

# **Micronutrient Supplementation for Children in Bhutanese refugee Camps of Nepal**



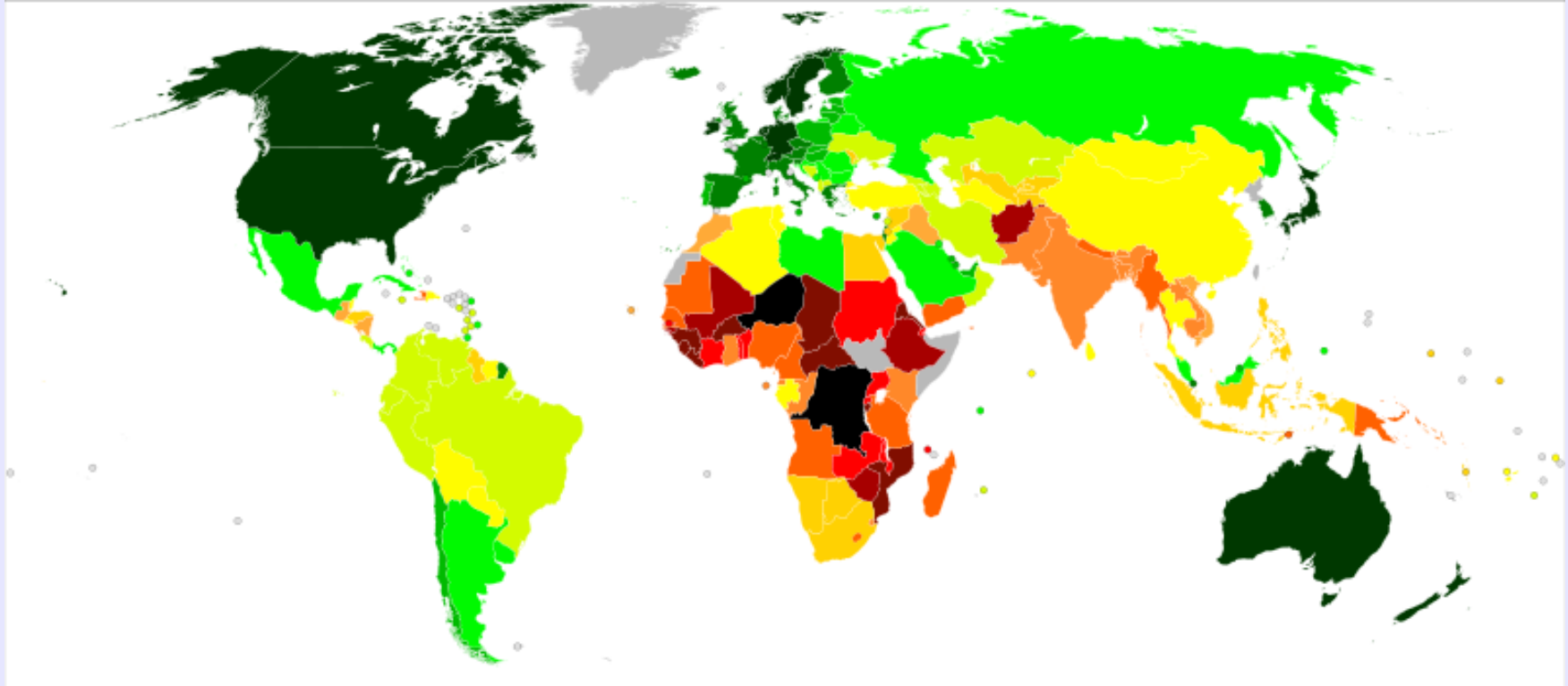
**UNHCR Operational Guidance Technical Training Workshop- 2012**  
**Lakruwan Dassanayake- UNHCR Health Coordinator Nepal**

## Background Information : Nepal and Bhutanese Refugees

- Nepal is one of the world's poorest nations with a Gross Domestic Product per capita less than 700US\$. Poverty and food insecurity remain widespread in rural areas; and have been exacerbated by conflicts and natural disasters (drought, flooding) in recent years.



