# GUIDELINES FOR DISASTER MANAGEMENT

## A COMPILATION OF EXPERT GUIDELINES ON PROVIDING HEALTH CARE

*Compiled by Core Group for Disaster Management*
*Faculty of Medicine, University of Colombo*

# Guidelines on Disaster Management

## A compilation of expert guidelines on providing healthcare

This is a compilation of guidelines and circulars released by the following sources:

Faculty of Medicine, University of Colombo
Ministry of Healthcare, Nutrition and Uva Wellassa Development
Family Health Bureau
Health Education Bureau
Epidemiological Unit
Sri Lanka College of Paediatricians
Sri Lanka College of Microbiologists
Ceylon College of Physicians
Sri Lanka Medical Association
World Health Organization

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# Introduction

Following the Tsunami disaster in December 2004, the prompt response of health sector in providing assistance to victims was highly commendable. Medical teams, both local and international, provided a valuable service in the affected areas, including places where there is no direct access through land. Health care is provided by a wide variety of resources, national and international, state and non-governmental. However, there may be considerable variations in the services provided by such a diverse group. Guidelines have been prepared by experts in relevant fields to help health care workers deliver relevant, good quality health care services.

The objective of this publication is to produce a single package of guidelines provided by health care experts. We attempted to incorporate as many of the existing guidelines issued by health authorities available, in order to ensure uniformity of information provided and to avoid duplication. Most of the guidelines address the recent Tsunami disaster. However, it is essential to expect and be prepared for future disasters. Therefore an attempt was taken to include commonly applicable general principals on disaster management.

This publication is primarily aimed at providing guidelines for doctors and health care policy planners. However, other groups of healthcare workers will also find the information useful.

Core Group for Disaster Management
Faculty of Medicine, University of Colombo

A disaster causes massive human suffering or creates needs that cannot be alleviated without assistance.

## What is a disaster?

*"A disaster is an occurrence such as hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, earthquake, drought, blizzard, pestilence, famine, fire, explosion, volcanic eruption, building collapse, transportation wreck, or other situation that causes human suffering or creates human needs that the victims cannot alleviate without assistance".*

**(The American Red Cross)**

## An overview of disaster assessment

Assessment is the process of determining:

- the impact which a hazard has had on a society
- the needs and priorities for immediate emergency measures to save and sustain the lives of survivors
- the resources available
- the possibilities for facilitating and expediting longer-term recovery and development

The needs and priorities following a disaster must be assessed before it can be managed.

Assessment is a crucial management task which contributes directly to effective decision-making, planning and control of the organised response. Assessment of needs and resources is required in all types of disasters, whatever the cause and whatever the speed of onset. Assessment will be needed during all the identifiable phases of a disaster, from the start of emergency life-saving, through the period of stabilization and rehabilitation and into the long-term recovery, reconstruction and return to normalcy.

***Phases in the management of disasters***

- Warning phase
- Emergency phase
- Rehabilitation phase
- Recovery phase

There are three general priorities that need to be identified for early assessments:

- location of problems
- magnitude of problems
- immediate priorities

When focusing on these priorities, it is important to have a systematic approach. Assessments should be programmed to ensure that all sectors and all likely affected areas are covered.

**Accurate and credible information telling decision-makers what is not needed can help to reduce the overall complexity of the logistical response, by excluding at least some useless materials from the impact area.**

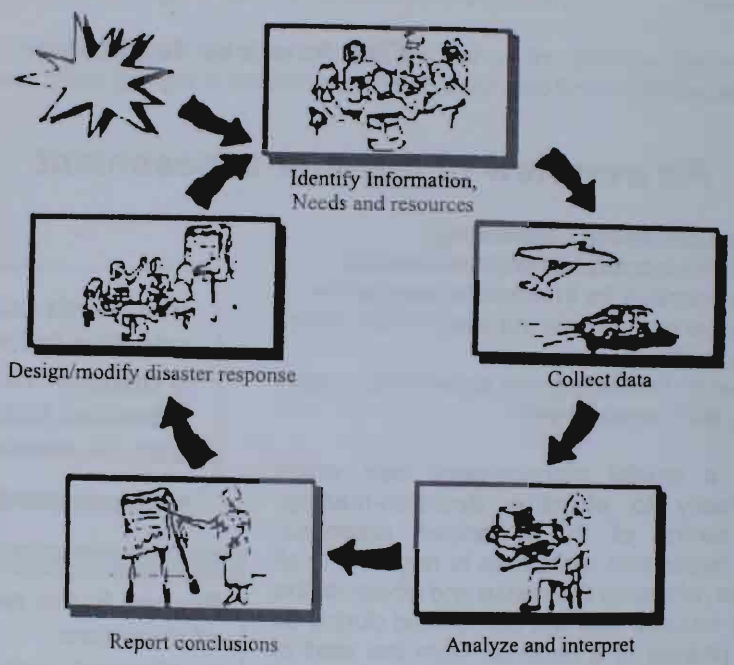
***Some sectors that should be assessed***

