PART III

BASIC PROTOCOLS

This section focuses on health protocols and programmes that are important in both urban and rural displacements.

III.1

IMMUNIZATION

■ Significance	- Increased risk of vaccine-preventable diseases in crowded and unsanitary conditions - Measles is responsible for high mortality inunimmunized and malnourished children
■ Priorities	- 100% measles coverage - Expanded Programme of Immunization - Safe vaccine use - Community involvement - Monitoring/evaluation

1.1 Complete measles coverage

In overcrowded areas with high malnutrition rates, the measles coverage objective should always be *100%* of the children targeted, i.e.:

- in all situations, children 9 months - 3 years (up to 5 years if resources permit)
- where there are very high malnutrition rates (>15%) children 6 months to 5 years
- *80% coverage* is considered the *minimum acceptable standard* in displaced populations. Coverage rates below 80% suggest a need for programme review and more active immunization efforts

All children immunized at 6, 7, 8 months should be reimmunized between 9 - 12 months for life-long protection

1.2 Expanded Programme of Immunization

Sudan has a well-established Expanded Programme of Immunization, whose policies and protocols should be closely followed. There should be careful consultation with District, Provincial and Regional EPI officers so that immunization activities are carried out in accordance with these policies.

a) Target Groups

Immunize	*Against*
■ *infants under 12 months*	- *measles, diphtheria, pertussis tetanus, poliomyelitis, tuberculosis*
■ *children between 12 months and 3 years, not previously immunized*	- *as above, omitting pertussis*
■ *pregnant women*	- *Tetanus neonatorum*

b) Vaccine Administration

Infants under 12 months of age are the target for child immunization

In routine EPI activities, all infants should be vaccinated according to the following schedule - or as close as possible to the dates listed:

Age	Birth	6 wks	10 wks	14 wks	9 mos
DPT		+	+	+	
OPV		+	+	+	
BCG	+				
Measles					+

Give Tetanus toxoid at any time during pregnancy, beginning as soon after the first trimester as possible

■ Previously unimmunized women:	2 doses of tetanus toxoid at least one month apart, with the 2nd dose at least 3 weeks before delivery (for maximum protection)
■ Women with 2 or 3 previous doses of tetanus toxoid	one single booster in the next pregnancy

Immunization Equipment

A sterile needle and sterile syringe must be used for each injection

All used needles and syringes must be collected in a waste container and burned after each session

Programme Organization

This is very important to ensure the complete coverage of all target groups. Possible approaches include:

- mass campaigns
- immunization through MCH or other *ongoing health programmes*

The success of either approach depends on the effectiveness of *community outreach* to ensure all eligible children and pregnant women attend (i.e house-house visiting by health workers, support by community leaders)

c) Safe vaccine management

Vaccine for displaced populations should be obtained from regional, provincial, or district EPI cold stores, unless other instructions are given.

- no vaccine may be stored, transported or prepared.at temperatures greater than 8 degrees Centigrade.
- the following vaccines should not be frozen
  - DPT, DT, Tetanus Toxoid
  - diluent for measles and BCG
- once a vaccine is opened, it must either be used during the vaccination session, or destroyed afterwards. *No vaccine* that has been opened may be used the following day
- any vaccine which was not opened during a session, can be saved for the next day, *if stored at the correct temperature.* The vial must be clearly marked so it is used the following day. This can be done for a maximum of 3 days, after which the unopened vial must be destroyed

Other important points

- low moderate fever, mild respiratory infections or diarrhoea are not contra-indications to immunization
- health workers should use *every opportunity* to immunize eligible children

d) Community involvement

Active involvement and education of community members is absolutely essential from the start. Furthermore, there should be active home visiting efforts to identify/refer all eligible children and pregnant women for immunization

e) Monitoring/Evaluation

Estimates of target group *coverage* are the most measures of programme effectiveness.

Two possible ways for determining immunization coverage include:

- coverage evaluation survey, using the cluster sampling methods outlined in Annex 1.1.4
- record review in stable populations with *good MCH coverage and immunization registers*

In all immunization programmes, the standard EPI tally sheets should be completed correctly and forwarded to appropriate District or Provincial EPI officers.

III.2

ACUTE RESPIRATORY INFECTION

■ Significance	- A.R.I.is responsible for high mortality due to crowding,malnutrition and risk of measles outbreaks
■ Control priorities	- adequate shelter, nutrition - vaccination against measles, diphtheria pertussis - prompt case-finding by health workers and family members
■ Clinical management	- supportive therapy - trimethoprim/sulphamethoxazole, ampicillin, procaine penicillin - serious cases - benzyl penicillin

In Sudan, A.R.I.is the leading cause of out-patient attendance, hospital admission and death in children under five years old. In overcrowded conditions, these risks are greatly increased.