## Background Information : Nepal and Bhutanese Refugees



- ❑ Low HDI (0.458) ranked 157<sup>th</sup>
- ❑ GDP per capita : 653 USS ( 2011 )

## Background Information : Nepal and Bhutanese Refugees

- ❑ Following the enforcement of restrictive and discriminatory citizenship laws in Bhutan, over 100,000 refugees from Bhutanese refugees with Nepalese ethnic origin fled to Nepal in the early 1990s, where they were recognized on a *prima facie* basis by the GoN. The refugees from Bhutan settled in seven refugee camps in south-eastern Nepal, where GoN and UNHCR provided them with basic humanitarian assistance and international protection, in cooperation with other national and international partners.
- ❑ Failing the negotiation between Nepal and Bhutan for repatriation, third country resettlement was commence as the only visible durable solution in the year 2007. Under the resettlement program by the year 2012 some 65,325 refugees have been resettled in third countries and the camp population has significantly dwindled to approximately 47,000 by mid 2012. Beldangi and Sanischare refugee camps provide shelter to those remaining refugees.

- ❑ With the current rate of resettlement departures of approximately 12,000 to 18,000 per year for the next years, it is expected that less than 10,000 refugees from Bhutan would remain in Nepal in five years' time. Resettlement is expected to reduce the number of refugees remaining in the two camps as per the following projection:
  
- ❑ Participatory and other assessments indicate that the on-going large scale resettlement operation has changed the previous camps dynamics considerably. Maintaining camp services at the desired level is proving difficult due to the departure of skilled refugee workers particularly in health and education sectors, although

## Nutritional Surveys in Previous Five Years

- ❑ Nutritional and Micronutrient Survey in Bhutanese refugee camps in Nepal March 2007 .
- ❑ Nutritional and Micronutrient Survey in Bhutanese refugee camps in Nepal October 2008.
- ❑ Nutrition and Micronutrient Survey among Bhutanese Refugee Children (Damak, Nepal) May 2009 .
- ❑ Nutrition and Micronutrient Survey among Bhutanese Refugee Children - Damak, Nepal. A 24-Month Evaluation of the Micronutrient Supplementation Program May 2010.
- ❑ Nutrition and Micronutrient Survey among Bhutanese Refugee Children - Damak, Nepal. A 44-Month Evaluation of the Micronutrient Supplementation Program December 2011

## Introduction of Micronutrient Powder to Bhutanese Refugees

- ❑ Nutritional and Micronutrient Survey in Bhutanese refugee camps in Nepal March 2007 showed anemia prevalence of 43% amongst under five children in the refugee camps
- ❑ Joint WFP-UNHCR micronutrient powder initiative for some 7,500 registered refugee children of 6 to 59 months of age commenced during March 2008,

## Objectives of MNP Program

- To prevent iron deficiency anemia in young children
- To address other micronutrient deficiencies
- To protect and improve their nutritional value mixing with food just before consumption



## Implementation of MNP Program

- MNP is supplied by UNWFP.
- Association of Medical Doctors of Asia (AMDA) distributes micronutrient powder through camp nutrition workers based nutritional centers of camp PHCCs.
- UNHCR/AMDA/WFP monitor the distribution regularly

## Implementation of MNP Program

- Intensive IEC campaigns conducted prior to the implementation of the project
- Orientation, demonstration and educational sessions provided to the mothers/ caretakers on the MNP

## Distribution Frequency

- 6-23 months children Monthly
- 24- 59 months children bimonthly distribution of MNP
- TB and HIV/AIDS Patients monthly

## Dosage

- 1g sachet of MNP every-other-day for each group
- At homes usually mixed with rice based meal or Unilito (WSB+sugar+oil) provided by WFP

## Distribution and Follow up

- Distribution take place during the GMP sessions
- Some times distributes during hut visits.
- Related message dissemination during distribution and hut visits
- Collect feedback during distribution and hut visits

## Interventions to MNP Program since March 2008

<b>Activity</b>	<b>Date</b>
Introduction Vita-Mix-It	March 2008
Distribution of Vita-Mishran (↑ vitamin A, iodine; silver package)	October 2009
Addition of CNWs	October 2009
Introduction of Mix-Me (Original formulation; silver package)	February 2010
Distribution of Vita- Misharan (MNP)	April 2011