- Emergency medical and health
- Search and rescue
- Damages to lifelines and critical facilities
- Shelter and housing needs
- Personal and household needs
- Economic needs

Coordination is complicated by the need to ensure that the relationships among these sectors are identified. Activities in one sector (health for example) will be affected substantially by damage in another (to water supply, electric power or communications). Scheduling of assessment resources is helped by having pre-existing "baseline" information on the affected region.

The assessment process needs to be continuous and ongoing.

**THE ASSESSMENT PROCESS**




(Source: DMTP (1991) An overview of Disaster Assessment, Disaster Assessment- Disaster Management Training Programme)

**A typical course of a disaster**

- Temporary shock– population reaction
- Traffic and communications jams
- Difficulty in obtaining a full picture and making decisions
- Uninvited people streaming to the scene, curious onlookers, media, VIPs.
- The team gets organized.
- Increased alertness, fatigue, burn-out, breakdown.

(Source: Shamona (2005)

## Rapid assessment of the situation

A rapid assessment of the health situation at provincial level by the Provincial Director of Health Services (PDHS), at district level by the Deputy Provincial Director of Health Services (DPDHS) and at Medical Officer of Health (MOH) level by the Divisional Director of Health Services (DDHS)/MOH should be conducted.

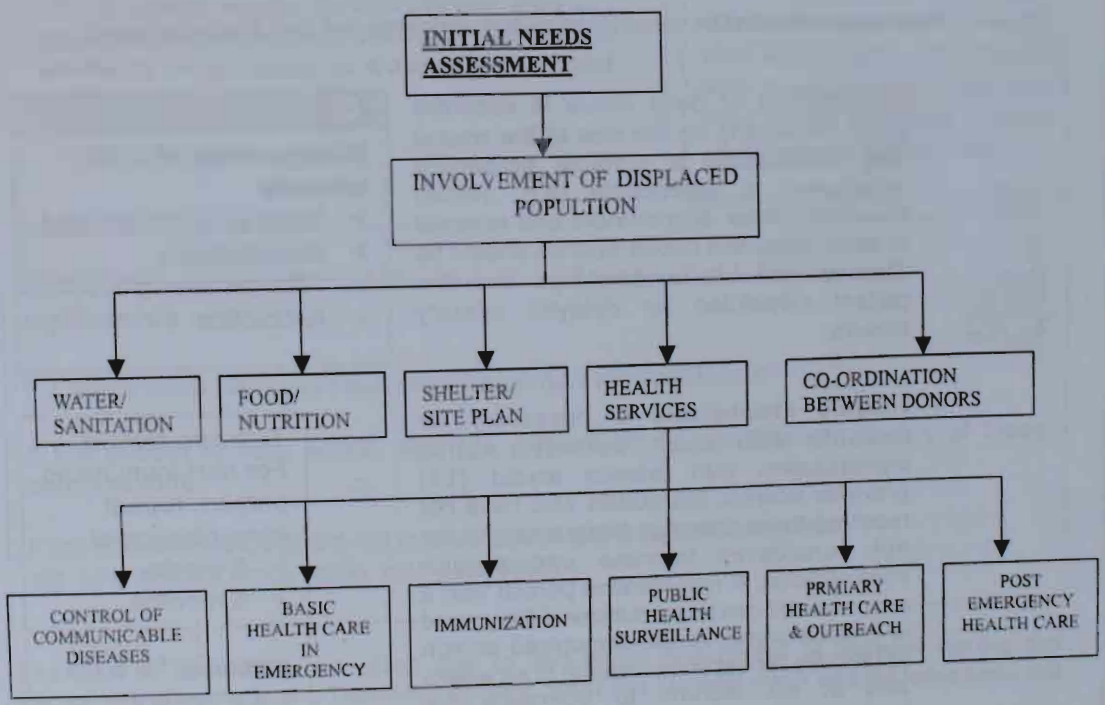
Each Public Health Inspector (PHI) should collect the above information according to the format provided, and submit immediately to the respective DDHS/MOH. DDHS / MOH should consolidate information received from the PHI of the affected areas and submit to the DPDHS with a copy to the epidemiologist.