2.1 Case-detection

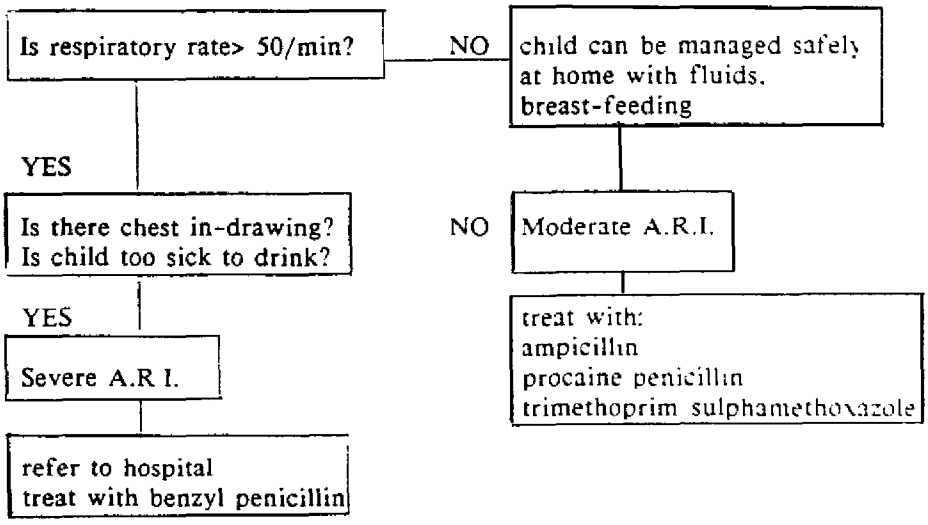
A *simple approach* to early case-detection and referral is important: to decide if a child:

- can be safely managed at home *without antibiotics*
- should receive antibiotic treatment at home
- needs to be referred to a hospital or health center

Use three simple signs

- chest in-drawing
- child too sick to drink
- respiratory rate more than 50/minute.

For example:



Community health education using these 3 signs is essential for enabling mothers to recognize serious respiratory infections early

2.2 Treatment protocols

Dosage recommendations for from A.R.I. programme

a) *Cotrimoxazole:* (dose = 4mg/kg trimethoprim)

Tablet:	80mg trimethoprim 400mg sulphamethoxazole
Syrup: (in 5ml)	40mg trimethoprim 200mg sulphamethoxazole

b) *Ampicillin:* (dose = 25mg/kg)

Tablet:	250mg
Syrup (5ml)	125mg

Doses to be used by health workers

- Too young to walk: [3-9kg]
  Cotrimoxazole:
  - ½ tab (20mg trimeth.)twice daily-5 days
  - half spoonful(2.5ml) twice daily - 5 days

  Ampicillin:
  - ½ tab.(125mg) 6 hourly for 5 days
  - spoonful(5ml) 6 hourly for 5 days

- Old enough to walk [10-19kg]
  Cotrimoxazole:
  - ½ tab.(40mg trimeth.)twice daily- 5 days
  - spoonful syrup (5ml) twice daily-5 days

  Ampicillin:
  -1 tab./cap(250mg). 6 hourly for 5 days
  -2 spoonsful syrup (10ml) 6 hourly-5 days

- Old enough for school [20kg or more]
  Cotrimoxazole:
  -1 tab.(80mg trimeth.)twice daily - 5 days

  Ampicillin:
  -2 caps(500mg) 6hourly for 5 days

c) *Procaine Penicillin:* *Give once a day for 5 days*

- *Too young to walk* *-injection 400.000 units*
- *Old enough to walk* *-injection 800.000 units*
- *Old enough for school* *-injection 1,600.000 units*

d) *Salbutamol* (dose = 0.1mg/kg body weight)

- Too young to walk — DO NOT GIVE
- Old enough to walk — 1mg 3 times daily for 5 days
- Old enough for school — 2mg 3 times daily for 5 days

e) *Paracetamol* (dose = 10-15mg/kg body weight)

- Too young to walk — 50mg (give up to 3 times daily)
- Old enough to walk — 100mg " " " "
- Old enough for school — 250mg " " " "

III.3

DIARRHOEAL DISEASE CONTROL

- Significance
  - high rates of diarrhoea are expected in crowded areas with poor sanitation/water
  - increased risk of cholera (attack rate may exceed 4%, and case-fatality rate may reach 50% in emergency displacements if untreated)
- Control priorities
  - clean water/adequate sanitation, soap
  - Oral rehydration solution
  - health education
  - preparedness

Sudan has an established Diarrhoeal Disease Control Programme. CDD officers at regional and central levels should be consulted for specific guidelines on the prevention and management of diarrhoeal diseases, and for standardized teaching materials.

3.1 Clinical management of acute diarrhoea

Rapid death due to dehydration can be prevented with prompt diagnosis and replacement of water and electrolytes.

The simple steps in assessing and treating acute diarrhoeas are:

a) Assess the degree of dehydration

b) Start rehydration therapy

c) Judge adequacy of hydration therapy

d) Maintain hydration therapy

e) Encourage normal diet

f) Terminate treatment

a) *Assess the degree of dehydration*

DEHYDRATION	Mild	Moderate	Severe
1.ASK ABOUT			
diarrhoea per day	<4 liquid stools	4-10 liquid stools	>10 liquid stools
vomiting	none/small	some	very frequently
thirst	normal	greater than normal	unable to drink
urine	normal	small amount,dark	no urine 6 hrs