## Different Sprinkle Sachets



## Monitoring and Evaluation

- Continue routine monitoring of the project on a **monthly** basis (target, coverage, distribution and consumption pattern & rate)
- CNWs make **weekly** visit to households of MNP children with monitoring checklist for each sector
- IP **routine** monitoring exists for distribution and coverage and there is also a practice of household monitoring of MNP consumption by beneficiaries
- Nutrition Supervisors and Assistants make 10 random hut visits per month with monitoring checklist
- Ensure monitoring visits to all the camps by the IP Base staff
- IP produce the monthly report based on the monitoring and reporting which is reviewed by UNHCR and WFP

# NCW Check List

## Sprinkle Project

### Monthly Monitoring Form

CAMP: \_\_\_\_\_

Sector: \_\_\_\_\_

DATE: \_\_\_\_\_

Monitor(s) name(s): \_\_\_\_\_

Signature & Date: \_\_\_\_\_

Supervisors' Name: \_\_\_\_\_

Signature & Date: \_\_\_\_\_

S. No	Sector & Hut No.	Currently consuming Vita Mix? (confirm by counting no. of sachets) 1. Yes 2. No	If NOT, why? 1. Child is sick 2. Problems caused by VMX 3. Not interested 4. Not received	Any problem after giving Vita Mix? 1. Yes 2. No	If YES, insert the relevant answer from the list below*	In case of problem, did the caretaker continued to give Vita Mix? 1. YES 2. No	Vita Mix usually mixed with? 1. Dal Bhat 2. Jaulo 3. Unilito 4. Banana 5. Liquid food 6. Others (specify)	Observe mixing of Vita Mix with food and consumption. 1. Proper 2. Not proper 3. Not able to observe	Is tea given to child? 1. YES 2. No	Has the caretaker received orientation on preparation and use of Vita Mix? 1. YES 2. No	Knowledge on health benefits of Vita Mix 1. Yes 2. No
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											

\* 1) Nausea/vomiting 2) Diarrhea 3) Abdominal discomfort/pain 4) Constipation 5) Fever 6) Loss of appetite 7) Others (specify)



### Random Hut Visits

Introduce by self, tell the purpose of visit hut and request to show RTH card and MNP box.

Name NS/NA: \_\_\_\_\_ Date: \_\_\_\_\_  
Sector and hut no: \_\_\_\_\_ Name of mother/caretaker: \_\_\_\_\_  
Name of child: \_\_\_\_\_ Age of child: \_\_\_\_\_

#### Growth Monitoring and Promotion

1. Was the child taken for growth monitoring in the past month? Yes/ No
2. Was the child's weight plotted in the RTH card? Yes/ No
3. According RTH card interpreted to mother/ caretaker about child health status.
4. If the child is below 6 months of age, is she exclusive breastfed? Yes/No
5. If the child is above 6 months of age, how many times does s/he receive complementary foods per day? \_\_\_\_\_

#### MNP (Sprinkles)

6. Did the mother/caretaker collect MNP (sprinkles) in the past month? Yes/ No
7. If not, why? \_\_\_\_\_

If yes:

8. Count MNP sachets and check, has mother / caretaker given MNP as per recommended dose? (if sachets is less or more ask why) Yes/No
9. Is the MNP prepared and given to the child as per the recommendation? Yes/ No
10. Are any changes in food (colour, smell, taste) due to sprinkles? Yes/ No
11. Are there any side effects to the child due to MNP (sprinkles)? Yes /No
12. Is tea given to the child? Yes/ No
13. Is tea given within two hours after/before giving MNP? Yes/ No
14. Has the mother/caretakers received message to limit the tea consumption? Yes/ No

#### Supplementary Feeding Programme

15. Is the child currently under Supplementary Feeding Programme? Yes/ No

If yes  
16. Are you feeding your child? Yes/ No

17. Is there any intra-household sharing of the SF? Yes/ No

#### OTP

18. Is the child currently under Out patients Therapeutic Programme? Yes/ No

19. Is the mother/ caregiver feeding the child RUTF as per recommendation? Yes/ No

20. Is child taking other food than RUTF? Yes/ No

21. Is the CNW Visited hut regularly ( twice a weeks) Yes/ NO

#### Other

22. Has a Community Nutrition Worker visited the hut? Yes/ No  
if yes, how many times

- Once in a week
- Twice in a weeks
- Once in a month
- Twice or thrice in months
- Once in every two months

23. Did the Community Nutrition Worker give any messages on improving child feeding and caring practices to the mother/caretaker? Yes/ No

## Monitoring and Evaluation

- ❑ Joint Supervision and Monitoring Visits of UNHCR and AMDA
- ❑ Monthly Meeting of health and nutrition key person of AMDA and UNHCR
- ❑ In collaboration among CDC, UNHCR, WFP, and AMDA 5 Nutrition surveys were conducted in the implementation areas.

