Summary Findings of the Nutrition and IYCF Survey in Internally Displaced Households with Children Under-five in Zamboanga City, Philippines: August 2014

1. Introduction

On September 9, 2013, an armed conflict between government forces and a separatist group of the Moro National Liberation Front (MNLF) broke out in Zamboanga City. The month-long fighting affected 14 of the City's 98 barangays, and six of its coastal barangays were devastated by intense fighting and successive fires that broke out during the siege. In the aftermath, 140 deaths were reported and over 10,000 houses were completely ravaged to the ground. Families caught in the crossfire, with their children, fled to safer grounds, and homeless with little belongings saved, the internally displaced population (IDPs) found refuge in evacuation centers (ECs). The surge of IDPs was unexpected that 13 ECs in the City were immediately congested.

In August 2014, nearly a year after the armed conflict, more than 25,000 families were still staying in seven ECs and six transitory sites (TSs) in the City. The prolonged stay of IDPs in conditions where access to basic services and facilities is limited, exposes young children to various risk factors, the most common of which are infectious diseases and undernutrition.

A joint nutrition screening done by ICRC and ACF International in December 2013 among children 6-59 months old showed an overall Global Acute Malnutrition (GAM) or wasting prevalence of 7.7% which was classified as "Poor". In the Joaquin Enriquez Memorial Sports Complex/Grandstand, which is the biggest EC in the City, and in Cawa-Cawa, the prevalence was classified as "Poor" (9.5%) and "Serious" (15.4%), respectively. Furthermore, as of April 2014, 111 deaths were recorded. Of these deaths, half were of children under 5 years old, and diarrhea, neonatal deaths and pneumonia were the main causes (CHO, May, 2014).

Given this scenario, the National Nutrition Cluster, led by the National Nutrition Council of the Department of Health (NNC-DOH) and partners - UNICEF and ACF, decided to conduct an assessment to determine the nutritional status of young children and women of reproductive age (WRA), and gather information on infant and young child feeding practices. The objective of this assessment is to inform appropriate responses to the nutrition situation and its key underlying factors one year after the onset of the emergency.

The Nutrition and IYCF Survey was done on August 18-31, 2014 in seven (7) ECs and six (6) TSs in Zamboanga City. The Nutrition Survey, using the Standardized Monitoring and Assessment for Relief and Transitions (SMART) methodology, aimed to 1) assess the nutritional status of children 6-59 months and women ages 15-49 years as well as the pregnant and lactating women (PLWs) in displaced households staying in seven ECs and TSs in Zamboanga City; 2) assess the period prevalence of diarrhea and acute respiratory infection (ARI) in children; 3) determine children's access to basic health services, vitamin A supplementation (VAS), deworming, measles vaccination and selective feeding programmes (supplementary and therapeutic) for acute malnutrition; 4) to assess the prevalence of acute malnutrition among WRA, including PLWs, and 5) to determine access of pregnant women to basic antenatal services.

The IYCF Survey Component, on the other hand, aimed to provide key information on infant and young child feeding practices as a key underlying factor affecting nutritional status.

The two surveys were cross-sectional and sample size was calculated to be representative of IDPs with underfive children in Zamboanga City. The Survey was not designed to be representative of the entire population of Zamboanga City. For the Nutrition Survey, sample size was estimated based on GAM prevalence of 10% with desired precision of +/-3.0 percent. Using the Emergency Nutrition Assessment (ENA) software, sample size was calculated to be 426 children. For the IYCF Survey, sample size was based on the core indicator that gives the highest estimates and desired precision of +/-3 percent.

This preliminary report presents the summary findings of the survey. Data were collected from a total of 280 households, 463 children 6-59 months and 365 WRA, 48 are pregnant, of which 7 are both pregnant and still breastfeeding, and 459 children 0-23 months old.