Each DPDHS or Regional Epidemiologist should consolidate the data for the whole district and submit a copy to the Epidemiologist.

***What to assess by PDHS***

- The total population affected
- No. of displaced
- No. of deaths
- No. of houses damaged
- No of temporary camps and their location
- No. of persons hospitalized

The initial assessment should be followed up with more detailed assessment during the rehabilitation and the recovery phase, as shown in the following flow diagram.




**Priorities for public health during the rehabilitation phase (adapted from Dualeh & Shears (2002) and Haniffa (2005).**

**Injuries are among the commonest health problems immediately after a natural disaster.**

# Management of injuries

Injuries and drowning have accounted for the vast majority of mortality experienced so far in countries affected by the tsunami. Falling structures, and waters full of swirling debris will have inflicted crush injuries, fractures, and a variety of open and closed wounds. Appropriate medical and surgical treatment of these injuries is vital to improving survival, minimising future functional impairment and disability and ensuring as full a return as possible to community life.

## Care of survivors

Care of injured survivors will depend on severity of injury and the extent to which appropriate medical and surgical resources are available. Some of the more important considerations for managing injured survivors include:

- **Triage** - patients should be categorised by severity of their injuries and treatment prioritized in terms of available resources and chances for survival. The underlying principle of triage is allocation of resources in a manner ensuring the greatest health benefit for the greatest number.

- **Open wounds** must be considered as contaminated and should not be closed.

  - **Debridement** of dead tissue is essential which depending on the size of the wound may necessitate a surgical procedure undertaken in appropriate (e.g. sterile) conditions. After debridement and removal of dead tissue and debris wounds should be dressed with sterile dressings and the patient scheduled for delayed primary closure.

***Management of open wounds***
- Treat as contaminated
- Debridement
- Tetanus toxoid
- Antibiotics

  - **Tetanus Prophylaxis** is necessary for patients with open wounds. Active immunization with tetanus toxoid (TT) prevents tetanus. Individuals who have not received three doses of tetanus toxoid are not considered immune and require immunization. A non-immune person with a minor wound can be immunized if the wound is tetanus prone. A non-immunized person will require repeat immunization at six weeks and at six months to complete the immunization series. For partially immunised persons the regime can be continued from the last date of immunization.

***Tetanus toxoid***
For non-immunized person, repeat immunization at
- 6 weeks
- 6 months

↓

Immunity for 5 yrs

- **Severe injuries** - Many injuries will be severe enough to lead to long term functional impairment and disability if not managed correctly. Examples include spinal cord injuries, fractures that develop complications such as infection or alignment problems and crush injuries of extremities requiring amputation. Such injuries must be recognized and referred to specialty or tertiary hospitals that can manage such cases and are appropriately equipped with mobility aids, assistive devices and physiotherapy support.

**(Source:** WHO (2005) WHO guidelines on management of injuries)

## Management of wound infections

- **Wounds contaminated with sea water**
  Organisms that can be encountered in the sea water and soil include vibrios and saprophytic gram negative bacilli that usually produce beta lactamases. In a disaster situation with the presence of many decomposing bodies anaerobic contamination is also highly likely.

☆ ***Thorough wound toilet is the mainstay in management of wound infection. Do not use antibiotic prophylaxis for wounds that are not infected.***

Infections are more common and severe in patients who are diabetic, alcoholic or who have cirrhosis. Therefore treat wound infections in these persons more aggressively.

***Antibiotic treatment for inpatients with serious wound infection and septicaemia***

I.V. amoxycillin clavulanic acid or cefuroxime + metronidazole

If the patient is very septic; add I.V. gentamicin or ciprofloxacin to any of these combinations.