## **SPRINKLES PROJECT AMDA PHCP, Nepal**

### **MONTHLY NARRATIVE REPORT ON MICRO NUTRIENT POWDER (MNP)**

#### **General information concerning the project**

**Title:** Micro Nutrient Powder (Sprinkles) Distribution

**Output Code and Name:** 4JDG6- Measures to control Malnutrition and Anaemia put in place

**Location Camps:** All 3 camps

**Period of Reporting:** September 2012

**Implementing Partner for the project:** AMDA

**Report Prepared By:** Nutrition unit, AMDA

#### **Current situation in camps and general overview:**

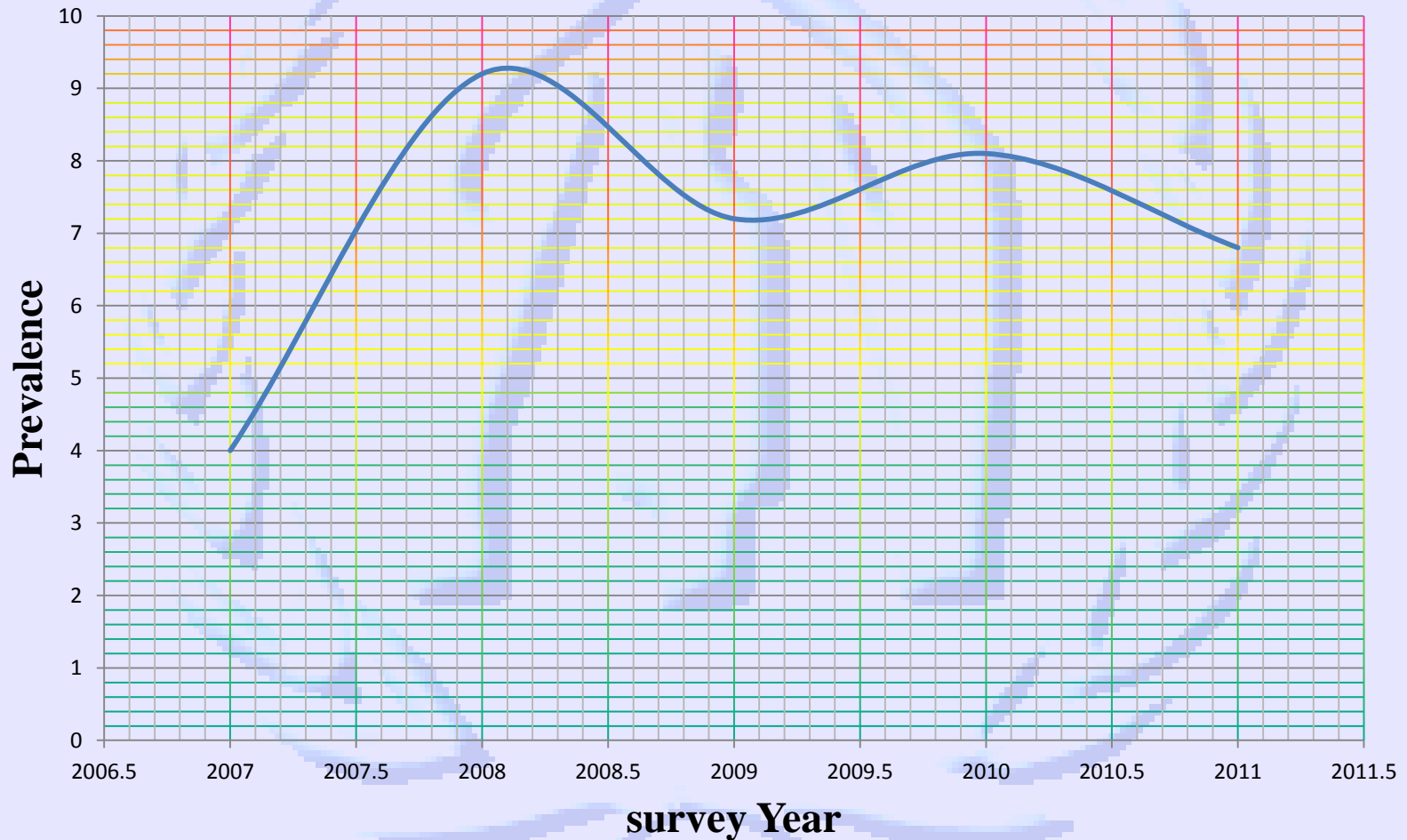
The Micronutrient Powder project was started implementing since March 2008 to supplement the micronutrient requirements of the children aged 6 to 59 months in all 7 Bhutanese Refugee camps. Initially Vita-Mix-It micronutrient powder was distributed and this was replaced by Vita-Mishran since September 2009.

