Iodine Deficiency Disorder Control Program

The Survey
Introduction to NIDDCP

- Iodine is essential micronutrient.
- Daily requirement: 150 µg.
  Required for
  - optimal mental & physical development
  - regulation of body metabolism.
- The disorders caused due to deficiency of nutritional iodine in the food/diet are called Iodine Deficiency Disorders (IDDs).
- IDD may lead to
  - abortions & stillbirths,
  - goiter,
  - cretinism & dwarfism,
  - retarded mental & physical development
  - deaf mutism, squint etc.
Step 1- Data required from districts

- State IDD Cell requires the following data in the format provided by districts for identifying clusters as per sampling technique. Census data preferred.
  - Total Population of district.
  - Block/Village wise population
  - Urban - ward wise population in urban city area.

- A total of 30 clusters will be selected in a district for survey.
Step 2 - Cluster identification & Previsit

• Once 30 clusters are identified state shares with the district.

• Following this a pre visit will be made by state official to concerned district to explain methodology/logistic requirement
  – Pre visit : Meeting with CS/DHO/Epidemiologist/School Health Officer/DPM/Data entry operator
District preparation

• District to make 3 teams to carry out survey in district.
• Each team – 4 members + 1 ASHA/Link Worker from identified cluster.
• 10 clusters per team.
• Deadline 4 weeks (working days) from date of District level training.
• Honorarium/ Mobility budget will be provided for each team separately.
Survey Training

• A 3 day capacity building visit by State team to district

  *Briefing of teams by State team*

  – Meeting with CS/DHO & 3 teams (12 members) to explain methodology/logistic requirement.
  – Visit to 1 cluster by the State & district teams. State team demonstrate the methodology to the 3 teams.
  – Survey by 3 teams in identified clusters separately.
Team composition

DHO/CS

Team 1
- School Health officer
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- 1 from each identified cluster

Team 2
- Epidemiologist officer
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- 1 from each identified cluster

Team 3
- Medical Officer
  (Distt Identified)
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- 1 from each identified cluster
Team composition

- School Health officer
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- Epidemiologist
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- Medical Officer
- RMO / MO
- BEE/SI
- LHV/ANM
- ASHA/ Link Worker
- Support for 10 ASHAs
- DHO/CS

### Team 1
- Cat A
  - ASHA/ Link Worker
  - Rs 350 per day X 5 days
  - Rs 1750 per person

### Team 2
- Cat B
  - ASHA/ Link Worker
  - Rs 225 per day X 5 days
  - Rs 1125 per person

### Team 3
- Cat C
  - ASHA/ Link Worker
  - Rs 100 per cluster per ASHA
  - Rs 1000 per 10 cluster
Total Budget for survey for teams

1. Category A
   - Team members:
     - Rs 350 per day X 5 days = Rs 1750 per person
     - Total per team: Rs 1750 X 2 = Rs 3500

2. Category B
   - Mobility:
     - Rs 600 per team per day X 5 days = Rs 3000

3. Category C
   - Data Entry Operator:
     - Rs 200 per district for 30 clusters data entry
   - Messenger Support:
     - Rs 150 per district for messenger bringing samples to State IDD Lab

Total Funds for all 3 teams in district for max 5 days:

\[(3500 \times 3) + (2250 \times 3) + (100 \times 30) + (3000 \times 3) + (200) + (150) = Rs 29600\]
State Support

• Funds for district
  – For 3 teams (max 5 days including mobility) Rs 29600 per district.
  – Necessary Logistics (Urine & Salt Kits/LRF/labels/Stickers/formats) will be provided by State
SOE/ UC- Deadline
Distt to send to State IDD cell within 3 days of activity completion
State to GoI timeline within 7 days of activity
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clusters to be surveyed per district</td>
<td>30</td>
</tr>
<tr>
<td>In 1 cluster children to be surveyed</td>
<td>90</td>
</tr>
<tr>
<td>Children to be surveyed in district</td>
<td>2700</td>
</tr>
<tr>
<td>Urine samples to be collected in 1 cluster</td>
<td>9</td>
</tr>
<tr>
<td>Total Urine samples to be collected in district</td>
<td>270</td>
</tr>
<tr>
<td>Salt samples to be collected in 1 cluster</td>
<td>18</td>
</tr>
<tr>
<td>Total Salt samples to be collected in district</td>
<td>540</td>
</tr>
</tbody>
</table>
Formulas for calculation

• IDD Survey to be conducted by PPS (Probability Proportionate to Size Sampling) Technique.