2.LOOK AT			
condition	well, alert	unwell, sleepy irritable	very sleepy floppy unconscious
tears	present	absent	absent
eyes	normal	sunken	very sunken
mouth	wet	dry	very dry
breathing	normal	faster than normal	very fast and deep
3.FEEL			
skin	pinch goes back quickly	goes back slowly	goes back very slowly
pulse	normal	faster than normal	very fast, weak
fontanelle	normal	sunken	very sunken

severe dehydration	Two or more signs of severe dehydration
moderate dehydration	Two or more signs of moderate dehydration but less than two signs of severe dehydration
mild dehydration	Less than 2 signs of moderate dehydration and no signs of severe dehydration

b) Start rehydration therapy

Degree of deydration	Age group	Fluid	Volume	Time of administration
mild	all	ORS	50ml/kg	within 4 hours
moderate	all	ORS	100ml/kg	within 4 hours
severe	infants	Ringer IV Lactate	70ml/kg	within 3 hours
IF SIGNS OF DEHYDRATION ARE STILL PRESENT, FOLLOW WITH:				
older children and adults		ORS	20ml/kg	per hour
		Ringer IV Lactate	100ml/kg	within 4 hrs; initially, as fast possible until until a pulse is palpable

c) Assess adequacy of dehydration

- pulse rate/strength, respiration, urine output and skin turgor return to normal
- moist mucous membranes
- improved general wellbeing

d) Maintenance therapy and diet

It is important to replace ongoing losses of fluid and electrolytes associated with continuing diarrhoea:

- adults and children: ORS plus normal fluids
- young infants ORS plus breast feeding

3.2 Cholera preparedness / management

a) Prepardeness

Case-fatality rates from cholera can be reduced to less than 3% in communities with an organized programme for diarrhoeal disease control.

Key points include:

- training all health workers in the treatment of acute diarrhoeas, emphasizing ORT
- setting up simple surveillance for early detection of epidemics
- thorough searching for cases and prompt treatment near their homes
- sufficient stocks of ORS, IV fluids, antibiotics, soap, laboratory and sanitation supplies are available
- reinforcement of public health measures, intensive health education

b) Outbreak management

- it is important in the beginning of an outbreak to establish laboratory confirmation of *Vibrio cholerae 01*

- water sources should be protected against contamination, with guards

- emergency control measures should not be relaxed until careful surveillance of diarrhoea cases and environmental sources show that the organism no longer exists in the community.

- outbreak management
  - intensify preparatory measures already in place
  - establish accessible treatment centres for proper clinical management (treatment of dehydration)

- clinical treatment of cholera cases

  - treat in a cholera bed, i e. modify a cot/bed to provide a 25 cm diameter hole beneath the patient's buttocks. A plastic sheet with a central sleeve can help direct all stool into a bucket containing lime under the bed

  - replace all fluids lost
  - when vomiting has ceased, give oral tetracycline:
    Adults: 500mg every 6 hrs x 2 days
    Children: 50mg/kg/day divided in 4 doses x 5 days

* *

In crowded reception centres,early case-detection and reporting are priorities for all health workers

All cases reported in the community, treatment centre and burial sites should be reported to a focal point, and recorded

Information on numbers of cases and deaths should be conveyed daily and weekly to appropriate Ministry of Health officers

* *

III.4

MALARIA

- Significance
  - children, pregnant women have high case-fatality rates from malaria
  - displaced groups with no immunity are at increased risk if they settle in an endemic area
- Control Priorities
  - early case-detection and treatment
  - vector control and environmental measures to control mosquito breeding
  - chemoprophylaxis for pregnant women

4.1 Clinical Management

In Sudan, because Plasmodium Falciparum and Plasmodium Vivax are sensitive to chloroquine, this should be the drug of choice.

Wherever possible, malaria should be confirmed by blood smear. However, treatment should not be withheld if blood confirmation is not immediately available.

The following treatment protocols should be observed in all health programmes:

a) Treatment of uncomplicated Plasmodium Falciparum

Adults:	*Day 1*	*Day 2*	*Day 3*
	600 mg	*300 mg*	*300 mg*
	300 mg		
	6 hours later		
Total	*900 mg*	*300 mg*	*300 mg*

(if the clinical response after three days is unsatisfactory, the course should be extended to 5 days)

b) Children

	Age (years)				
Day	< 1	1 - 3	4 - 6	7 - 11	12 - 15
1	7.5ml	15ml	1½ tab	2 tabs	3.½ tabs
6-8 hrs later	7.5ml	7.5ml	1 tab	2 tabs	2 tabs
2	3.75ml	7.5ml	½ tab	1 tab	1½ tabs
3	3.75ml	7.5ml	½ tab	1 tab	1½ tabs
4	3.75ml	7.5ml	½ tab	1 tab	1½ tabs

chloroquine doses:
1 tab = 150 mg
chloroquine syrup calculated for 50mg/5ml

7.5 ml = ½ tablet = 75mg
3.75 ml= ¼ tablet = 37.5 mg

Chloroquine should never be given on an empty stomach, and should be taken after meals. *I.M. Chloroquine is never recommended for treating uncomplicated malaria.*

c) Treatment of Vivax and Falciparum Malaria in Pregnancy

Day	chloroquine
1	600mg
6hrs later	300mg
2	300mg
3	300mg

d) Chemoprophylaxis in pregnancy

It is the recommended by the Department of Malaria, Ministry of Health that chloroquine (300mg base) is given once weekly as antimalarial protection for pregnant women.