2. Results

2.1 Nutritional Status of Children

2.1.1 Acute Malnutrition/Wasting

Using the ENA software, anthropometric indices of 416 children with ages 6-59 months were analyzed based on WHO 2006 Child Growth Standards (CGS) weight-for-height (WFH) and height-for-age (HFA) Z scores. Table 1 shows the prevalence of Global Acute Malnutrition (GAM) or wasting based on WFH Z scores and/or oedema by sex and age group. Overall, the prevalence of GAM was 13.2% (10.3 - 16.8 95% C.I.), and this falls under the "Risky" or "Alert" category[1]. Furthermore, the prevalence can be classified as "Serious" with the presence of aggravating factors like diarrhea and acute respiratory infections (ARI), high crude mortality and poor environmental sanitation. In the Survey, 15.2% and 24.2% of children had diarrhea and ARI, respectively, during the past 2 weeks prior to the Survey. And as earlier mentioned, 4 out of the 114 deaths recorded (47%) from September 2013 to May 2014 were that of underfive children and the main causes were diarrhea, respiratory infections and pneunomia (CHO, 2014).

The prevalence of severe acute malnutrition (SAM), on the other hand at 2.4% (1.3 - 4.4 95% C.I.) was above the WHO emergency threshold of 2.0%. The remaining 10.8% (8.2 - 14.2 95% C.I.) have moderate acute malnutrition (MAM). Based on *CDC Probability Calculator*[2], a tool used to determine the probability of GAM estimate exceeding threshold values, there is a 99% probability that prevalence estimate from this survey exceeds the emergency threshold of 10%. No case of oedema was detected among the children.

GAM prevalence between boys and girls is not statistically significant. However, prevalence among children 6-11 months and the 12-23 months is higher compared with the other age groups.

Table 1: Prevalence of Acute Malnutrition (Wasting) based on weight-for-height z-scores (and/or oedema) and by Sex and by Age Group

		N	Global Acute Malnutrition (GAM) /Wasting (WHZ scores <-2 and/or oedema)	Moderate Acute Malnutrition (MAM) (WHZ scores <-2 and >=-3 z-score, no oedema)	Severe Acute Malnutrition (SAM) (<-3 z-score and/or oedema)
ALL		416	(55) 13.2 [10.3 - 16.8 95% C.I.]	(45) 10.8 [8.2 - 14.2 95% C.I.]	(10) 2.4 [1.3 - 4.4 95% C.I.]
By Sex	Boys	219	(33) 15.1 [10.9 - 20.4 95% C.I.]	(28) 12.8 [9.0 - 17.9 95% C.I.]	(5) 2.3 [1.0 - 5.2 95% C.I.]
	Girls	197	(22) 11.2 [7.5 - 16.3 95% C.I.]	(17) 8.6 [5.5 - 13.4 95% C.I.]	(5) 2.5 [0.1 - 5.8 95% C.I.]
By Age Group	6-11 months	57	(16) 28.6	(10) 17.9	(6) 10.7
	12-23 months	88	(13) 14.8	(11) 12.5	(2) 2.3
	24-35 months	112	(14) 12.5	(13) 11.6	(1) 0.9
	36-59 months	160	(12) 7.5	(11) 6.9	(1) 0.6

Using MUAC as another measure to assess acute malnutrition, Table 2 shows that prevalence is nearly two times lower compared with the prevalence estimated by weight-for-height (WFH). Based on the sensitivity test done between MUAC and WFH, result shows that of the 55 children that were identified acutely malnourished by WFH, only 18 or 32.7% were found positive by using the cut-off of <125mm, giving MUAC a low sensitivity to identify acute malnutrition. However, the prevalence of SAM based on the two indices is almost the same, suggesting that MUAC is more sensitive to assess risk in younger children to mortality.

[1] WHO Decision Tree for Selective Feeding Programmes

[2] http://www.cdc.gov/globalhealth/healthprotection/errb/researchandsurvey/calculators.htm
http://www.ennonline.net/fex/39results
WHO, 2003. The Management of Nutrition in Major Emergencies

Table 2. Prevalence of Acute Malnutrition based on MUAC and/or oedema, and by Sex and by Age Group

