GUIDELINES FOR MICRONUTRIENT SUPPLEMENTATION PROGRAMME
रिवलेगा बढ़ेगा
बच्चा बनेगा तंदुरुस्त
जो पिलाएं उसे छः माह तक
सिर्फ माँ का दूध
Genesis of the universal vitamin a supplementation programme in India:

The National Prophylaxis Programme against Nutritional Blindness was initiated in 1970 as an urgent remedial measure to eliminate the unacceptably high magnitude of xerophthalmia blindness. All 1–5-year-old children were to be administered 200 000 i.u. of vitamin A orally once in 6 months. During the early 1990s this intervention was restricted to children between 9 months and 3 years as clinical deficiency was almost exclusively restricted to this age range. In 2005, an expert group chaired by the Director General, Indian Council of Medical Research endorsed 9 months to 3 years as the target age group for universal vitamin A supplementation (UVAS). However, digressing from this counsel, in 2006 the age group was broadened to include children between 6 months and 5 years after reconsidering recommendations of the WHO, UNICEF and Ministry of Women and Child Development. The stated objective of the UVAS programme in India remains unaltered since inception; however, the current advocacy for intensification and increase in age range primarily pertains to child survival benefit.

Initiation of biannual rounds with package of health services:

The vitamin A supplementation program in India has entered a new era where many states are administering Vitamin A during month long integrated bi-annual sessions held usually in April/May and October/November. This decision was based on the National Workshop on Micronutrients organized by ICMR on the 24-25 November 2003 which recommended that Biannual Child Health and Nutrition Promotion Months be held, six months apart which would offer a package of child health and nutrition services of which Vitamin A supplementation of target children would be an integral part. Children of age group 9 months to 3 years should receive two doses of Vitamin A at 6 months interval which is considered adequate. The Government of India Policy document on Vitamin A (Dated 2nd Nov, 2006; Lt. no. Z.28020/30/2003-CH) also reiterates the same and says that a bi-annual approach may be used to administer VAS to children between the ages of 13 months to five years. Moreover it clearly mentions that the first dose of VAS is given with measles vaccine during routine immunization, the subsequent 8 doses six months apart should be given during the bi-annual activities.
These months would have intensive child survival activities during which it was suggested that sub-center level workers in close coordination with the ICDS workers will deliver services in the given month as per detailed micro plans. This recommendation is in line with the globally used REACH strategy i.e. Regular Events to Advanced Child Health which focuses on providing contact points for delivery of child friendly health services to pre-school children. Vitamin A was recommended as an integral part of the package driving the sessions forward.

Accordingly, the Government of Haryana has decided that biannual rounds for vitamin A supplementation along with other package of services will be organized in April and October - November in all the districts of the state. During this period a variety of important services are delivered with focus on administration of Vitamin A. Doses of this essential nutrient will be given to children aged 12 months to 59 months who have not received Vitamin A in the past 1 months. Other services will include iron and folate distribution to children, de-worming and salt testing for iodine content.
Why there is a need of vitamin A, IFA, iodine supplements and deworming:

**Vitamin A** deficiency does its worst damage during childhood and is a major contributor to childhood mortality and illness. The most commonly known effect of Vitamin A deficiency is blindness. Less well known is that Vitamin A is also essential for the functioning of the immune system. Even before blindness occurs, vitamin-A deficient children are at increased risk of dying from diseases such as measles, diarrhea, and malaria. Vitamin A supplementation of vitamin-A deficient populations can reduce child mortality by as much as 20-23% (The Lancet, Vol 361, June 2003). Moreover as per NFHS 3 data, in Haryana % of children aged 12-35 months who received a vitamin A dose in last 6 months is only 13%.

**Iron deficiency** is thought to be the most common cause of anaemia globally, but other nutritional deficiencies (including folate, vitamin B12 and vitamin A), acute and chronic inflammation, parasitic infections, and inherited or acquired disorders that affect Hb synthesis, red blood cell production or red blood cell survival can all cause anaemia. Iron deficiency anaemia results in impaired cognitive and motor development in children and decreased work capacity in adults. The effects are most severe in infancy and early childhood. In pregnancy iron deficiency anaemia can lead to perinatal loss, prematurity and low birth weight (LBW) babies. Iron deficiency Anaemia also adversely affects the body's immune response, cognitive performance, behaviour and physical growth of infants, preschool and school-age children. It also contributes to morbidity from infections in all age groups. As per NFHS 3 data, prevalence of any anaemia in children: 6-11 months is 81.3%, 12-23 months is 88.5%, 24-35 months is 76.7%, 36-47 months is 65.0%, 48-59 months is 54.3%.