This recommendation is supported by W.H.O.(refer *W.H.O. Expert Committee on Malaria. Technical Report Series 735. 1986 [57-60]*)

e) Management of Cerebral Malaria

Cerebral malaria is a medical emergency, and should be treated with the utmost care:

1) monitor fluid intake/output carefully
2) treat with IV Quinine dihydrochloride

For all patients: 10mg/kg body weight infused in saline or dextrose in the following volumes:

- for normally hydrated patients 10ml/kg body weight
- for dehydrated patients 20ml/kg body weight

infuse over 4 hrs and continue infusion (every 8-12 hours) until patient is able to take oral quinine

because hypoglycaemia (hyperinsulinism induced by quinine) is a common complication in severe cases and pregnant women, I.V. glucose should be given instead of saline

III.5

TUBERCULOSIS

- Significance — high population density and poor living conditions may lower individual resistance to tuberculosis
- Priorities — Tuberculosis control programmes should only be initiated *after* the emergency period

active and passive case-finding

standardised diagnostic/laboratory criteria

closely monitored drug regimen

5.1 Tuberculosis case-finding and treatment

The objectives of an effective Tuberculosis control programme are to:

- interrupt transmission
- treat infected cases

This requires a level of organization that is usually impractical during an emergency. However, as conditions stabilise, Tuberculosis case-finding and treatment become community health priorities. They should be implemented whenever possible.

This requires:
- clear diagnostic criteria
- active and passive case-finding
- adequate laboratory facilities/trained personnel
- daily supervision of drug compliance
- standardised record-keeping
- appropriate drug regimen

a) Diagnostic criteria

Confirmation of diagnosis is based on positive sputum microscopy only. Radiological examination is unnecessary.

b) Active and passive case-finding

i) Home-visitors should be trained to actively identify and and refer possible tuberculosis cases (individuals with a *cough of more than 3 weeks' duration)*

ii) Strengthen *passive case-finding* by investigating all patients with chronic cough more than 3 weeks

iii) Evaluate all children admitted to therapeutic feeding for possible tuberculosis and children in supplementary feeding with chronic cough or slow or no weight gain

c) Treatment regimens

In most instances, tuberculosis patients can be managed through ambulatory programmes. Only problem cases require hospitalization.

Short-term therapy [options *i), ii) and iii)* below] is the preferred method of treatment. It has been found to have higher compliance, and fewer defaulters.

ADULT DOSAGE

	Initial Phase (give daily for 2 months)	*Continuation Phase*	
i)	rifampicin 600mg isoniazid 300mg ethambutol 15-25mg/kg body wt	rifampicin 600mg isoniazid 300mg	] 7 months
	OR		
ii)	rifampicin(600mg)+isoniazid(300mg) + pyrazinamide 1.6gm OR + streptomycin (1 gm)	rifampicin 600mg isoniazid 300mg	] 6-7 months
	OR		
iii)	rifampicin(600mg)+isoniazid(300mg) + pyrazinamide 1.6gm	isoniazid 300mg + thiacetazone 150mg	] 6-7]months
iv)	Long course regimen - *not recommended*		
	streptomycin 1 gm isoniazid 300mg + thiacetazone 150mg	isoniazid 300mg + thiacetazone 150mg	] 10]months

PAEDIATRIC DOSAGE

Duration of treatment remains the same as those given in the protocols above (in both initial and continuation phases)

Dosage is calculated according to body weight as follows:

i)	rifampicin	10mg/kg
ii)	isoniazid	5-10mg/kg
iii)	ethambutol	15-25 mg/kg
	(not advised in children < 12 years)	
iv)	pyrazinamide	20mg/kg
v)	streptomycin	15mg/kg
vi)	thiacetazone	75 mg (1 tablet)

rifampicin syrup: 5ml = 100mg

5.2 Importance of supervision

It is essential that *daily compliance* is monitored and *recorded* by trained home visitors or community health workers. Every effort should be made to follow-up treatment defaulters - as it is important that patients receive their medication *every day*.

Examples of simple cards for monitoring patient compliance and other useful forms for tuberculosis programme management can be obtained from *El Shaab Teaching Hospital*, Khartoum.

III.6

NUTRITION PROGRAMMES

- Significance — high malnutrition rates are common in populations that have been without food for some time

- Priorities — assess access to normal food supply baseline survey ->ongoing nutrition assessment.
appropriate selective feeding
appropriate foods/nutrition education good programme management/monitoring

6.1 Deciding when to set up selective feeding

Selective feeding is viewed as a *temporary emergency* measure for populations with inadequate food to meet their basic survival needs

It is never viewed as a *substitute* for an adequate daily ration - or access to a nutritionally adequate diet

At all times, the leading priority is to restore food security through an adequate general ration or self-help activities such as agricultural development.

* *

Selective feeding for a community is recommended when:

- the malnutrition rate of under-fives is 15% or more - as determined by a random weight-for-height nutrition survey

- or if daily caloric intake is less than 1,800 kcals per person

* *

6.2 Nutrition assessment

In displaced populations/relief situations, *ongoing nutrition assessment* of under-fives is the most useful indicator of a community's nutritional status.

Use	*To indicate*
■ *nutrition surveys*	- *prevalence of malnutrition in the community as a whole*
■ *rapid nutrition screening*	- *identify malnourished children for selective feeding*
■ *growth monitoring*	- *ongoing nutritional assessment to detect nutritional problems early*

* *

Weight-for-height is the best indicator of acute malnutrition

* *

- *findings from all nutrition surveys conducted in relief programmes should be reported to district/provincial and regional health officers, and appropriate health representatives of the RRC and COR.*

- *all survey reports should include a careful description of methods used, clearly labelled tables and graphs, discussion of findings and recommendations for action*

Deciding on the type of selective feeding programme

Selective feeding may be:

- supplementary:
  - targeted to at-risk groups such as pregnant or lactating women, moderately malnourished under-fives
  - may be *on-site* or *take-home* feeding
  - the number of on-site supplementary feeding beneficiaries per centre *should not exceed 250*

- therapeutic:
  - for rehabilitating severely malnourished individuals
  - the number of on-site therapeutic feeding beneficiaries per centre *should not exceed 25*

Factors to consider

a) *Target population size /dispersion* See below for steps in calculating the size / scope of selective feeding for under-fives (important for estimating the logistics involved in a feeding operation).

b) Assess whether families have cooking utensils / access to fuel for home food preparation (to decide if take-home feeding is more feasible than on-site supplementary feeding)

c) Assess resources immediately available in the area (skilled personnel, equipment, local foods) to decide what is the most effective approach.