	N	Global Acute Malnutrition (GAM)/Wasting (MUAC < 125 mm and/or oedema)	Moderate Acute Malnutrition (MAM) (MUAC < 125 mm and ≥ 115mm)	Severe Acute Malnutrition (SAM) (MUAC < 115mm)
ALL	417	(21) 5.0 (3.3 - 7.6 95% C.I.)	(13) 3.1 (1.8 - 5.3 95% C.I.)	(8) 1.9 (1.0 - 3.7 95% C.I.)
By Sex : Boys	220	(10) 4.5 (2.5 - 8.2 95% C.I.)	(5) 2.3 (1.0 - 5.2 95% C.I.)	(5) 2.3 (1.0 - 5.2 95% C.I.)
Girls	197	(11) 5.6 (3.1 - 9.7 95% C.I.)	(8) 4.1 (2.1 - 7.8 95% C.I.)	(3) 1.5 (0.5 - 4.4 95% C.I.)
By Age Group : 6-11 months	57	(12) 20.1	(6) 10.5	(6) 10.5
12-23 months	88	(6) 6.8	(5) 5.7	(1) 1.1
24-35 months	112	(2) 1.8	(3) 2.6	(1) 0.9
36-59 months	160	(4) 2.5	(0) 0	(0) 0

2.1.2 Chronic Malnutrition (Stunting)

Stunting prevalence is at 47.7% and is classified as "**Very High**"[3] – indicating that chronic malnutrition is a problem of public health significance among the IDP children, and highest prevalence was noted in children 24 months and above. While stunting is not immediately life-threatening compared to acute malnutrition/wasting, its associated risks to long-term deficits in school performance in children and economic productivity in adulthood should not be disregarded. Furthermore, stunting is largely irreversible after the second year of a child's life.

Table 3. Prevalence of Chronic Malnutrition (Stunting) based on WHO CGS 2006 height-for-age z-scores, by Sex and A Age Group

	N	Chronic Malnutrition/ Stunting (HAZ scores <-2)	Moderate Stunting (HAZ scores <-2 and ≥ 3)	Severe Stunting (HAZ scores < -3)
Overall	405	(193) 47.7 [42.8 - 52.5 95% C.I.]	(132) 32.6 [28.2 - 37.3 95% C.I.]	(61) 15.1 [11.9 - 18.9 95% C.I.]
By Sex : Boys	211	(99) 46.9 [40.3 - 53.6 95% C.I.]	(64) 30.3 [24.5 - 36.8 95% C.I.]	(35) 16.6 [12.2 - 22.2 95% C.I.]
Girls	194	(94) 48.5 [41.5 - 55.4 95% C.I.]	(68) 35.1 [28.7 - 42.0 95% C.I.]	(26) 13.4 [9.3 - 18.9 95% C.I.]
By Age Group : 6-11 months	55	(14) 25.4	(12) 21.8	(1) 3.6
12-23 months	85	(39) 35.9	(23) 27.1 %	(16) 8.8
24-35 months	108	(56) 51.8	(36) 33.3	(20) 18.5
36-59 months	157	(84) 53.5	(61) 38.9	(23) 14.6

2.2 Children's Morbidity Status and Access to Health Services

Table 4 shows children's health status and access to treatment, and health and nutrition services and programs, as reported by their mothers/main caregivers. Of the 463 children with complete morbidity data, 70 or about 1 out of 5 (15.2%; 11.9-18.5 95% CI) and 112 or 1 out of 5 (24.2%; 20.3-28.1 95% CI) had diarrhea and acute respiratory infection (ARI), respectively, during the past two weeks prior to the Survey. For treatment, 60% of children with diarrhea and only 57.4% of children with ARI were brought to a health facility or seen by a health personnel and were given appropriate treatment. The remaining 20% and 38.6%, respectively, reported that medical treatment was not sought and home-remedies/self- medication were instead used.

Vaccination against measles, vitamin A supplementation (VAS) and deworming are Nutrition in Emergency (NiE) interventions to protect children against common childhood infections and micronutrient deficiencies caused by unsanitary conditions, lack of clean water and poor hygienic practices, and other associated problems of displacement. Conditions associated with risk factors, like diarrhea, measles, respiratory tract infections, worm infestation, are strongly associated with deterioration of nutritional status of children. The aforementioned preventive measures are routinely delivered in health facilities and intensified in the months of April and October during the "*Garantisadong Pambata*" (GP) campaign. In ECs and TSs, aside from routine delivery of these services, mass campaigns were done through various medical missions, and coverage was determined in the Survey. Based on the responses of the mothers/caregivers, low proportions of children had actually taken VAS and deworming tablets. Measles

[3] WHO Classification (Low: <20%; Medium: 20-29%; High: 30-39%; Very High: >40%)

vaccination was also low because mothers said that their children were already vaccinated. This suggests that the majority of the IDP children are at risk to infectious disease and malnutrition due to the low compliance of children to protective and preventive services prior to and during the emergency.