**Worm infections** contribute to anaemia and vitamin A deficiency. It reduces anaemia which in turn is associated with vitamin A deficiency. Helminths such as hookworm and flukes cause chronic blood loss and consequently iron loss from the body, resulting in the development of anaemia. A hookworm burden of 40–160 worms (depending on the iron status of the host) is associated with IDA.
**Iodine** is required for the synthesis of the thyroid hormones, thyroxin (T4) and triiodothyronine (T3) and essential for the normal growth and development and wellbeing of all humans. It is a micronutrient and normally required around 100-150 microgram for normal growth and development. Deficiency of iodine may cause following disorders: Goitre, subnormal intelligence, neuromuscular weakness, endemic cretinism, still birth, hypothyroidism, defect in vision, hearing and speech, spasticity, IUD, mental retardation. As per NFHS-3 data, only 55% of household in Haryana were using adequately iodized salt.

**Micronutrient Supplementation Programmeis a strategy to deliver key micronutrient services to the children below five years of age through routine immunization sessions, every year in the month of April and October - November.**

### Package of services:

1. **Vitamin A supplementation:**
   
   Dose of vitamin supplementation will be given to all children between 12-59 months who have not received the dose in the last one month.

   **The recommended dosage schedule is as under:**

   - The 1st dose 1,00,000 I.U (1ml) is given with routine measles immunization (9 months completed age);
   - The next 8 doses (each dose 2 ml) are given after every 6 months.

   In the biannual rounds, 2nd–9th dose of vitamin A will be included. All children 12-59 months age will be given one full spoon (2 ml/2,00,000IU) of Vitamin-A syrup, if not administered 1 month prior to the round. This is done twice in a year, at interval of 6 months i.e. April and October-November. This activity will be carried out by ANM or any other trained health worker with the support of Anganwadi Worker and ASHA.
2. **Deworming:**

   During the biannual rounds, Albendazole tablet will be administered to children of more than one year age and who have signs or symptoms of worm infestations - i.e. wormy abdomen. The recommended dose of Albendazole is:

   - Children aged 12-23 months: Albendazole 200 mg tablet/5 ml syrup.
   - Children 24-59 months upwards: Albendazole 400 mg tablet/10 ml syrup.

3. **Iron folic acid syrup/tablet:**

   IFA syrup will be given to children of age groups 6-60 months. The recommended dosage is:

   - For 6–60 months: 1 ml of IFA syrup containing 20 mg of elemental iron and 100 mcg of folic acid biweekly.

4. **Salt testing for iodine content:**

   Recommended iodine content in all cooking salts is more than 15 ppm.

   **ANM** will inform the beneficiary in advance to bring salt sample from their home while visiting biannual campaign the activity will be performed once a year.

   Refer Annexure no 2 on method of testing of iodine content of salt.

   ✓ **Schedule/Calendar:**

   The activity will be done through routine immunization sessions in the month of April and October-November

   ✓ **Critical Elements**

   In order to ensure planning and implementation of the biannual rounds, many critical gaps need to be addressed. Following are some of the essential elements for the success of biannual rounds.

1. **Strong leadership and commitment at all levels:**

   Administrative commitment and leadership at district levels are critical to the success of the initiative. Continuous involvement of the districts (particularly Deputy Commissioner, CS, District Immunization Officers, and District Programme Officer etc.) is vital.
2. **Inter-sectoral coordination and convergence:**

Support from other government departments is crucial for generating demand and effective monitoring and supervision. These departments include ICDS, Education, Rural Development, Urban Local Bodies, Development partners, Local NGOs, private and public sector institutions such as pharmacy Industries, etc. would yield high dividends in terms of improved visibility and coverage.

3. **Micro-plans:**

Micro-plans need to be revised and refined to include all villages/hamlets in a month under a sub-center area as per the GoI guidelines. The primary unit for developing / revising micro-plans will be the sub-center level. PHC Medical Officer will provide the overall leadership for developing the sub-center micro-plan. The ANM needs to compile the sub-center micro-plans and send to the Medical Officer, who in turn compiles the micro-plans for all the sub-center and sends to the district level. The already prepared RI micro-plan would be used for the planning the activities during biannual round to strengthen the routine RI services. Though before each bi-annual round of activities these micro-plans needs to be reviewed according to the local needs & optimization of the outreach of services to all.