• Sample Size
  – 30 clusters (wards & villages)

• Sampling Interval (SI)
  – Total Population/30=SI.
Selection of 30 Clusters

First Random Sample will be $= RS$

Second Random Sample will be $= RS + SI$

Third Random Sample will be $= R + 2SI$

Fourth Random Sample will be $= RS + 3SI$

Fifth Random Sample will be $= RS + 4SI$ & so on ...

30th Random Sample will be $= R + 29SI$
Hypothetical Example

• Suppose in a district,

  – Total population: 38820
  – Sampling Size: 30
  – Sampling Interval (SI): 38820/30
    = 1294
<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of village</th>
<th>Population</th>
<th>Cumulative Population</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>550</td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>300</td>
<td>850</td>
<td>(RS)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>500</td>
<td>1350</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>600</td>
<td>1950</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>345</td>
<td>2295</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>400</td>
<td>2695</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>799</td>
<td>3494</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>800</td>
<td>4294</td>
<td></td>
</tr>
</tbody>
</table>
What to do after identification of clusters

• After identification of 30 clusters,
  
  – From each cluster, sample size of 90 children (45 boys & 45 girls) of age group 6-12 years from school and community to be taken.
  
  – Goiter examination in every child surveyed i.e 30 clusters x 90 children = 2700
  
  – Salt sample collection from every 5th child
  
  – Urine sample collection from every 10th child.
## Criteria for Selection of children

<table>
<thead>
<tr>
<th>District (hypothetical)</th>
<th>Literacy Rate Female</th>
<th>Literacy Rate Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>81%</td>
<td>86%</td>
</tr>
</tbody>
</table>
## Criteria for Samples Selection

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saharanpur</td>
<td>School</td>
<td>81*100/45 = 33</td>
<td>86*100/45 = 39</td>
</tr>
<tr>
<td></td>
<td>From Community</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>45</td>
<td>45</td>
</tr>
</tbody>
</table>
Selection of 90 Children from a Cluster

District : Shri Muktsar Sahib

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From School</td>
<td>From Community</td>
</tr>
<tr>
<td>6 yr</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>7 yr</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>11</td>
</tr>
</tbody>
</table>
Goiter Examination based on inspection & palpation of neck. The examination may palpate from front side or back side of neck. The examiner palpate the isthmus & lobes with two thumbs/two fingers/fingers of both hands being separated around lateral side of neck.
CLASSIFICATION OF GOITER

Three types of Goiter:

- **Grade 0:** No palpation or visible goiter / no goiter

- **Grade 1:** Mass in neck consistent with enlarged thyroid. Palpation is not visible when neck is in normal position, it moves upward in the neck as the individual swallows.

Nodular alteration can occur even without enlargement of thyroid.
CLASSIFICATION OF GOITRE

Grade II: The swelling in neck is visible when the neck is in normal position and is consistent with enlarged thyroid when it is palpated.
Instructions to Survey teams

• Deadline for completion of survey in identified district is four weeks from date of State/District level training.

• Prior information to the Principal or the Head of the school before visit to identified School in a cluster.
Instructions contd...

- Salt & Urine samples collected from district should reach State immediately (within one or two) after completion of survey.
- Report of funds utilized should reach the State by end of each week.
- Follow up of children identified with Grade 2 Goiter. (School Health Officer to follow up)
Role of MO/RMOs

• Identification of 90 children of 6-12 yrs age group from School & community in a cluster.

• Goiter Examination in each identified child.
Role of BEE/SI & ANM/LHV

• BEE/SI & ANM/LHV to ensure that
  – Salt sample collected from every 5\textsuperscript{th} identified Child in a cluster.
  – Urine sample from every 10\textsuperscript{th} identified Child in a cluster.
  – Required information of children surveyed from each cluster entered in GOI Performa.
Role of ASHA in each cluster

• Every cluster will have ASHA of that area.

• Identified ASHA will support Survey in community.

• In community, ASHA from each cluster will
  – Identify children of 6-12 years from community.
  – In urban area, where ASHA is not here, LHV will be identified.
Thank You