How to estimate the under-five target group for supplementary feeding?

	Steps	*An example*
1.	Estimate total camp/community population	camp of 10,000 people
2	Estimate the number of under-fives (usually 15-20% of total population)	10,000 x 0 2 = 2,000
3.	Do a random nutrition survey	total sampled = 300 children
4.	Record the number of children <80% W/H	= 54

5.	Calculate the *percentage* of children surveyed who are < 80% wt/ht	54 x 100 = 18% 300
6.	Calculate confidence limits for the survey results (see Annex 1.1.5)	plus or minus 5% = 18% + 5% = 23% = 18% - 5% = 13%
7.	Multiply upper confidence limit by by estimated population of under 5's	23% x 2,000 = 0.23 x 2,000
	Estimated size of target population	= 460

On-site supplementary feeding may be less difficult logistically in the early stages of a relief effort, but should be replaced as quickly as possible by a take-home programme with:

- active nutrition surveillance/growth monitoring
- nutrition and health education
- use of locally available foods that can be prepared at home

6.4 Appropriate foods

- locally available and familiar foods should be used if possible

Emphasis is on teaching mothers how to use familiar foods - rather than establishing dependence on expensive imported food items

Examples of recipes

Recipe - possible uses	*Ingredients*	*Gms*	*Kcals*
■ *Local premix:*	*sorghum*	*100*	*330*
- *suitable for high energy porridge*	*pulses*	*3*	*100-120*
	sugar	*20*	*80*
	oil	*30*	*270*
	DSM	*20*	*100*
Total kcals			*880-900*
■ *Local premix without sugar and DSM*	*sorghum*	*120*	*400*
	pulses	*60*	*200-240*
- *possible weaning food add meat & vegetables*	*oil*	*30*	*270*
Total kcals			*870-910*
■ *High Energy Drink (1cc = 1 kcal)*	*DSM*	*150*	*540*
	oil	*50*	*450*
- *suitable for rapid on-site feeding*	*sugar*	*75*	*300*
- *useful because seen as a "drink" - not confused with a substitute "meal"*	*water*	*1,000ml*	
Total kcals in one litre			*1 290*
300ml ration gives 370 kcals: 250ml ration gives 310 kcals)			

■ *UNIMIX*	*Wheat Flour*	*50*	*190*
- *use only* in emergencies when other foods are completely unavailable	DSM	30	120
	sugar	20	80
Totalkcals			390

- high energy / high protein biscuits or UNIMIX *should only be used* in emergency conditions when no appropriate local foods are available.

- dried skimmed milk is an excellent source of protein. However, it *should never be distributed in liquid or powdered form* in a take-home programme, except when combined in a premix.

  (it is doubtful that DSM can be prepared safely in overcrowded and unhygienic conditions and if improperly mixed may increase the risk diarrhoea)

6 5 Health and nutrition education

Active nutrition and health education should be part of all selective feeding programmes. It should *always be closely coordinated with other health* activities - so that the same messages are conveyed throughout the community.

Important nutrition education topics include:

- appropriate weaning foods
- management of diarrhoea/ORS
- importance of breast feeding
- household hygiene/sanitation
- importance of immunizations
- nutrition in pregnancy/lactation
- importance of the Road-to-Health card
- safe water storage/use

6.6 Good programme management/monitoring

a) clear definition of target groups/admission criteria

i) supplementary feeding

- children below 5 years less than 80 % wt/ht NCHS/CDC/WHO ref. value
- pregnant women on confirmation of pregnancy - delivery
- lactating women up to one year after delivery
- children 5-14 years < 75% wt/ht
- other medically/socially at-risk groups i.e tuberculosis patients

ii) therapeutic feeding

- children below 5 years less than 70% wt/ht
- children with oedema

The range of groups targeted should reflect the level of nutritional need in a population and the selective feeding resources available. In many situations, limited resources must be targeted to the most vulnerable.

b) clear definition of discharge criteria

i) supplementary feeding. attainment of 85% wt, ht for at least two consecutive monthly weighings (children < 5)

ii) therapeutic feeding: attainment of 75% wt/ht for at least two consecutive weekly reweighings (children < 5)

all children discharged from therapeutic feeding should be admitted to supplementary feeding

c) caloric content of supplement clearly specified

i) supplementary feeding

- on-site: 350 - 500 kilocalories per day in a high energy, low bulk form

- take-home: 500 - 1,000 kilocalories per day, usually distributed weekly

ii) therapeutic feeding

- 150 - 200 kilocalories, and 3-4 gms protein /kg body weight in 4 - 8 feeds per day

d) medical evaluation

all children admittted to supplementary or therapeutic feeding should be:

