

TRAINING FOR IMPROVED PRACTICE: Public Health and Nutrition in Emergencies

Nutrition Commodities and Equipment

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**UNICEF Core Corporate Commitments Training In collaboration
with:**

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**International Emergency
and Refugee Health Branch,
Centers for Disease Control**

Overview

- UNICEF role and responsibility in commodity and equipment provision
- Strategy and supplies
- Food and nutrition commodities
- Anthropometric and feeding centre equipment
- Micronutrients and essential drugs
- Planning for programme support

WFP/UNICEF MOU

- 5.3.6 ...When the assessment indicates a significant risk of micronutrient deficiencies... UNICEF will be responsible for covering any unmet micronutrient needs through other measures....supplements
- 5.3.7. Both organizations will promote, protect and support breastfeeding.... UNICEF will ensure the availability of generically labeled breastmilk substitutes..... (amended in July 2002)
- 5.3.9 ...UNICEF will mobilize resources and ensure the availability of ready-made therapeutic milk,...oral rehydration salts and breastmilk substitutes and vitamin/mineral preparations where the assessment indicates these are necessary....

Strategy and supplies

- Co-ordination
 - Assessment of overall needs (target group, time period)
 - Define purpose: pre-positioning, start-up, buffer, geo-graphical coverage
 - Protocols
 - Capacity and partners for service delivery
 - Resources available (NGOs and WFP)
 - Procurement: local, regional or Copenhagen
- Training
- Buffer stock in Copenhagen



Summary: Supplies for Emergency Nutrition Programmes

Target Group and Programme	Food Commodities	Equipment	Essential drugs and micronutrients
Severely malnourished (TFP)	F75, F100, BP100, Plumpynut, UNIMIX (with oil), CSB (with oil and sugar) SP-450, SP-380 (with oil)	Oxfam Therapeutic kits registration and feeding, adult/child height board, infant scale, adult scale, registration kits	ReSolMal, Drugs, Therapeutic CMV
Moderately malnourished, pregnant/lactating women and others (SFP)	UNIMIX (with oil), CSB (with oil and sugar), {BP5 biscuits, high energy and protein biscuits}	Oxfam Supplementary kits (registration and feeding), adult/child height boards, Anthropometric kit	Vitamin A, Mebendazole, Folic acid, ORS, Supplementary CMV
Infant feeding	Generic infant formula (<6 months) Complementary feeding (local or blended foods) (>6 months)	Infant scale, salter scale	-

Therapeutic Feeding: Strategy

	Phase I Initiation, stabilization and transition	Phase II Rehabilitation and/or recovery
24-hour and Day Care	F75 F100	F100 UNIMIX (with oil), CSB (with oil and sugar), SP- 450 (with oil), SP-380, local foods
24-hour and home treatment	F75, F100	Plumpynut, BP100, dry ration mix, local foods

Therapeutic Feeding: calculations

Product	Use	Protocol	Treatment For 10kg child	Packaging (first)	Packaging (second)	Cost (per MT)
ReSolMal	Phase 1: rehydration 4-6 hours	10ml/kg per hour	10 x 10 x 6 = 600ml	420g sach. = 10 litres	42 sachets per carton (17.64kg)	\$1,500
F75	Phase 1: initial treatment (1-3 days)	130ml/kg per day	130 x 10 x 3 = 4.05 litres (1.7 sach)	410g sachet = 2.4 litres	20 sachets per carton (8.2 kg)	\$3,000
F100	Phase 2: rehabilitation (27 days)	200ml/kg per day	200 x 10 x 27 = 54 litres (22. 5 sach)	456g sachet = 2.4 litres	30 sachets per carton (13.68kg)	\$3,000
Th450	Phase 2 Rehabilitation (27 days)	2 x per day (150g per day)	0.15 x 27 = 4.05 kg	25 kg bag	-	\$560

Day-Care Therapeutic Feeding

BP100 and Plumpynut

- Equivalent to F100
- Given for take-home feeding
- Amount determined by strategy and protocols
- Used for children >1 year and Phase II
- Based on 10kg child
 - 5 sachets Plumpynut per day
 - 8 bars BP100 per day

Therapeutic Feeding: Practical Exercise

Read the case-study and calculate the required amount of commodities (F75 and F100) for the treatment of severe malnutrition for a six-month period.

Think about how much this intervention will cost

Ordering F75 and F100

Item	Per child	For each Hospital (x 20)	For all 18 hospitals every month (18)	For six months (x6)	No. of sachets in carton	Cartons
F75	4.05 litres 1.7 sachets	34 sachets	612 sachets	3,672	20 sachets per carton	183.6 = 200 cartons
F100	54 litres 22.5 sachets	450 sachets	8,100 sachets	48,600	30 sachets per carton	1, 620 cartons = 1,700

Need to increase slightly because of (1) distribution (2) damage and spoilage (3) small buffer stock, Therefore increase by 10 – 20%.