**At the Sub-center level:**

The sub-center micro-plans could be developed during the joint meetings of AWWs, ANMs and ASHAs. These meetings are ideal opportunities for categorization and prioritization of villages and planning for identification and mobilizing left-out / drop-out children. The supervisory level of ICDS should also be used to develop sub-center micro-plans. Village level functionaries and volunteers (sarpanch, Mukhiya, other volunteers) also be involved in this process. Once the micro-plans are finalized, these should be shared with the AWWs and ASHAs.
Components of an effective micro-plan include:

- Listing of all villages/hamlets/urban units including difficult to reach areas. Include detailed maps of areas including area boundaries.

- Identification of vaccinators: Involve all ANMs and other trained vaccinators (such as Male MPWs). Hired vaccinators or LHVs can also be included in case of vacant ANM positions or temporary ANM during the rounds in vacant positions.

- Route chart for alternate vaccine delivery.

- Supervision plan

- IEC and social mobilization plan with roster of vaccinators, AWWs and mobilizers by session site and date.

- Vaccine and supply requirements.

At the PHC level:

It is conducted through the joint efforts of Health staff (MO, LHV, Male Supervisor), ICDS staff (Lady Supervisors). At this level the micro-plans needs to be compiled and sent to the district level.

At the DISTRICT level:

MO'IC needs to compile all the micro-plans and send to the district level. MO'IC also needs to share the micro-plan with CDPO (block).

1. Urban Strategy

Urban areas have low coverage rates as compared to rural areas. Immunization services are delivered through multiple providers, with a predominant role played by the private practitioners and hospitals. Careful planning and coordination among all players is critical for sustained improvements in the immunization program in urban areas.

A Nodal officer should be identified to coordinate activities in the urban areas. The catchments area under each health facility should be clearly defined and sessions have to be continued at the same sites during subsequent Immunization days.
5. **Reporting and recording system.**

Following recording and reporting material shall be used at various levels for recording and reporting of activities of biannual round.

I. MCH Register / MSP Registers

II. Mother and Child protection card (Immunization Card) (MCP Card)

III. MSP Registers. (At AWCs)

IV. Micro plan formats

V. Tally sheet

VI. Recording format (SC level)

VII. Recording format (PHC level)

VIII. Recording format (district level)

6. **Supervision and Monitoring**

Good quality supervision and monitoring are critical elements that would make significant difference to the quality of the program. Supervision should focus not only on the quality of the sessions, but also on the process of planning, preparations for the biannual rounds, quality of reporting, etc.

a. **Possible Supervisors:**

I. **At State Level**

Directors, Joint Directors, State Immunization Officers, WCD officials, Development Partners etc.

II. **At District Level**

Civil Surgeon, DIO, District Child Health Coordinator, DPM, DAC and WCD officials etc.

III. **PHC Level**

MOs, CDPOs, BEE, Health, BAC and ICDS Supervisors etc.

b. **Supervision Checklists**

C. **Supervision Plan (dates, places, person responsible)**
7. **Logistics planning and management**

Rational estimation of Vitamin A and other supplies for the immunization days needs to be made well in advance. Indenting of the following materials should be considered as per micro plans:

- Vitamin A syrup
- IFA syrup
- De-worming tablet
- Salt testing kit
- Reporting registers and formats.
- IEC materials: Banner, Poster, Pamphlet, Guidelines and ANM Booklet.

**Estimation of supplies**

Session wise estimation of supplies will be done by using micro plans prepared by AWWs and ANMs of their respected area. AWWs and ANM will calculate the total number of under 5 children in their respective areas and calculate the required number of drugs and other logistics.

1. **Vitamin A**: The 2nd -9th dose of 2 ml is given at 12-18 month followed by after every 6th month. The required amount of drug is calculated by using area wise population. It is calculated as:

   \[
   \text{Total quantity required} = \left( \frac{\text{(total population of children age>12 months} + \text{total children of aged 12-59 months in the district} \times 2 \text{ ml}) \times 1.11}{100} \right)
   \]

   Where 1.11 is taken as wasting factor.

2. **IFA syrup**: The Recommended dose of IFA syrup for 6-60 months is 1 ml biweekly (approximately 100 doses per year). Each child requires 1 bottle of IFA syrup (100 ml)
Therefore, total number of IFA bottles required is equal to total population of children aged between 6-60 months in the district/area.

Children less than 6 months of age are not included thus, should be deducted from the total under five population.

3. **Albendazole tablet:**

   The recommended doses of Albendazole tablet for 12-23 months age group is half tablet of 400 mg biannually at six months gap. Children of 24-59 months age group are given 1 tablet of 400 mg biannually at 6 months gap. Therefore, total number of tablets required per round is calculated as:

   For 12-23 years age group children= total population aged 12-23 months*(1/2 tablet of 400 mg ).

   For 24-59 months age group children = total population aged between 24-59 months *(1) tablet 400 mg.