Table 4. Health status of children and access to health and nutrition services and programs

	Yes (n) % [95% CI]	No (n) %	Do not Know (n) %
Health status and access to treatment			
○ Diarrhea in the past 2 weeks (*n*=463)	(70) 15.2 [11.9-18.5 95% CI]	(391) 84.4	(2) 0.4
– Access to treatment (Health facility/provider, ORS, zinc supplement)	(42) 60.0	(27) 38.6	(1) 1.4
○ Acute respiratory infection (ARI) in the past 2 weeks (*n*=463)	(112) 24.2 [20.3-28.2 95% CI]	(349) 75.4	(2) 0.4
– Access to treatment (Health facility/provider)	(64) 57.4	(48) 38.4	0
Access to health and nutrition services and programs			
○ Vitamin A supplementation (VAS) in children 6-59 months (n=428)	(116) 27.1 [23.0-31.3 95% CI]	311(72.7)	1 (0.2)
○ Deworming in children 12 months and above (n=369)	(84) 22.8 [8.5-27.1 95% CI]	(280) 75.9	(5) 1.4
○ Measles vaccination in children 9 months and above (n=403)	(95) 23.6 [19.5-27.2 95% CI]	(305) 75.7	(3) 0.7
– Verified from immunization cards	(26) 6.5	-	-
– Self-reported, without cards shown	(69) 17.1	-	-

2.3 Access to Treatment of Acute Malnutrition (Moderate and Severe)

In the Survey, respondents were asked if their children were ever screened after the siege and/or treated for acute malnutrition. Table 5 shows that 302 of the 463 children or 65.2% were screened, while 147 or 31.7% were not. Of those screened, 18.5% were given ready to use supplementary food (RUSF), indicating that these children were identified as moderately acute malnourished (MAM) at the time of screening, and 7.9% were given ready to use therapeutic feeding (RUTF) – indicating that they were diagnosed with Severe Acute Malnutrition (SAM) at that time. No children screened had underlying medical complications and were hospitalized. At the time of the Survey, treatment for MAM and SAM was on-going.

Table 5. Percentage distribution of children 6-59 months screened and treated for acute malnutrition

	Yes (n) % [95% IC]	No (n) %	Don't know (n) %
Children screened (*n*=463)	(302) 65.2 [60.9-69.5 95% CI]	(147) 31.7	(14) 3.0
– Given RUSF (*n*=302)	(56) 18.5 [14.1-22.9 95% CI]	(242) 80.1	(5) 1.6
– Given RUTF (*n*=302)	(24) 7.9 [4.9-10.9 95% CI]	(265) 87.7	(13) 4.3

2.4 Nutritional Status of Women

Nutritional status of women of reproductive age (WRA) is crucial to ensure that children achieve optimal intrauterine development and to minimize the risk of adverse events during pregnancy and childbirth. Nutritional status of women is a critical component of the "1,000-Day Window" which starts from pregnancy up to the first 2 years of life, to prevent chronic malnutrition.

Assessment of women's nutritional status, using MUAC was done in the Survey, and the cut-off point of < 210 mm (<21.0 cm) was used. Of the 362 measured, 14.4% (10.8-18.0 95% CI) were diagnosed with acute malnutrition. Disaggregating by age and physiological status, no age difference in prevalence was noted across age groups, although it is observed that prevalence was higher among the 20-29 years old. By physiological status, it is clear that pregnant women (n=41) including those who were still breastfeeding (even when pregnant; n=7) were most at risk ($p<0.05$) to undernutrition.