If the above antibiotics are not available; use any available antibiotic
eg. ampicillin or amoxycillin with gentamicin.

**The risk of secondary infection due to sea water organisms is highest during the immediate aftermath of a Tsunami disaster. After the second week wound infections are more likely to respond to the routine antibiotics.**

Source: Ceylon College of Physicians and Sri Lanka College of Microbiologists (2004) Guidelines for antibiotic use for Tsunami victims in Sri Lanka, Sri Lanka College of Microbiologists

## Management of near-drowning

Drowning is defined as suffocation by submersion.
90% of victims aspirate liquid.

Near drowning is serious problem immediately after a tsunami disaster.

- All victims are hypoxaemic and hypothermic.
- Majority have metabolic acidosis.
- Some have fluid and electrolyte abnormalities; cerebral oedema and renal dysfunction.

**Immediate care**

- Clear airway
- Provide breathing-mouth to mouth ventilation
- External cardiac massage
- Prevent heat loss by wrapping victim in blankets or warm clothing.

If possible-intubate and ventilate the comatose; establish IV access

**Hospital care**

Examine fully; look for other injuries.

☆All patients should be admitted to hospital for observation.

***Management of near-drowning***

**A irway** – clear

**B reathing –**

- mouth-to-mouth ventilation
- IPPV via mask
- Intubate and ventilate
- $O_2$ inhalation
- Bronchodilators if required
- Antibiotics i.v.

**C irculation**

- i.v. fluids – replace volume
- inotropes
- correct acidosis and $\downarrow pO_2$

**T emperature**

- Re-warm

***Monitor in near-drowning***

- ✓ respiration and rate
- ✓ $O_2$ saturation
- ✓ temperature
- ✓ pulse/BP
- ✓ ECG
- ✓ serum electrolytes
- ✓ WBC/DC, bacteriological investigations
- ✓ renal function (s. creatinine)

## Management of complications

**Aspiration pneumonia-**Infections that can be expected in Tsunami victims include aspiration pneumonia that occurs as a result of inhalation of sea water. The organisms that can be expected are the normal oropharyngeal flora (aerobic gram positive cocci and oral anaerobes) and sea organisms.

Patients with clinical features suggestive of pneumonia should ideally be transferred for specialist care. Until such transfer, it is best to start oral antibiotics.

***Antibiotic treatment of aspiration pneumonia***

1st choice- coamoxiclav (amoxycillin/ clavulanic. acid) + metronidazole; (or cefuroxime or ampicillin sulbactam + metronidazole)

2nd choice- amoxycillin + metronidazole
If available add genta micin for the first 72 hours. Dose 5 mg per kg i.v. once daily or 2.5mg per kg i.v. bd.

In-patients can be given these same antibiotics parenterally (ampicillin for amoxycllin) and should routinely receive gentamicin for the first 72 hours.

**(Source: Ceylon College of Physicians and Sri Lanka College of Microbiologists (2004) Guidelines for antibiotic use for Tsunami victims in Sri Lanka, Sri Lanka College of Microbiologists)**

# A health management plan for a camp for the displaced

## General guidelines

**Camps for the displaced must be organised optimally so that there is equity in distribution of resources and disease and disability are minimised.**

- Enlist support of the local administrative officers (Grama Seveka, Divisional secretary) and community leaders
- Maintenance of a registry of the camp, with an identification number given to each person, facilitates administration as well are proper distribution of relief aid and health care
- Lay out of the camp need to be well planned: Allocate separate areas for specific purposes, e.g.
  - Sleeping area
  - Cooking area
  - Dining area
  - Storing area (water, food, clothes, consumables)
  - Latrines and sewage disposal area (suitable site with appropriate soil should be identified)
- As far as possible, accommodate the persons living in the camp as family units.
- Ideally the camp site should be above the flood level and there should be adequate surface water drainage
- Train group leaders in the camp/ community
  1. Identify active young persons as group leaders
  2. Appoint them to be in charge of:
     - wound management and first aid
     - environmental sanitation (water, toilet, food, garbage)
     - prevention and treatment of diarrhoea
     - special groups (infants, pregnant mothers, orphans, chronically ill)
     - ensuring personal hygiene of the residents
     - psychological support
  3. Delegate group leaders with responsibilities (to form a sub group to carry out the relevant activities; to supervise the activities) in order to make the activities initiated by the health team more sustainable
  4. Develop a link with them;
     - for follow up activities by the health team
     - to gather information about the sustainability of the programme
- Carry out activities related to environmental sanitation
- Conduct mobile health clinics for:
  - psychological support
  - health education

