tr>
<tr>
<td><strong>Activity 3: Social Mobilization</strong></td>
<td></td>
<td>% of sessions supervised where ASHA has prepared due-lists</td>
<td>30%</td>
<td>90%</td>
<td>All Supervisors</td>
</tr>
<tr>
<td>ASHAs preparing due-lists before every sessions and mobilizing the beneficiaries</td>
<td></td>
<td></td>
<td>60%</td>
<td>100%</td>
<td>All Supervisors</td>
</tr>
<tr>
<td><strong>Activity 4: Supervision and monitoring</strong></td>
<td></td>
<td>% of health worker supervised each quarter</td>
<td>70%</td>
<td>100%</td>
<td>Medical officer</td>
</tr>
<tr>
<td>Each health worker is supervised once a quarter during session day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medical officer</td>
</tr>
<tr>
<td>Review meetings held at village, PHC and block</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medical officer</td>
</tr>
<tr>
<td><strong>Activity 5: Trainings related to immunization</strong></td>
<td></td>
<td>% health workers trained</td>
<td>50%</td>
<td>80%</td>
<td>Medical officer</td>
</tr>
<tr>
<td>Health workers trainings as per GoI handbook</td>
<td></td>
<td></td>
<td>25%</td>
<td>75%</td>
<td>Medical officer</td>
</tr>
<tr>
<td>Medical officers trainings as per GoI handbook</td>
<td></td>
<td></td>
<td>25%</td>
<td>75%</td>
<td>Medical officer</td>
</tr>
<tr>
<td>Activity</td>
<td>Timeframe (in months)</td>
<td>Indicator</td>
<td>Baseline</td>
<td>Target @1 yr</td>
<td>Person Responsible</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>--------------------------------</td>
<td>----------</td>
<td>--------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Cold chain handlers trainings as per GoI handbook</td>
<td>0-3 4 6 7 9 10 12</td>
<td>% Cold chain handlers trained</td>
<td>20%</td>
<td>100%</td>
<td>Medical officer</td>
</tr>
<tr>
<td>ASHAs training in Immunization</td>
<td>0-3 4 6 7 9 10 12</td>
<td>% ASHAs trained</td>
<td>0%</td>
<td>100%</td>
<td>Medical officer</td>
</tr>
</tbody>
</table>

9.3 Developing Budget plan for next financial year

A well structured framework exists for preparing the Program implementation plan for the Universal Immunization program within the NRHM PIP. This is called the “part C” of the PIP which contains the following sections which have to be prepared and submitted by January end each year.

The framework of the PIP is prepared for the state level. However, in this module the same formats with suitable modification for district and block level are presented for use by the program managers in these levels. Remember to

- Link budgetary provision of other aspects of PIP with immunization activity where applicable (parts A, B and E).
- Identify any special areas in immunization needing budgetary provision not provided through regular NRHM funds and resources.

Under PIP part C, funding is available for the following activities:

- Strengthening of monitoring and supervision
- Alternate vaccine delivery
- Mobilization of children by ASHA/Link workers
- Alternate Vaccinators for Slums and under served areas, including vacant SCs.
- Computer Assistants to the States
- Cold chain maintenance
- Review meetings
- Printing of RI cards and monitoring tools
- Construction of waste pits
- Purchase of polythene bags
- Training of ANMs and other health workers
- Training of refrigerator mechanics
- Cold chain handlers training
- Training of DIOs and MOs

The following are the budgetary provisions under Part C of the NRHM provided by the Immunization Division through the NRHM. The actual provision at block level may vary according to changes made at the state level. A program manager/supervisor should get hold of the financial guidelines each year for managing the program successfully.
<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>Norms</th>
</tr>
</thead>
</table>
| Mobility support for supervision                                               | • @Rs.50,000 per District for district level officers (this includes POL and maintenance) per year  
| Supervisory visits by state and district level officers for monitoring and supervision of RI | • By state level officers @Rs.100,000 per year  
| Cold Chain maintenance                                                          | • @ Rs 500 per PHC/CHC per year District Rs 10,000 per year  
| Focus on slum & underserved areas in urban areas:                               | • Hiring an ANM @Rs.300/session for four sessions/month/slu/m of 10000 population and Rs.200/- per month as contingency per slum of i.e. total expense of Rs. 1400/- per month per slum of 10000 population.  
| Mobilization of children through ASHA/ mobilizers                               | • @ Rs 150/session (for all states/UT.s)  
| Alternative Vaccine Delivery:                                                   | • Geographically hard to reach areas (eg. Session site>30 kms from vaccine delivery point, river crossing etc.) @ Rs 100 per RI session  
|                                                                                | • NE States and Hilly terrains @100 per RI session  
|                                                                                | • For RI session in other areas @ Rs.50 per session.  
| Support for Computer Assistant for RI reporting                                 | • State @Rs 12,000- 15,000 p.m.  
| (with annual increment of 10% w.e.f. from 2010-11)                               | • Districts @ Rs 8000- 10,000 p.m  
| Printing and dissemination of immunization cards, tally sheets, monitoring forms, etc. | • @ Rs 5 per beneficiary  
| Review Meetings                                                                 | • Support for Quarterly State level Review Meetings of district officers @ Rs 1250/participant/day for 3 persons (CMO/DIO/ Dist Cold Chain Officer)  
|                                                                                | • Quarterly Review & feedback meeting for exclusive for RI at district level with one Block MO.s, ICDS CDPO and other stakeholders@ Rs 100/- per participant for meeting expenses (lunch, organizational expenses)  
|                                                                                | • Quarterly review meeting exclusive for RI at Block level @Rs 50/-pp as honorarium for ASHAs (travel) and Rs 25 per person at the disposal of MO-I/C for meeting expenses(refreshments, stationery and misc. expenses)  
| Trainings                                                                       | • As per revised norms for trainings under RCH  
| District level orientation training for 2 days ANM, Multi Purpose Health Worker (Male), LHV, Health Assistant (Male / Female), Nurse Mid Wives, BEEs & other specialist ( as per RCH norms) | • As per revised norms for trainings under RCH  
| **Three day training of Medical Officers on RI using revised MO training module** | • As per revised norms for trainings under RCH  
| One day refresher training of District RI Computer Assistants on RIMS/HMIS and Immunization formats under NRHM | • As per revised norms for trainings under RCH  
| One day Cold Chain handlers training for block level cold chain handlers by State and District Cold Chain Officers and DIO for a batch of 15-20 trainees and three trainers | • As per revised norms for trainings under RCH  
| One day Training of block level data handlers by DIO and District Cold chain Officer to train about the reporting formats of Immunization and NRHM | • As per revised norms for trainings under RCH  
| Micro planning                                                                  | • As per revised norms for trainings under RCH  

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9.4 Performance budgeting

While managing the immunization program, managers must keep in mind that the fund allocated must ultimately lead to visible results. Performance-based budgeting is the practice of developing budgets based on the relationship between program funds and expected results from that program.

The managers must prioritize activities that bring better results as well as determine how each funded activity undertaken can be shown to bring a measurable result. The performance budget prepared by the manager should show the link between the funds provided and the outcome of these services. The managers should be able to use systematic performance indicators to make this link. For example, the utilization of funds for injection safety (red bad/black bag, bleach, twin bucket and safety pit) should result in proper immunization waste disposal and immunization safety practices in the block shown by indicators such as % cold chain stores where immunization wastes are returned from session sites and disposed as per CPCB guidelines.

The impact of performance budgeting may be felt in improved prioritization of expenditure, and in improved service effectiveness and/or efficiency.