Table 6: Percentage distribution of women 15-49 years old with acute malnutrition based on MUAC < 210 mm by age group and physiological status

Age Group (y)	N	(n) % [95% CI:]	Physiological Status	N	(n) % [95% CI:]
ALL	**362**	**(52) 14.4 [10.8-18.0 95% CI]**			
Less than 20	52	(7) 13.5 [4.2-22.8 95% CI]	Pregnant	41	(8) 19.5 [7.4-31.6 95% CI]
20-29	175	(36) 20.6 [14.6-26.6 95% CI]	Breastfeeding	128	(16) 12.5 [6.8-18.2 95% CI]
30-39	89	(7) 7.9 [2.3-13.5 95% CI]	Both pregnant and breastfeeding	7	(2) 28.6 [-4.8-62.1 95% CI]
40 and above	46	(2) 4.3 [-1.6-10.2 95% CI]			

2.5 Pregnant Women's Delivery Care and Services

Of the 42 pregnant women (PW) with complete information on antenatal care, mean age is 25.3 years and gestational age is 5.2 months (2nd trimester). Pre-natal care (PNC) was high with 39 or 81.3% reporting to have had at least one checkup at the time of the Survey. Three (3) did not have their pre-natal checkup yet. Of those with PNCs, 11 or 28.2% had one checkup, 22 or 56.4% had 2-3 times and 6 or 15.4% had at least 4. All PNCs, as reported, were done by a health personnel in a health facility. For iron-folic acid (IFA) supplementation, 25 of the 42 PW or 59.5% had taken at least once, and all of these women reported that the tablets were provided free of charge in the health facilities.

Iron supplementation should be started on the 2nd trimester, and based on the mean gestational age, women should have taken the supplements for at least 60 days. Results, however showed that in the Survey, pregnant women on the average had taken IFA for only 38 days (range 1-103; median =30) and 7.7% had taken for 40 days and another 7.7% for 90 days. Fourteen (14) or 33.3% were not taking IFA.

2.6 Infant and Young Child Feeding Practices (IYCF)

Achieving optimum nutrition in the first "1,000-Day Window is a cost-effective investment. The World Health Organization (WHO) and UNICEF formulated the global recommendations for interventions most effective in this window of opportunity. In addition to the maternal health and nutrition programmes for mother and pregnant women, the recommendations include:

a) early initiation of breastfeeding within the first hour of life;
b) exclusive breastfeeding for the first six months; and
c) provision of appropriate, adequate and safe complementary food at six months to supplement breast-milk while continuing breastfeeding until two years and beyond.

Table 7 shows the six core indicators and the operational definitions used in the analysis, and the results. The Survey involving 459 children 0-23 months old showed that the practices of putting the newborn to his/her mother's breast immediately after delivery, exclusive breastfeeding and continued breastfeeding until the first year were poor in the survey population. Consumption of diverse, nutrient dense, quality foods starting at 6 months, was also poor as revealed by the low proportion of children 6-23 months who were able to meet the minimum dietary diversity score (DDS) of four food groups, and the majority did not. Prolonged exposure to this kind of diet makes children at risk to stunting, micronutrient deficiency and poor immunity against childhood illnesses/infections, and their detrimental effects on children's physical and intellectual development.

Table 7. Core indicators and operational definitions used in describing breastfeeding and complementary feeding in children 0-23 months of age

Core Indicator	Operational Definition	N	(n) % [95% CI:]
Ever breastfed	Proportion of children born in the last 23 months who were breastfeed/number of children born in last 23 months	459	(453) 98.7%
Initiation to breastfeeding	Proportion of children born in the last 23 months who were put to the breast within one hour of birth/number of children 0-23 months	459	(247) 53.8% [49.2-58.4 95% CI]
Exclusive breastfeeding	Proportion of infants 0–5 months of age who received only breast milk during the previous day/ number of infants 0-5 months of age	104	(28) 26.9% [18.4 – 35.4 95% CI]
Continued breastfeeding	Proportion of children 12–15 months of	85	(56) 67.1%

	age who received breast milk during the previous day/number of children 12-15 months		(57.1-77.1 95% CI]
Introduction of complementary food	Proportion of infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day/number of children 6-8 months	46	(43) 93.5% [86.6-100.0 95% CI]
Minimum dietary diversity	Proportion of children 6-23 months who received foods from 4 or more food groups/number of children 6-23 months	356	(57) 16.0% [12.2-19.8 95% CI]
Consumption of iron-rich food	Proportion of children 6-23 months who received iron-rich/fortified foods during the past week /number of children 6-23 months	356	(333) 93.5%