## Specific areas

### Water supply

1. Identify sources of water (e.g. wells, water barrels/ tanks, pipe borne water)

2. Ensure safe drinking water:
   - Train one group leader in water sanitation (chlorination, boiling and storage of water, health education, supervision)
   - Arrange a place in the camp/ community for boiling water.
   - If limited facilities to boil water;
     - Ensure that at least children < 10 years get boiled water for drinking.

3. Storage of water:
   - Three separate containers of water for drinking, cooking and washing (bathing and toilet) purposes
   - For drinking:
     - Use a filter, if available.
     - If not, store boiled water in a separate container essentially with a lid and a label indicating 'water for drinking'.
     - Use a pail with a long handle to take water from the container
     - Keep an adequate stock of clean plastic cups for drinking
     - Ask the group leader to appoint a person especially to be in charge of a continuous supply of boiled drinking water
   - For cooking:
     - Store water in a separate barrel with a label indicating 'water for cooking'.
     - Use a pail with a long handle to take water from the container (Ask the group leader to appoint one of the food handlers to be in charge of this activity)
   - For washing:
     - Store water in a separate container with a separate pail for toilets (away from the other water containers).
     - Ensure a continuous supply of soap.

**Instructions for chlorination of wells and other water sources**

In the event of pipe-borne water being scarce, to ensure that an adequate amount of safe drinking water is available, water supplied should be chlorinated. When returning home after flood water have receded, water sources(e.g. wells)should be emptied, cleaned and chlorinated before use.

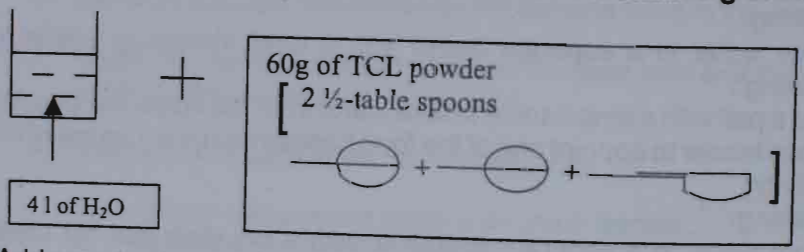
It is recommended that bleaching powder or TCL is used to make water safe for drinking. For this purpose ½-1 ounce of TCL should be mixed with thousand gallons of water. The amount of TCL used could be doubled for polluted water. The volume of the well or water source can e calculated using the following formula.

Amount of water in gallons (V) $=d^2 * w * 5$
D = Diameter of well in feet
W = Depth of water in feet
For square or rectangular tanks
1 gallon =0.16 cubic feet or
6.25 gallons =1 cubic foot

1 ounce =28g
1 heaped table spoon of TCL=25g

**How to prepare a cheap disinfectant solution for cleaning/disinfection purposes**

1.




2. Add soap to above solution and stir well.

Warning: Keep this solution away from children.

**Chlorine Tablets for purification of water**
Each tablet contains 0.5g
Chlorine content of each tablet 25mg to 45mg
Each tablet treats 20 litres of water

**Directions for application**
Crush the tablet, add to 20 litres of water, and wait for 5 minutes. Stir the water before use.
Note: Contents should be used within one week of opening the seal or else it will lose potency.

**(Source: Epidemiological Unit)**

**Nutrition and food hygiene**

1. Appoint a team of food handlers
2. Educate them to assess their personal hygiene
3. Educate them on food and water sanitation
4. Provide them with facilities required for food safety (cooking utensils, food covers)
5. Ensure an adequate supply of water for washing utensils and for cooking
6. Ensure proper storage for cooked food

**Nutrition of infants and young children:** Nutritional status will be affected due to various reasons such as non-availability of food, stress, inappropriate messages, during this natural disaster.