- referred for further health evaluation at MCH
- given Vitamin A
- referred for immunization, with *special attention to measles*

e) monitoring and evaluation

i)	monitor outreach	- what percentage of the target population is registered in selective feeding?
ii)	monitor attendance	- what is the average daily (weekly) attendance of those registered during the month? (should be at least 80%)
iii)	monitor weight change	- in therapeutic feeding, children should gain 8-10gm/kg daily. Most children should reach their target wt/ht in 6 weeks
iv)	monitor mortality	- death occurs in 10-20% children admitted to therapeutic feeding in the first few weeks of an emergency. Mortality rates > 20% *must be investigated*
v)	monitor community nutritional status	- carry out random surveys 3 monthly in emergency - post-emergency, conduct nutrition surveys 6 monthly - annually

Always consider seasonal factors when interpreting nutrition survey results (ie impact of rainy season, respiratory infections, malaria). Take great care when comparing survey results for different seasons.

Monthly, quarterly and annual monitoring reports should completed and carefully reviewed. Quarterly and annual reports should be forwarded to district,provincial and regional Ministry of Health officers and, in refugee populations to appropriate health and nutrition officers in COR. (see Annex 1.2 for standardized monthly and quarterly selective feeding monitoring forms)

III.7

COMMUNITY HEALTH CARE

■ Significance	- effective outreach and referral essential for early case-finding in emergency period
-	home visiting important for improving health self-reliance
■ Priorities	- population coverage
-	strong links between nutrition, MCH, immunization, outreach programmes and health centers/clinics

All plans for health clinics or outreach services must be:

- first discussed with appropriate Ministry of Health officials at district, provincial, and regional levels
- then approved by the Director General, Regional Health Services
- discussed with MOH representative to the RRC (in instances of relief to internally displaced)
- discussed with and approved by COR and UNHCR (in refugee populations)

7.1 Adequate coverage

From the start of assistance, adequate coverage by health programmes requires:

- active community outreach by home visitors
- accessible clinics which provide MCH/nutrition/basic curative care

a) Community outreach

1) In emergency displacements, 1 home visitor per 500-1,000 population is recommended. In stable displaced communities, this ratio can be modified to 1:1,500 people.

2) Home visitors should be responsible for a specified geographic area, and for visiting all households systematically.

Their responsibilities should include:

	for example
■ case-finding	- malnourished & dehydrated children
■ referral	- for immunization, MCH,selective feeding
■ home follow-up	- T.B. patients, non-attenders at SFP
■ basic surveillance	- reporting births, deaths
■ health teaching	- ORT, home preparation of premix - clean storage of water
■ community education and motivation	- sanitation, immunization

In the early stages of a displacement, young, literate home visitors can be quickly trained to meet emergency coverage needs. In more stable communities, home visiting may be better carried out by older and more culturally acceptable individuals such as traditional birth attendants.

b) Decentralised health services

It is recommended that all centre-based activities such as MCH, nutrition, and curative care are located together in one area. The specific organization of health clinics should be appropriate for local conditions.but one possible arrangement is:

* *

for a displaced population of 30,000 people

* *

one health centre-referral centre for the population

two decentralised clinics with basic curative care, MCH & nutrition programmes (one per 15,000 people)

supported by 20 - 30 home visitors
(each covering 1,000-1,500 people)

* *

c) Mother and child health care

Women and children usually comprise the greatest proportion of a displaced population and are particularly vulnerable.

The following MCH activities should be carried out through active community outreach and attendance at MCH clinics

i) *Community outreach*

Home visitors are responsible for:

- actively identifying and referring pregnant women and children under-fives for MCH supervision
- giving health education on the preparation of ORS, recognition of common health problems, importance of immunisation,promoting breast-feeding, etc
- encouraging attendance at MCH clinics for both mothers and children and following-up non-attenders

ii) *In clinics/health centres*, the following activities should be carried out:

- administration of anti-malarial tablets to pregnant women in high-risk areas
- cooperation with EPI for immunization coverage of pregnant women and under-fives

- monitoring the health of women during pregnancy, delivery, the post-natal period and lactation, and referring those identified with health problems
- establishing close cooperative relations with traditional birth attendants
- carrying out regular growth monitoring for under-fives (monthly or bi-monthly)
- providing basic health and nutrition education

The importance of regular growth monitoring cannot be overstated in a nutritionally vulnerable population.

- It allows nutritionally at-risk children to be promptly identified, and *if* there is good *growth monitoring coverage of under-fives,* it is a useful ongoing indicator of community nutritional status.

7.2 In-patient care

In-patient care for displaced groups is best provided by transfer to local hospitals, rather than the separate establishment of sophisticated facilities in camps and reception centres.

Clear and unambiguous procedures must be established early for the transfer of patients for in-patient and out-patient care in district, provincial and regional hospitals.

7.3 Monitoring and evaluation

Standard Ministry of Health primary health care reporting forms should be completed and submitted monthly.