- **If 20% increase for buffer, loss etc, order 230 cartons of F75**
- **If 20% increase for buffer, loss etc, order 2,000 cartons of F100**

Treatment of Severe Malnutrition: calculating the costs

- **F75:** 230 cartons x 8.2kg = 1.9MT
@ \$3,000 per MT = \$5,700
- **F100:** 2,000 cartons x 13.7kg = 27.4MT
@ \$3,000 per MT = \$82,200

TOTAL = \$5,700 + 82,000 = **\$87,900**

(treatment of $18 \times 20 \times 6 = 2,160$ children)

Per child @70% recovered = \$58

Supplementary Feeding: Blended Foods

- All blended foods must meet standard specifications
- UNIMIX
 - Sugar (0%, 5% and 10%)
- Corn Soya Blend (CSB) or Wheat Soya Blend (WSB)
- Local Products:
 - FAMIX (Ethiopia), UNILITO (Nepal), TENAMIX (Tanzania)

Supplementary Feeding:

Co-ordination, coverage and additional items

- WFP, NGO and other resources
- Policy and protocols
- Planning needs: at least six months
- Medical drugs:
 - Mebendazole
 - Vitamin A
 - Folic Acid
 - ORS

Case-study Afghanistan: BP5 biscuits

Dec 1995	ENN article
Nov 2001:	Norwegian Government makes donation to UNICEF (200 MT); additional biscuits requested by other offices (CARK) with no consultation with Islamabad
Jan 2002:	Over 1,000 MT of BP5 enter Afghanistan
April 2002:	Reports of “ <i>BP5 biscuit being prescribed by local doctors and purchased</i> ” (\$1.6 per box, Mazar)
May 2002:	Local NGO requests UNICEF not to distribute BP5 biscuits as undermining traditional feeding practices
June 2002:	UNICEF prepares good practice guidelines for use of BP5
August 2002:	UNICEF still has over 150 MT for distribution
Sept' 2002:	BP5 biscuits distributed in MCH clinics, mothers regularly known to request them. Compact approaches UNICEF again for further orders

Supplementary Feeding: BP5 biscuits

Risks

- Undermine traditional feeding practices
- Highly marketable commodity
- Requirement for clean drinking water
- Inappropriate for severe malnutrition

1. Temporary nutrition supplement until blended foods or traditional foods become available.
2. When using in SFPs, practice close supervision of distribution and consumption and/or “crumble” and mix biscuits into dry ration.
3. Not be used in Therapeutic Feeding Programmes (TFPs) or for the treatment of severe malnutrition
4. No general distribution where it is likely that there are a large number of severely malnourished children.
5. ensure provision of nutrition communication messages which advocate for use of appropriate weaning foods using locally available foods.
6. ensure provision of clean safe water.
7. Monitor markets for the availability and source of BP-5 biscuits.
8. Monitor practice of prescribing BP-5 by doctors, perceptions of women and mothers of their value etc.

Infant Feeding: Generic BMS

- Infant Feeding and Mother-to-Child Transmission (MTCT) of HIV Technical Guidance Note (July 2002)

“.....Based on experience gained from the PMTCT pilot projects, UNICEF will cease the procurement and distribution of formula to PMTCT programmes. Cessation will be in a manner compliant with the International Code of Marketing of Breast-milk Substitutes.....”

Infant Feeding: Generic BMS

Age of infant (months)	Prepared formula (ml/day/infant)	Commercial formula (for 1 month)
1	450ml	4 x 500g tins (2kg)
2	600ml	6 x 500g tins (3kg)
3	750ml	7 x 500g tins (3.5kg)
4	750ml	7 x 500g tins (3.5kg)
5	900ml	8 x 500g tins (4kg)
6	900ml	8 x 500g tins (4kg)
Average	40 x 500g tins	(20kg)

Food and Nutrition Commodities: Alternatives

Product	Alternative	Remarks
ReSolMal	ORS with sugar and potassium added ORS with Therapeutic CMV	See WHO (1999)
F75 Therapeutic Milk	High Energy Milk, diluted to $\frac{3}{4}$ strength and Therapeutic CMV added (3 g per 1000ml)	High Energy Milk (100 kcal /100ml); for 1 litre mix 80g DSM, 60ml oil and 50g sugar with boiled water
F100 Therapeutic Milk	High Energy Milk, Therapeutic CMV added (3 g per 1000ml)	See above
SP-450 Therapeutic Porridge	SP-380 with oil Local blended food (UNIMIX, or CSB) with Supplementary CMV	Only for on-site wet feeding