If the mother is available with the baby:

- Protect, promote and support exclusive breastfeeding of all infants under six months.
- Those infants who have been on both breast milk and artificial milk should be encouraged to continue only breast feeding as much as possible.
- For those infants who are six months and older protect, promote and support the continuation of breast feeding while introducing energy-dense, soft complementary foods such as mashed rice and dhal/boiled vegetables of thick consistency. Commercial preparations of complementary food could be used. Ensure that complementary foods are prepared hygienically.
- Discourage the distribution of artificial milk and bottles in camps where mothers are available as this may adversely affect the survival and nutritional status of infants. Breastfeeding is important during emergencies to ensure the essential nutrition and prevention of communicable diseases. In this type of situation especially infants and children are more prone to infectious diseases(due to poor sanitation and depressed immunological status) therefore feeding with breast milk is very important. Even though people think that under problematic stressful situations and with inadequate food supply, secretion of breast milk gets reduced, it is not so.
- In a natural disaster, if artificial infant milk formulae are supplied to camps and affected people in a mass scale without any control, the nutritional status of children and their survival will be badly affected. There is strong scientific evidence in some countries to support this.
- Advice the relevant authorities and possible donors on the requirements needed to maintain the essential nutrition of infants and young children.
- In situations where artificial feeding is done encourage to use a cup rather than a bottle because it is easy to clean/sterilize and the risk of infection is low.
- Children above one year could receive the same food as adults. Breastfeeding should be continued as long as possible.

- Promote, protect and support breastfeeding
- Discourage the distribution of artificial milk and bottles in camps
- In situations where artificial feeding is unavoidable encourage to use a cup rather than a bottle
- Children above one year could receive the same food as adults. Breastfeeding should be continued as long as possible.

**Feeding of Orphans**

Artificial milk should be prepared hygienically to feed orphans under the strict supervision of the field health staff. Cup feeding is preferred to bottle-feeding.

| | | |
|---|---|---|
| Infants up to 6 months | - | Formula I |
| Infants 6 months to one year | - | Formula II |
| More than one year | - | Full cream milk |

However for the children above one year it is more important to feed with other food (adult food) rather than using milk foods. If a relative who is breastfeeding is available, if possible try to feed the orphan with breast milk.

(Source: Family Health Bureau)

## Advice to persons providing food to displaced people

- ☞ Always supply water suitable for drinking purposes.
- ☞ Supply facilities to prepare food at the camp itself whenever possible.
- ☞ Avoid supplying food that can be consumed raw eg. salads, coconut sambol and foods that can get easily spoilt.
- ☞ Whenever possible supply dry rations eg. bread, buns, biscuits, , infant foods, rice, dhal, sugar, maldive fish, tea and coffee powder, green gram and gram, milk powder, salt etc.

(Source: Health Education Bureau)

**Sanitary facilities**

Identify sanitary facilities existing in the camp/ community (e.g. public/ personal toilets)

Ensure adequacy of toilets:

- If inadequate, construct trench latrines in a suitable place away from the cooking site
- Distribute potty for children who are not toilet-trained

Ensure proper disposal of stools

- Infants - clean with tissues
- Babies - empty the potty to the latrine pit
- Adults - follow the instructions given for trench latrines

Ensure cleanliness of toilets

- Prepare cleaning solution (TCL + soap) to clean toilets
- Arrange for a continuous supply of water and soap for washing
- Distribute slippers to children
- Keep a separate pair of slippers near the toilets for adults
- Train one group leader to ensure the cleanliness of toilets (preparation of cleaning solution, continuous supply of water and soap, health education, on supervision)

**Construction of temporary latrines for refugee camps**

Temporary latrines have to be constructed for refugees in emergency situations.

**Requirements**

1. Tree trunks
2. Planks of 1 inch thickness
3. Black thick polythene or cadjan
4. Wood to construct the shelter

**Method of construction**

Dig a trench 2 feet wide, 3 feet deep and 25 feet long. Lay 2 tree trunks on either side of the trench and lay planks on them to cover an area of 2 feet 9 inches* 3 feet in the form of a latrine slab (Fig. 1).

Construct partitions on this to separate the trench into 9 latrines, each 3 feet * 2 feet 9 inches. Construct the roof using cadjan, polythene or tar sheets.

**Instructions for use**:

1. TCL or lime powder should be sprinkled into the trench three times a day.
2. Water should not be used in the constructed temporary latrine. Construct 3 cubicles with a soakage pit for washing after using the toilet.