From October 2010 we are following changed modality of Growth Monitoring and Promotion (GMP) sessions. According to that, children aged 0 to 23 months who are more vulnerable are monitored every month and the screening is done according to the existing GMP protocol. Children of 24 to 59 months age group are monitored once in a two months. Therefore, MNP distribution was also changed accordingly and children aged 6 to 23 months receive monthly ration (15 sachets per month) but the children aged 24 to 59 months receive bi-monthly ration (30 sachets in every two months). In this month 0 to 59 months children were screened for GMP and MNP was distributed to 6 - 59 months children, TB patients and PL WHA all 3 camps.

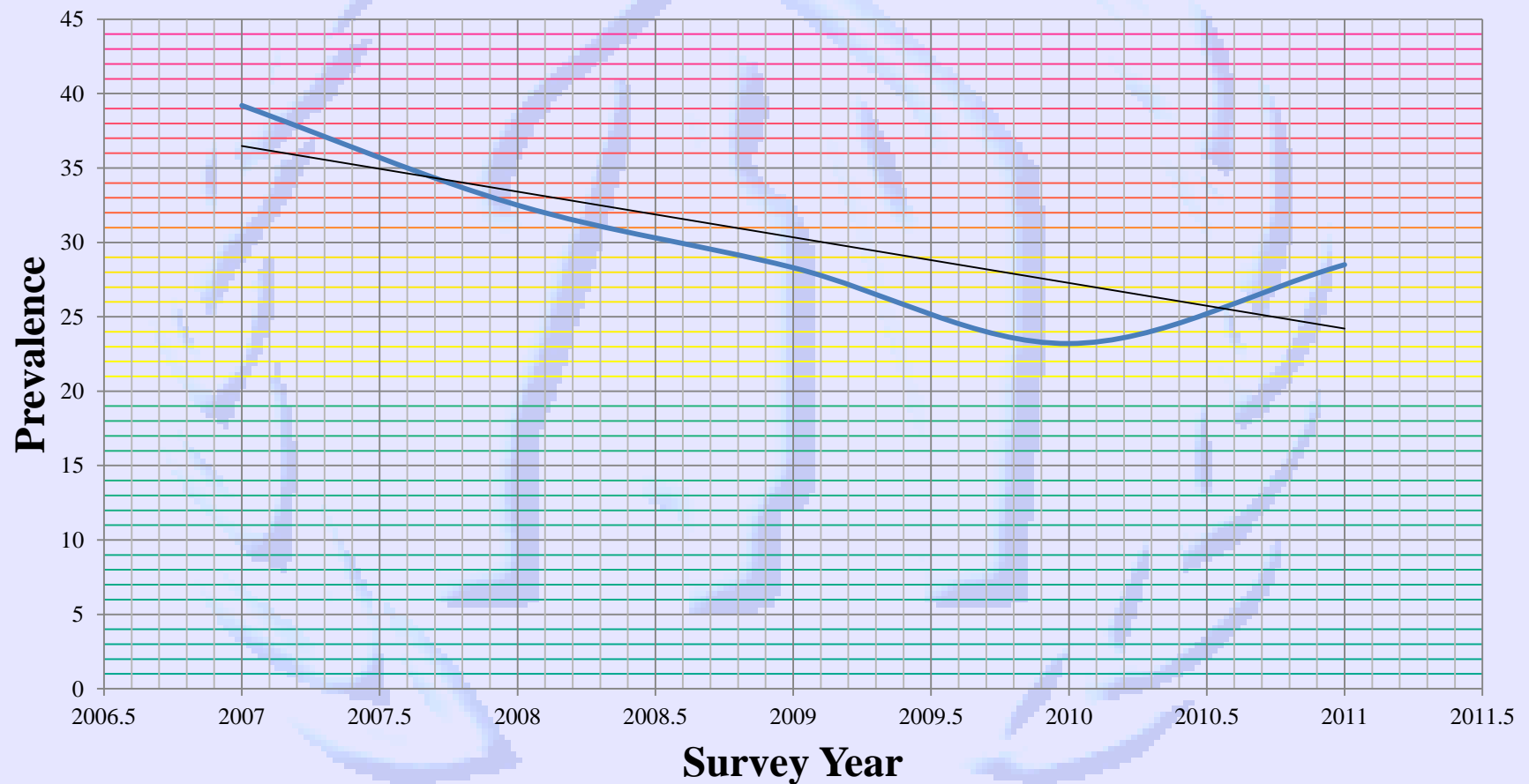
## Anemia Prevalence



## GAM Prevalence



## Stunting Prevalence



## Prevalence of anemia by severity and Mean Hemoglobin, Damak refugee camps, Nepal, 2007-2011

	<i>Jan 2007</i> <i>(n=497)</i>	<i>Oct 2008</i> <i>(n=502)</i>	<i>May 2009</i> <i>(n=568)</i>	<i>May 2010</i> <i>(n=569)</i>	<i>Dec 2011</i> <i>(n=541)</i>	<i>P value</i> <i>(2010 vs. 2011)</i>
<b>Anemia</b> <b>(Hb g/dL)</b>	<i>n (%)</i> <i>(95%CI)</i>	<i>n (%)</i> <i>(95%CI)</i>	<i>n (%)</i> <i>(95% CI)</i>	<i>n (%)</i> <i>(95% CI)</i>	<i>n (%)</i> <i>(95% CI)</i>	