Food and Nutrition Commodities: Storage and Quality Control

- Pest and fumigation as preventive strategy
- Stock control and monitor expiry dates
- Visit warehouses regularly
- Sampling of bags; observation and testing
- Laboratory testing facilities; 'fit for human consumption'
- Source of food and shipment details
- Government consultation and permission to take corrective action

Survey Kits and TFP/SFP Kits

Name of Kit	Code	Purpose	Target	Cost (£) Jan '02
Anthropometric Kit	NKIT 1/3	Equipment for assessment of nutritional status in surveys or centres	2 centres or teams	327
Registration Kit - SFP Wet	NKIT 2A/3	Registration and record keeping for wet SFP (replaced every 3-6 months)	250	136
Feeding Kit – SFP Wet	NKIT 2/4	Cooking and feeding equipment for wet SFP	250	755
Registration Kit - SFP Dry	NKIT 3A/3	Registration and record keeping for dry SFP (replaced every 3-6 months)	500	212
Feeding Kit – SFP Dry	NKIT 3 /4	Mixing and distribution for dry SFP	500	385
Registration Kit - Therapeutic	NKIT 4A/3	Registration and record keeping for TFP (replaced every 3-6 months)	100	121
Feeding Kit – Therapeutic	NKIT 4/4	Cooking and feeding equipment for wet SFP	100	744
				20