Careful note should be made of:

- the monthly coverage of pregnant women and under-five children argeted in MCH
- attendance patterns, new and follow-up visits
- disease trends, i.e seasonal patterns in communicable diseases
- growth monitoring, ie at least 80% of the child population targeted should be weighed each month

III.8

TRAINING

- Significance
  - training is essential for increasing the health self-reliance of a displaced group
  - when different organizations are involved in health relief, there can be many approaches to health workers training
  - this can result in varying skill levels, and may create confusing categories of health workers

- health relief programmes provide useful opportunities for strengthening the management skills of trained health workers

■ Priorities

- clarify training objectives
- be familiar with existing training curricula and certification procedures for different health workers
- consult with Regional Ministry of Health and training institutions for possible ways to
- standardize training approaches

8.1 Clarify training objectives

a) Emergency response

In an emergency displacement, the first training priorities focus on rapid detection of vulnerable individuals and protection of public health. This requires simple task-oriented training for for the fastest possible action, i.e

- health screening
- Vitamin A prophylaxis
- case-finding during outbreaks
- preparation of ORT

b) Post-emergency training needs

As conditions stabilise, training objectives move towards strengthening the self-reliant capabilities of the displaced population, and local health manpower skills

It is important to.

- develop training approaches that are consistent with curricula for existing health workers in Sudan
- clarify procedures for certifying different categories of health workers trained by non-governmental agencies
- employ already trained and certified health workers (ie medical assistants, nurses, midwives) in key supervisory roles.

8.2 Possible strategies for different situations

a)
- Relief effort with limited needs for health workers
- Training institutions nearby

- gradually send health workers for training and certification

b)
- Relief efforts involving many agencies and different types of health workers

- NGO's, the regional MOH and training institutions should consult together to standardise:
- job descriptions
- training curricula
- certification procedures
- interim standards of practice

8.3 Recommended procedures for standardising categories of health workers

a) Refugee populations

i) Where different categories of health workers have already developed in refugee population, a survey of their skills should be carried out by an experienced health teaching institution.

ii) Based on survey findings, an acceptable plan for future training should be agreed upon by the regional director of health services, COR and UNHCR.

iii) This plan of action should develop procedures for accommodating refugee health manpower within *existing categories of health workers in Sudan.*

iv) To strengthen and standardize the curative training of refugee health workers, strong consideration should be given to the secondment of MOH hospital personnel to agencies involved in refugee health.

b) General training guidelines

i) In health relief involving several NGO's, one or two should be clearly assigned responsibility to *coordinate with the MOH and existing health worker training institutions* in developing standardised curricula and training strategies.

ii) NGO's involved in health worker training should make use of *existing training facilities* (i.e midwifery schools)

III.9

ESSENTIAL DRUGS

■ Significance	- in relief efforts, medicines of varying quality may be donated. - foreign relief workers may be accustomed to prescribing a wide range of drugs.
■ Priorities	- National List of Essential Drugs - strict procedures for importing medicines - prescribing guidelines for different categories of health workers.

9.1 Essential Drugs List

Sudan has a national list of essential drugs which have been categorised according to the prescribing skills of different types of health worker.

All health workers assisting displaced groups should use only those drugs approved in the essential drugs list, and should comply with the prescribing limits specified for each level of skill.

These categories are identified as:

AA drugs permitted for use by qualified primary health care workers
A most sophisticated level of drugs permitted for use by qualified medical assistants
B drugs permitted for use in clinics supervised by a qualified medical practitioner
C drugs which may be used at the district hospital level

The drugs listed below have been approved for use by qualified primary health care workers.

Name of drug	Route of administration, dosage forms and strengths
acetylsalicylic acid	tablet 300 mg
aluminium hydroxide	tablet 500 mg
ascorbic acid	tablet 50 mg
benzyl benzoate	lotion 25%
chloroquine	tablet 150 mg base, syrup 50 mg/5 ml
ferrous salt and folic acid	tablet 60 mg + 0.02 mg
gentian violet	paint 1%
iodine tincture	solution 2.5%
mebendazole	tablet 100mg
oral rehydration salts	dry mixture in sachet for 1 litre
oxytetracycline	ointment 2%
paracetamol	tablet 500 mg
senna	tablet 7.5 mg
sulfadimidine	tablet 500 mg
tetracycline	eye ointment 1%

Somewhat more elaborate lists have been prepared for use by more highly skilled personnel. A complete list of the essential drugs approved for use in Sudan can be obtained from the *Pharmacy Department, Ministry of Health*

9.2 Emergency response and import regulations

All medicines which enter Sudan must be approved by the Central Ministry of Health before they can be released for distribution and use (refer Annex 2.2 for drug importation procedures for NGO's).

All relief agencies distributing medicines in Sudan should provide six monthly and annual monitoring reports to the emergency office of the Central MOH.

Such reports should include.

- a description of drugs distributed
- populations targeted
- quantities involved
- agencies/MOH facilities responsible for distribution

It is recommended that the W.H.O Emergency Health Kit is used when drugs and other supplies needed in emergencies cannot be provided locally or transported quickly to the site.

Prescribing protocols

Standardised treatment protocols for common diseases must be established for all health workers.