<b>Mild</b> (Hb 10-11)	121 (24.3) (20.7-28.4)	126 (25.1) (21.4-29.2)	120 (21.1) (17.9-24.8)	147 (25.8) (22.3-29.7)	100 ( <b>18.5</b> ) (15.4-22.0)	<0.01
<b>Moderate</b> (Hb 7-9.9)	94 (18.9) (15.6-22.7)	91(18.1) (14.9-21.8)	83 (14.6) (11.9-17.8)	82 (14.4) (11.7-17.6)	41 ( <b>7.6</b> ) (5.6-10.1)	<0.01
<b>Severe</b> (Hb <7)	0 (0.0)	2 (0.4) (0.1-1.6)	1 (0.2) (0.0-1.1)	0 (0.0)	0 ( <b>0.0</b> )	NA
<i>Total</i>	<i>215 (43.3)</i> <i>(36.3-51.1)</i>	<i>219 (43.6)</i> <i>(39.3-48.1)</i>	<i>204 (35.9)</i> <i>(32.0-40.0)</i>	<i>229 (40.2)</i> <i>(34.0-47.3)</i>	<i>141 (26.1)</i> <i>(22.5-29.9)</i>	<0.01
<b>Mean Hb</b>	<b>11.2</b> (SE 0.06)	<b>11.1</b> (SE 0.06)	<b>11.3</b> (SE 0.05)	<b>11.1</b> (SE 0.05)	<b>11.5</b> (SE 0.05)	<0.01

## Prevalence OF GAM and SAM in refugee camps, Nepal, 2007-2011

	<i>Jan 2007</i> (n=497) % (95% CI)	<i>Oct 2008</i> (n=502) % (95% CI)	<i>May 2009</i> (n=568) % (95% CI)	<i>May 2010</i> (n=569) % (95% CI)	<i>Dec 2011</i> (n=541) % (95% CI)
<b>Global Acute Malnutrition</b>	4.2 (2.8-6.4)	9.2 (7.0-12.1)	7.2 (5.4-9.6)	8.1 (6.1-10.16)	6.8 (5.0-9.3) p= 0.40 2010 vs 2011
<b>Severe Acute Malnutrition</b>	0.6 (0.2-1.8)	1.0 (0.4-2.3)	1.4 (0.7-2.8)	0.4 (0.1-1.3)	0.4 (0.1-1.3)
<b>Mean WHZ</b>	-0.49 ± 0.92	-0.85 ± 0.93	-0.76 ± 0.91	-0.65±0.91	-0.65±0.93