2.7 Quality of Anthropometric Data Collected

The Plausibility Report generated by ENA software - analyzes the quality of anthropometric data collected in the Survey, in terms of representativeness of the sample and quality of measurements collected. Analysis is based on 10 statistical criteria which include standard deviation, digit preference, sex and age ratios, skewness, kurtosis, and others) with each criterion having a corresponding penalty score. Thus the lower the score, the higher is the quality of data collected and reliability of results. The Survey got an overall score of five (5) which is classified as "Excellent". In terms of representativeness, more children aged 30-59 than 6-23 months were surveyed (p=0.04). One plausible explanation is that most of the children are without birth records and techniques for age estimation were used. It is likely, that some of these ages were overestimated by the surveyors. On the other hand, the Standard Deviation (SD) for WFH Z scores is 0.94 which is within the 0.8-1.2 range indicating high level of confidence on the quality of weight-for-height data collected. Similarly, the SD for HFA Z scores is 1.08 which is very close to 1.0 despite the estimation of age for 11 children. The full Plausibility Report will be included in the Final Report.

3. Limitations

a. Comparability with other data (screening, NNS 2013). Survey results cannot be compared with previous screening due to difference in design and methodology.
b. Representativeness of results. Survey results are specific to IDPs in the population and not generalizable to the whole population of Zamboanga
c. Relationship/Trending. The GAM prevalence in the Survey is the "point prevalence" which may or may not represent an increasing or decreasing trend in GAM since the onset of the emergency and even pre-disaster nutritional status (as above).

4. Summary of Results and Action Points

a. Acute malnutrition is a serious problem among children 6-59 months old in households staying in the ECs and TSs in Zamboanga City. Acute malnutrition is the deadliest form of malnutrition and confers a significant risk of dying if not treated immediately. Based on WHO classification, the prevalence of GAM among the children is classified as "Risky" category while severe acute malnutrition (SAM) at 2.4% was higher than the emergency threshold of 2.0%.

b. Chronic malnutrition or stunting is a 'very high' problem of public health significance, and almost half of the IDP children surveyed are stunted. The long-term impact of stunting in the long-term development of children necessitates an urgent, evidence-based, intersector intervention.

c. Children 6-23 months are more at risk of acute malnutrition than their older counterparts, and also show a high level of chronic malnutrition or stunting. This puts emphasis on this age group as a period of growth faltering that makes children at risk to both short (life threatening) and long-term (developmental) consequences. Another indication of this risk is the very high stunting prevalence in children 24 months and above. The period, from 6 to 23 months corresponds to the period where complementary feeding is initiated and practiced, and as shown in this Survey, the quality of complementary foods given to children as reflected by DDS was poor in quality to meet energy and nutrient needs of the children in this age group.

d. GAM prevalence estimated by MUAC was more than two (2) times lower than the prevalence estimated by weight-for-height, again highlighting the low sensitivity of the current MUAC cut-off of < 125 mm or < 12.5 cm in identifying children with acute malnutrition. This has implications in identifying children who are acutely malnourished.

e. About 15% and 24% of children have diarrhea and ARI, respectively, during the past two weeks prior to the Survey. In terms children's access to treatment in times of these illnesses - only 5 to 6 out of 10 were treated in/by health facilities/providers.

f. Actual taking of vitamin A supplements (27.1%) and deworming tablets (22.8%) among IDP children was low. Measles vaccination was likewise low (23.6%) because according to the mothers, they did not have their children vaccinated because they were already vaccinated. This low complaince highlights the elevated risk of children to illness and undernutrition due to low compliance to these essential preventive services.

g. In women 15-49 years old, 14% are acutely malnourished while women 15-19 and the 20-29 years age group as well as the pregnant women are more at risk than the other groups. This puts both the mothers and developing child at risk of adverse events during childbirth as well as to all forms of malnutrition.

h. Based on WHO and UNICEF's core indicators, almost half of the children in the affected areas in Zamboanga City did not initiate breastfeeding within the recommended first hour of life. Less than 35% of children under 6 months of age were exclusively breastfeed and only 67.1% were breastfed up to 1 year of age. At the same time, bottle feeding was high, with more than 45% of children using a bottle. The sub-optimal breastfeeding practices are further exacerbated by the result that showed that only 16% of children were able to meet the minimum dietary diversity score (DDS) of 4 food groups, indicating that complementary foods given to children was poor in quality to meet their energy and nutrient needs. Continued exposure of children to this inadequacy have deleterious effects on their growth and development.