Anthropometric Equipment: height/length

Infant/child height/length board



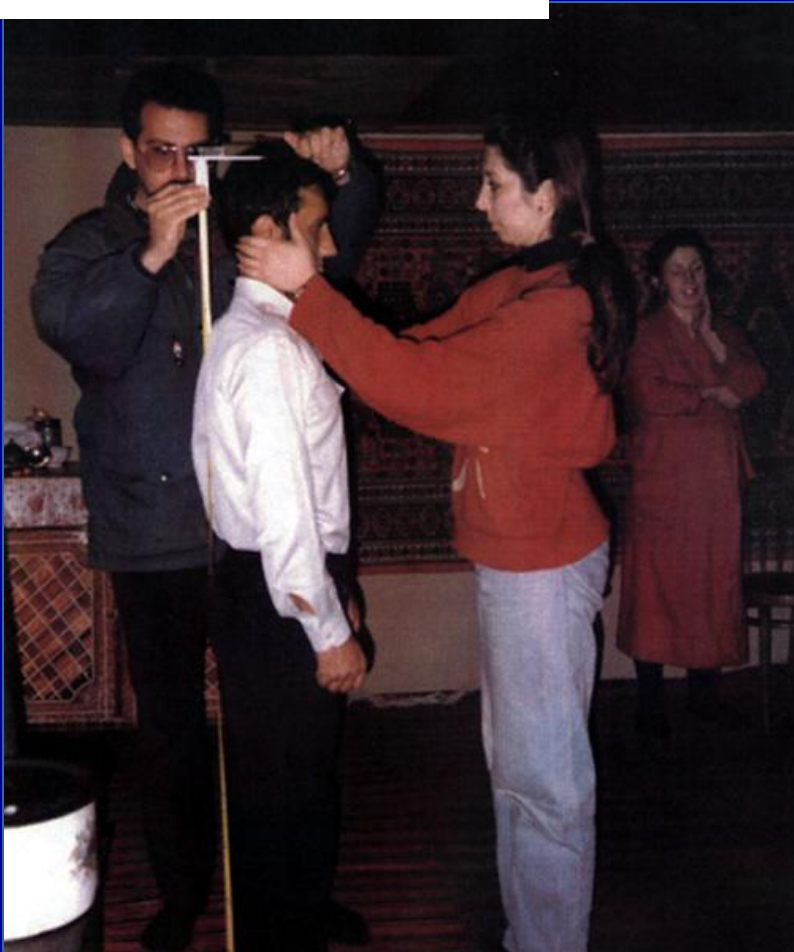
Locally-made

Shorr

Anthropometric Equipment: height

Adult height

Stadiometer

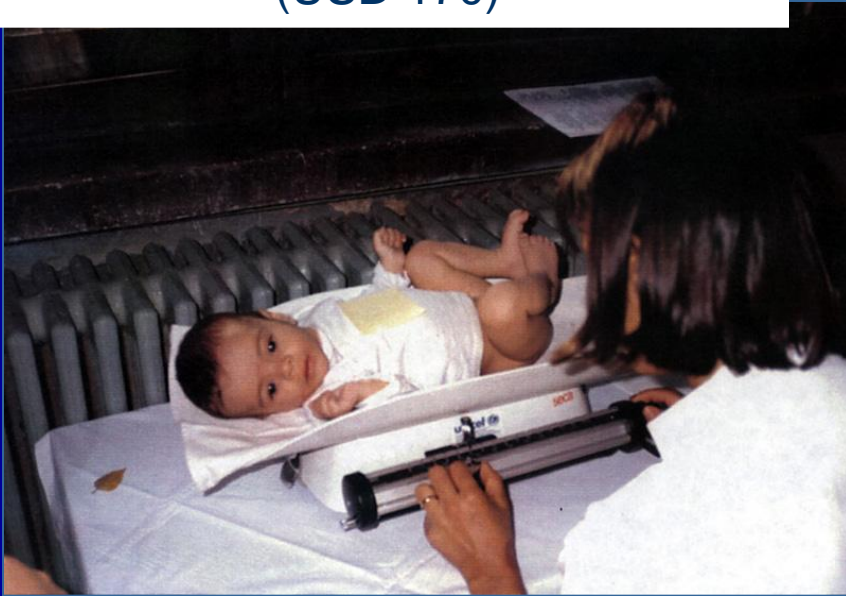


Locally-made



Anthropometric Equipment: weight

Infant weighing scales
(USD 170)



Salter scales (USD 33)



Anthropometric Equipment: weight

Adult scales
Mother/child (USD 143)



Buffer Stocks

Renewable Items

- Soap
- Registration kits
- Food items
- ID bracelets
- Cleaning materials
- Cards

Non-renewable items

- Tents
- Plastic sheeting
- Feeding Kits
- Anthropometric equipment
- Furniture

Medical Supplies and Micronutrients

- Medical kit for TFP
- ORS and ReSolMal
- Routine treatment e.g. vitamin A, folic, ferrous sulphate, amoxicillin
- Specific treatment e.g. malaria, antibiotics
- Injectables
- Topical ointments
- Dressing material and equipment

Medical Supplies and Micronutrients

Concentrated Mineral & Vitamin Mix (CMV)

Therapeutic CMV

- Fortification of HEM, ReSolMal and local porridges
- 3g per 1000ml of HEM
- Approximately 150g per child
- Approx 5 treatments per 800g tin

Supplementary CMV

- Fortification of CSB, UNIMIX porridges
- 3g per 1000kcal
- Used only in wet-SFPs
- Needs careful monitoring

Practical Exercise

1. *In your groups, brainstorm together a list of the items and commodities that should be included in the budget for the intervention “treatment of severe malnutrition”*
2. *Calculate the required quantity of UNIMIX to support the agreed strategy.*

Calculating the quantities of UNIMIX

Part 1 -

An estimated 20 severely malnourished children discharged every month from 18 hospitals

20 children discharged every month, total 360 children from 18 units

6.4 kg per child per month for a three month 3 month period

10 month period

TOTAL = 360 children x 6.4kg x 3months x 10 months = 69,120 kg (= 70MT)

Calculating the quantities of UNIMIX

Part 2 -

IDP camps in Southern Region

Kandahar province: 1,117,884 people (15.33% IDPs)

Zabul province: 303,864 people (32.53% IDPs)

Nimroz Province: 182,605 people (15.08% IDPs)

Province	Total Population	IDPS	Settled Population
Khandahar	1,117,884	171,372 (15.33%)	946,512
Zabul	303,864	98,847 (32.53%)	205,017
Nimroz	182,605	27,536 (15.08%)	155,069
TOTAL		297,755	1,306,598

Total population =

20 % of population is U5 years =

6.4 kg per child per month =
per month

70% coverage (blanket in a camp situation) =

5 month period =

297,755 persons

59,551 children

381,126 kg = 382 MT

267MT per month 30

1,335 MT UNIMIX

Calculating the quantities of UNIMIX

Part 3 -

Estimated populations in the provinces still affected by drought in the Southern Region (targeted programmes)

Total population =	1,306,598
persons	
20 % of population is U5 years =	261,320 children
10% moderate malnutrition =	26,132
malnourished children	
6.4 kg per child per month =	167,245 = 167MT
50% coverage (target, dispersed population)	84 MT
10 month period =	840MT

TOTAL UNIMIX REQUIRED during 10 month period = 70MT + 1,335 MT + 840MT = **2,437 MT**

ESTIMATED COST = @ \$300 per MT = **\$731,100**

Review

- Ordering supplies should be linked to strategy and forward planning
- Standard ways of calculating quantities
- Need to be familiar with preparation of budgets
- Consider alternatives
- Ensure best practice