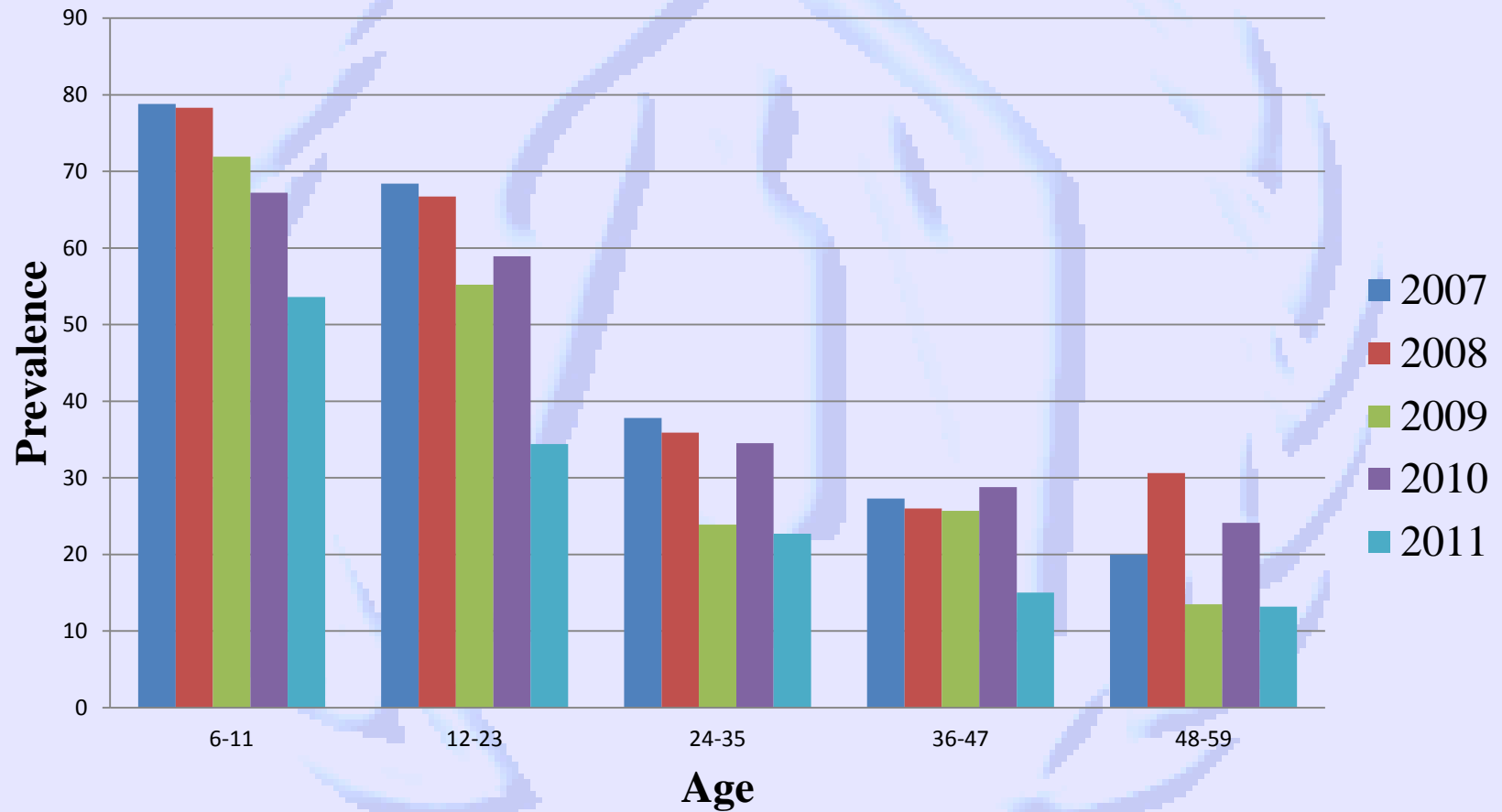
### Anemia

- Prevalence of anemia (Hb < 11 g/dl) was 26.1%.
- 18.5% had mild anemia.
- 6% had moderate anemia
- No cases of severe anemia
- Anemia prevalence decreased with increasing age
- Highest prevalence of 53.6% among children aged 6-11 months.