Furthermore, measures must be introduced for active supervision of prescribing practices, such as:

- comparing monthly drug consumption with clinic records of cases treated during the same period - to identify discrepancies in prescribing
- regular clinical supervision of medical assistants, nurses and primary health care workers

III.10

HEALTH SURVEILLANCE, SURVEYS AND PROGRAMME MONITORING

■ Significance	- surveillance is essential for identifying health priorities in emergency period
	- surveillance and systematic programme monitoring are important for indicating ongoing usefulness of health measures
■ Priorities	- emergency period: mortality surveillance and baseline nutrition surveys
	- post-emergency: population-based and programme-monitoring information

10.1 Importance of surveillance and surveys

Health surveillance	Health and nutrition surveys
is usually based on reports from health centres, dressing stations and other programmes	- describe the distribution of a disease/condition in some *randomly selected group*
does not reflect the distribution of disease in a specific population	- indicate *prevalence* rates of health problems in a specific population

a) Emergency surveillance measures

In the emergency phase, there must be active surveillance of:

- mortality calculated in rates of 10,000/day for:
  - under fives
  - children under one year
  - total population (see Annex 3.1 for suggested format)
- key communicable diseases
  - diarrhoea
  - measles
  - malaria
  - respiratory disease

- nutrition

  - prevalence of malnutrition in under-fives (random nutrition survey)
  - prevalence of other nutritional deficiencies

This information is helpful for pointing out *major health problems.* However, this alone *is not adequate* for effective targeting of emergency relief.

From the start of assistance, there must be active monitoring of the relief programmes themselves - to determine if:

- there are gaps in coverage/attendance
- they are achieving their objectives

10.2 Programme monitoring priorities

a) For many relief programmes, it is important to monitor:

Coverage	*is best measured by:*
- the extent to which targeted individuals/households are actually *covered by/registered* in a programme	- calculating the percentage of targeted individuals/households who [in principle] have access to the programme over a specific time
Attendance	
- the extent to which individuals/ households registered actually *receive* services	- calculating the percentage of *registered individuals/households* who actually *receive* services over a specific time period
Focused targeting	
- extent to which the individuals/ households initially targeted actually receive services	- calculating the *percentage* of the *population initially targeted* who actually receive services over a period of time

An example

In Section III.6.2, steps were given for calculating the target population for selective feeding of under-fives.

Based on nutrition survey findings, the target population was estimated to be 460 children:

Selective feeding statistics for the past month showed that:

- 320 children had been *registered* in the programme
- average daily attendance was 265

Coverage

- number registered = 320
- target population = 460
- coverage = $\frac{320 \times 100}{460}$ = 70%

Attendance

- average daily attendance = 265
- number registered = 320
- attendance $\frac{265 \times 100}{320}$ = 83%

Focused targeting

- average daily attendance = 265
- target population = 460
- focused targeting $\frac{265 \times 100}{460}$ = 58%

Conclusions: only 58% of the target group actually participated in selective feeding last month, due to unacceptably low coverage.

Action: investigate reasons for poor coverage (poor case-finding /referral) and marginal attendance (? poor programme acceptability and follow-up of non-attenders)

This approach can also be applied to other health activities which specify coverage and focused targeting for a particular group, for instance:

- percentage of home births attended by trained birth attendants
- percentage of mothers with children under 12 months who have received nutrition education on weaning food preparation
- percentage of housholds visited at least once.by home-visitors per month
- percentage of targeted under-fives children and pregnant women registered in MCH - and monthly average attendance

b) Achieving programme objectives

The effectiveness of health programmes can also be measured, using simple indicators, such as:

- the percentage of children attending supplementary feeding who gain, lose or maintain weight, each month
- the percentage of children targeted who have received measles immunization

10.3 Combining surveillance and monitoring

a) Health information on mortality, nutritional status and simple morbidity should be compiled monthly for a specific camp or target community, and reviewed carefully.

b) Mortality information should be calculated in *rates* to show trends over time - specifically the impact of seasonal changes, other environmental conditions

The rates in Annex 3.2 are useful indicators of overall health.

c) Programme monitoring information should also be compiled monthly, and then related to monthly surveillance findings.

This often indicates areas that need strengthening, for instance:

- if under-fives mortality due to diarrhoea increased last month, ask:
  - what percentage of households were visited at least once by a home visitor? (to check case-finding through outreach)
  - what percentage of targeted under-fives attended MCH? (to check case-finding and referral through clinic activities)
  - how many under-fives were treated in dispenseries/health centres for diarrhoea? (check on community awareness to seek treatment and/or diagnostic/health education skills of medical assistants/other clinic staff)

10.4 Surveys

Health surveillance information is generally collected from existing health programmes. Therefore, it does *not represent the distribution of disease in a population...*

... only those cases who seek care / are referred for treatment

Randomised health surveys are useful for indicating the extent of a health problem in the population as a whole

a) Key considerations include:

1) Assure randomness
   - ensure all individuals in the survey population have an equal chance of being selected.
   - use random sampling techniques: (refer Annex 1.1.5)
     - direct or stratified random samples
     - cluster sampling

2) Calculate rates, percentages and confidence intervals so that find-findings can be compared

3) Relate survey findings to surveillance information (especially important when interpreting data on nutritional status in emergency phase)

For instance, when comparing malnutrition data from two surveys on the same population - but at different times, note:

if the levels of child malnutrition stay the same - and - there is high child mortality	if malnutrition drops significantly - and - there is low child mortality

then it is likely that

more children have become malnourished, replacing those who have died	here has been a real improvement in nutritional status

4) Observe proper procedures when carrying out surveys / reporting findings

- All population-based health and nutrtion surveys should be discussed with and approved by regional directors of health services,

and, in refugee populations, by COR and UNHCR

- Survey results should promptly be shared with appropriate representatives of the Ministry of Health, COR, RRC and UNHCR, and should include:

* *

- a brief statement addressing the need for the survey
- a clear statement of objectives
- a detailed description of methods used
  - sample selection
  - definition of terms
  - data collection methods
  - data analysis
- clearly presented statistics in labelled tables and graphs
- a discussion of results
- recommendations for action