   Albendazole is not given to children aged < 12 months, therefore population of children aged less than 12 months should be deducted from the total under 5 population.

4. **Salt testing kits:**

   One salt testing kit covers approximately 50 households. one-two salt testing kits per sub centre is sufficient.

   Planning should also include route charts for alternative delivery of vaccines and other supplies. District and PHC level officials should ensure timely distribution of supplies and address any supply bottlenecks. Supplies received at each level should be duly recorded in the Stock Registers. It is advisable that the recording of distribution of supplements and logistics should reflect the session habitations (and not by name of person). DIO needs to ensure (at least one week before the round) that there are adequate supplements and other supplies in all the PHCs.
Training:

A one day state level orientation on biannual rounds will be organized for DIOs, Urban nodal officer, PO ICDS, DAC, DCHIC.

One day district level orientation will be organized for SMO / MOs, CDPOs, BAC and ICDS supervisor from each block. Further it is followed by orientation of AWWs and AWHs by CDPOs and ICDS supervisor during sector meetings and orientation of ANMs and ASHAs during monthly meetings.

ROLES AND RESPONSIBILITIES:

Responsibilities of ANM

Should be well versed with the National immunization schedule.

Should know about recommended doses for vitamin A, IFA, Albendazole tablet/syrup as per age groups.

Planning

- Develop Micro plan/roster of each worker.
- Sharing copy of Micro plan with ICDS- CDPO/Supervisors
- Identify hard to reach areas and underserved population.
- Coordinate home visits to educate parents for Vitamin A and immunization
- Give posters and other IEC materials to the AWW / ASHA for display.
- Give campaigns days/dates to the AWW / ASHA for display the AWC / Public places.
- Ensure that supplies are available at AWC on session days.

Conducting the biannual session:

- Ensure all dropouts from previous sessions are brought as per the list from AWW / ASHA
- Ensure all beneficiaries due for that session are mobilized.
- Arrange suitable place for keeping the Vitamin A bottle and other drugs in the shade.
- Greet beneficiaries.
- Each Health Worker to carry sufficient amount of Vitamin A, other drugs and salt testing kits during each session.
- Maintain Buffer stock of Vitamin A bottles, IFA tablets/syrup, Albendazole tablets and kit at the PHC.
- Administer Vitamin A dose as per list developed by AWW.
In some locations if the AWWs are not available, ANM will prepare name wise list of beneficiaries and provide services of the biannual rounds.

ANM will record in her / his register after administration of Vitamin A/deworming and issue immunization card wherever applicable.

ANM will inform the mother that her child is receiving Vitamin A and again the child will be administered Vitamin A after six months if required.

ANM will verify before administering Vitamin A whether the child has received vitamin A supplementation in the last one month or not.

ANM will distribute the IFA syrup and explain to the mother its recommended dose and mode of administration.

Nutrition Education / counseling to Mothers

De-worming of children above 1 year of age. (to be done in subsequent rounds)

Do salt testing of households 'salt samples.

**Responsibilities of AWW**

**Planning**

Enumerate all children (including newborn) in the village and share the list with ANM especially the list drop outs and left outs.

Help ANM to identify hard to reach areas and underserved population.

Conduct home visits to educate parents for vitamin A, IFA supplementation, deworming and importance of iodized salt.

Inform beneficiaries about the services and date, time and place of biannual sessions.

Display posters and other IEC materials.

Display session days /dates at the AWCs.

**Maintaining session site**

Arrange suitable place for keeping the Vitamin A bottles and other supplies in the shade.

**Conducting the session:**

Make available the list of all drop outs and left out beneficiaries.

Ensure all dropouts from previous sessions are brought for immunization
- Ensure all beneficiaries due for that session are mobilized.
- Greet beneficiaries.
- Nutrition Education / counseling to Mothers
- Assist in de-worming of children who have signs and symptoms of worm infestation.
- AWW to do salt testing of households'salt samples.
- Assist in verifying age of the child.
- Arrange water for washing hands.
- Arrange space for supplementation activity and waiting place for beneficiaries.
- Assist ANM in conducting the biannual session
- Manage crowds

**Role of ASHA:**
- ASHA will be responsible for mobilizing the community/children to session site i.e. SC/AWC/other.
- Conduct the testing of salt samples using salt testing kits.
- Inform the beneficiary regarding date, time and place of the session site.
- Inform mothers to bring salt samples from their home well in advance.
- ASHA will support AWW in organising arrangements for biannual activities.
- Visit the houses of drop-out children.
- Counsel women about protecting the child's health by ensuring exclusive breast feeding till 6 months age, Vitamin A supplementation, immunization, consumption of iodized salt
- Accompany such beneficiaries to the next planned session.