### Inference :

There has been a significant decrease in the overall prevalence of anemia and moderate anemia

## Prevalence of Anemia by Age 2007 -2011



### GAM and Stunting

- Prevalence of global acute malnutrition was 6.8%
- Severe acute malnutrition was 0.4% (WHO weight-for-height z-scores).
- No cases of bilateral pitting edema
- SFP or LSCP coverage rate of moderately malnourished was 77%.
- Prevalence of chronic malnutrition/stunting was 28.5% .

### Inferences:

The prevalence of GAM and underweight fluctuated during the different survey periods. While stunting had consistently decreased from 2007 to 2010 ( $p < 0.001$ ), in 2011 stunting increased significantly compared to 2010 ( $p=0.04$ ). The reasons for this increase are unknown.

- The two-week cumulative incidence of diarrhea was 14.4%.
- The two-week cumulative incidence of respiratory infection was 19.8.
- De-worming program coverage 89.6%.
- Vitamin A program coverage was 91.9%.

### **Inference:**

- Two-week incidence of diarrhea and respiratory infections also appears to have decreased from 2007
- Apparent decrease of vitamin A and de-worming coverage is likely due to a change in methodology for collecting this information rather than a decrease in coverage (prior surveys relied upon self-report, while the current survey required confirmation by card).

### Coverage

- MNP program coverage, intake and acceptance continue to be high.
- The majority of respondents received the previous month's distribution (99.2%),
- 82.2% had received at least 5 months supply of MNP since June 2011.

### Feedback

- 64.1% reported changes to the color of food when mixed with VMX
- 12% reported a change in smell.
- 6.3% side effects ( nausea being the most common).
- 87.9% reported an increase in their child's appetite
- 91.9% reported an increase in their child's energy level
- 87.7% reported an increase in their child's health

## Common challenges

- Stop giving MNP during sickness
- Common issue is colour changes
- Mothers are now more aware of MNP so, they know how to answer the questions and show the balance sachets when CNWs visiting huts
- Some mothers become irritated due to frequent visits
- Lack of interest in programme due to the resettlement

## Common challenges

- Loosing staff regularly from the system since resettlement.
- Prevalence mental health and substance abuse cases in the camps.
- Lack of capacity of implementing partners staff to monitor and supervision
- Maintaining the achieved standard of health and nutrition services with reduced resources due to down sizing the mission

## Lessons learned

- ❑ Close monitoring to prevent drop out
- ❑ Less frequent but more projected household visits by nutrition workers
- ❑ Household Visits by nutrition supervisor and nutrition assistant to ensure consumption as per recommendation
- ❑ Promptly address the issues related to sprinkles (e.g. diarrhoea) before having negative effect on programme.
- ❑ Direct observation of children in the Nutrition Centre during the distribution of MNP
- ❑ Regular monitoring, evaluation and coordination to prevent pipe line breakage



## References

1. Nutritional and Micronutrient Survey in Bhutanese refugee camps in Nepal. Jan 2007. Sapna Bamrah, CDC, Oleg Bilukha, CDC.
2. Nutritional and Micronutrient Survey in Bhutanese refugee camps in Nepal. October 2008, May 2009. Christopher Howard, CDC, Oleg Bilukha, CDC.
3. Nutrition and Micronutrient Survey among Bhutanese Refugee Children (Damak, Nepal). May 2009 . Christopher Howard MD, Centers for Disease Control and Prevention (CDC), International Emergency and Refugee Health Branch,Atlanta, Georgia, USA
4. Nutrition and Micronutrient Survey among Bhutanese Refugee Children - Damak, Nepal. A 24-Month Evaluation of the Micronutrient Supplementation Program . May 2010, Farah Husain, Oleg Bilukha CDC
5. Nutrition and Micronutrient Survey among Bhutanese Refugee Children - Damak, Nepal A 44-Month Evaluation of the Micronutrient Supplementation Program, December 2011. Lara Jacobson, Oleg Bilukha CDC
6. UNHCR Operational Guidance on the Use of Special Nutritional Products to Reduce Micronutrient Deficiencies and Malnutrition in Refugee Populations
7. AMDA PHCP for Bhutanese refugees monthly evaluation reports



**Thank You**