Based on the above findings, the following are recommended :

a. Treatment of acute malnutrition should be continued by the City Health Office (CHO) and Nutrition Cluster partners, including screening and referrals to targeted supplementary feeding (for MAM) and therapeutic feeding (for SAM). In addition, surveillance systems to monitor trends in admissions and referrals should be established. Resources to expand coverage need to be mobilized if the situation deteriorates (e.g. in the case of a disease outbreak).

b. While interventions to treat acute malnutrition are needed immediately, interventions to curtail the effects of aggravating factors of undernutrition such as household food insecurity, poor quality of diets, high occurrence of infections, water, environmental sanitation and personal hygiene should also be considered. But given the design of the Survey and absence of comparable baseline data, no conclusions can be made on the causality of undernutrition.

c. The City Nutrition Council/Committee to convene an inter-sectoral working group to address the problem of chronic malnutrition. This needs to include Health, Food Security, Livelihood, Agriculture, and WASH sectors to collaboratively address the major underlying factors.

d. More efforts should be done to improve households' access to treatment of common childhood illnesses and compliance to vitamin A supplementation and deworming. This maybe done through:
   i. Raising awareness of mothers and parents on the importance of these services on preventing infections and undernutrition among children
   ii. Strengthening the delivery system of these services/programs to make sure that children take VAS, and deworming capsules given.

e. Coverage of measles immunization among the IDPs needs to be systematically verified. Any disease outbreak will lead to further deterioration of nutritional status of the IDPs. Immediate measures to increase coverage should be urgently undertaken by the City Health Office/Health Cluster to include Vitamin A supplementation and deworming.

f. CHO/Health Cluster to ensure that there is adequate tracking and monitoring of pregnant and lactating women in ECs and TSs to ensure access to skilled birth attendants and critical antenatal services.

g. Compliance of pregnant women to IFA supplementation should be given focus as well. This should be done by CHO and Nutrition Cluster collaboratively with other barangay organizations like mother leaders.

h. Mortality data (crude, under5, neonatal), disease incidence, and food security data need to be reviewed by relevant clusters to complete the overalll analysis of the severity of the situation.

i. To improve the quality of complementary foods and nutrient intake of children 6-23 months old, home fortification through the distribution of Multiple Micronutrient Powders (MNPs) should be considered.

j. The low sensitivity of the current cut-off of MUAC requires further investigation and consensus at national level, in line with IMAM policy discussions.

k. Repeat the Nutrition Anthropometric Survey after at least six months to establish trends in nutritional status.

l. Regarding IYCF, it is strongly recommended that renewed efforts and innovative interventions are implemented to improve infant and young child feeding practices; The following are among the key recommendations:
   i. Track and monitor pregnant women in the evacuation and transitory sites
      1. Institutionalize one on one counseling to ensure that pregnant women are counseled on safe delivery, care practices of the child, breastfeeding and infant and young child feeding practices
   ii. Design culturally sensitive and context specific interventions to improve IYCF practices
      1. Institutionalize IYCF counselling services in all ECs and TSs based on IYCF counseling services offered by skilled peer counselors
      2. Provide skilled breastfeeding and complementary feeding support
      3. Review and support activities to improve knowledge/skills and practices of mothers/caregivers on complementary feeding
   iii. Enforce the Mother Baby Friendly Hospital Initiatives (MBFHI) standards in all health facilities offering maternity services in ECs and TSs
   iv. Support community-based activities, like recipe trials, food demonstration, etc, utilizing locally available and culturally acceptable foods
   v. Engage other government agencies (e.g. DA, DWSD, Dep ED) with current safety nets or livelihood programmes that will increase access of IDPs to appropriate food.

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