**ROLES OF MO:**
- Orientation of ANMs and ASHAs on biannual rounds (micronutrient supplementation programme).
- Conduct meetings with ANMs and ASHAs to review status of biannual rounds.
- Provide overall guidance and leadership.
- Ensure Vitamin A, IFA, Albendazole syrup/tablets and logistic availability.
- Review and approve micro plans.
Role of DIO, DPM, Nodal officer and PO ICDS

- Conduct regular meetings to review status of biannual rounds.
- Provide overall guidance and leadership to the biannual activity.
- Facilitate involvement and participation of relevant departments, NGOs, private providers and other potential resources.
- Review and approve the block / sub center micro plans.
- Review Vitamin A, IFA, Albendazole syrup/tablets and logistic availability.
- Data collation, analysis and timely submission to state.
- Provide feedback to the blocks based on the monitoring and coverage data after each round of session site.
- Distribute IEC, reporting format etc to all facilities.

Annexure 1

Recommended doses for IFA supplementation and deworming:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Intervention/Dose</th>
<th>Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–60 months</td>
<td>1ml of IFA syrup containing 20 mg of elemental iron and 100 mcg of folic acid</td>
<td>Biweekly throughout the period 6–60 months of age and de-worming for children 12 months and above</td>
</tr>
</tbody>
</table>

Dosage of Albendazole tablets for biannual de-worming:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dose (Albendazole Tablet)</th>
<th>Appropriate administration of tablets to children between the ages of 12-23 month is important. The tablet should be broken and crushed between two spoons, then safe water/breast milk is mixed and administer to child.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12–23 months</td>
<td>200mg tablet</td>
<td></td>
</tr>
<tr>
<td>24-59 months</td>
<td>400 mg tablet</td>
<td></td>
</tr>
</tbody>
</table>

Recommended dose for vitamin A:

<table>
<thead>
<tr>
<th>Dose</th>
<th>Amount</th>
<th>When to give</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st dose</td>
<td>1, 00,000 I.U (1 ml)</td>
<td>At 9 months with measles</td>
<td>Orally</td>
</tr>
<tr>
<td>2nd dose-9 dose</td>
<td>2, 00,000 I.U (2ml)</td>
<td>After every six month.</td>
<td>Orally</td>
</tr>
</tbody>
</table>
Testing for iodization of salt by using MBI kits

Before testing, open the seal of the test solution ampoule (white cap) and the recheck solution (red) by making a pin hole in the seal.

1. Fill small cap with salt, then spread the salt surface flat.
2. Add two drops of the test solution on the surface of the salt by gently squeezing the ampoule.
3. If no violet / blue colour appears on the salt, add up to a maximum of 20 drops of the recheck solution on the same spot on the salt, until a violet / blue colour appears.
4. Compare the colour on the salt with the colour chart, and determine iodine content.

0 PPM
below 15 PPM
above 15 PPM
आपातकालीन स्थिति में डायल करें
नं. "102"
और पाएं एम्बुलेंस की मुफ्त सुविधा

नेशनल एम्बुलेंस सर्विस डायल 102 के अंतर्गत जिले में दी जाने वाली सेवाएं :–

- किसी भी आपातकालीन स्थिति में सरकारी अस्पताल जाने के लिए मुफ्त।
- गर्भवती महिलाओं और बीमार नवजात शिशुओं के लिए मुफ्त।
- महिलाओं की डिलीवरी के बाद और बीमार नवजात शिशुओं को वापस पर छोड़ने के लिए मुफ्त।
- आपातकालीन स्थिति में निजी अस्पताल जाने के लिए 7/- प्रति किलोमीटर के भुगतान में उपलब्ध।

नेशनल एम्बुलेंस सर्विस

राष्ट्रीय स्वास्थ्य मिशन
स्वास्थ्य विभाग, हरियाणा
माँ का दूध - सर्वोत्तम आहार
पहले छ: महीने तक शिशु को केवल माँ का दूध ही पिलाएं
‘पहले घंटे का स्तंभान, बचाए शिशु की जान।’

राष्ट्रीय स्वास्थ्य मिशन
स्वास्थ्य विभाग, हरियाणा

योगेश्वर दत्त,
कांग्रेस प्रदेश रिजेंट,
लंदन ओलंपिक 2012
नेशनल हेल्थ मिशन, हरियाणा स्वास्थ्य विभाग

बिटामिन-ए, आयरन, फॉलिक एसिड, आयोडीन सम्पूर्ण एवं कृमिनाशक कवर