Note: The 9 latrines constructed in this manner will be sufficient for approximately 125 persons for 7 days if separate cubicles are used for washing after using the toilet.

Temporary Latrine (Rough Sketch)

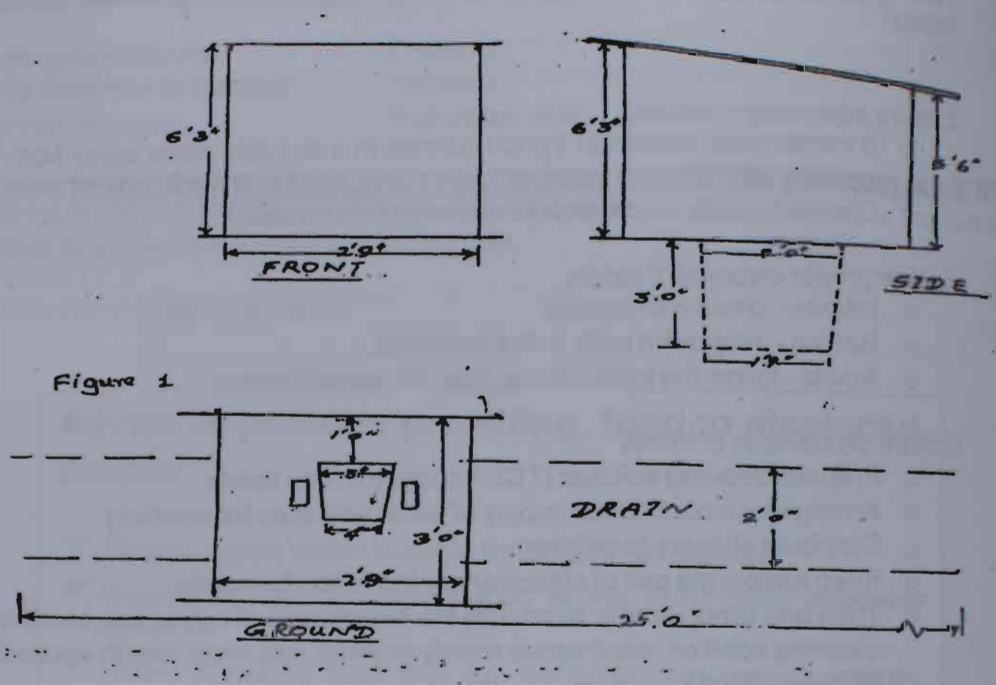



Figure 1

**(Source: Epidemiological Unit)**

**Proper garbage disposal**

- Collect and sort the existing garbage
- Place bins with lids and an adequate stock of garbage bags
- Separate bins for - kitchen waste (with a lid)
  - plastics, polythene
- Identify a suitable method for garbage disposal
  - Kitchen waste - to be composted if possible/ to dig a pit away from camp to dump the garbage bags/ to burn them when an adequate pile is formed
  - Plastics and polythene to keep in a sheltered place until collected by the local authorities.

- Control of flies:
  - Wet mop all surfaces (floors, furniture) with cleaning solution
  - Use fly baits
  - Insecticide Spraying

- Train one group leader to ensure the cleanliness in and around the camp (preparation of cleaning solution, health education and supervision)

**Good health in camps could be sustained by educating and empowering the residents.**

## Education for the residents on sanitation, nutrition, personal hygiene, life skills

1. Use a public address system to give:
   - An idea about the organizational structure of the camp
   - Health messages:
     - personal hygiene (hand washing, brushing teeth, bathing, washing clothes, combing hair, clipping nails, wearing footwear)
     - environmental sanitation (not to spit everywhere, proper use of latrines, about the use of different water sources, proper disposal of garbage, wet mop floors and surfaces with cleaning solution, sweeping sleeping area)
     - prevention and early identification of diarrhea/ Respiratory tract intections eye infection, skin infection, treatment of diarrhea (ORS) and head lice (permethrin or phenothrin, Lysine)
     - nutrition (continuation of breast feeding, infant feeding, low cost nutritious food for children)
     - building up coping strategies, life skills
     - keep occupied (recreational activities, play groups, school work)
     - encourage re-settlement
     - income generating activities
2. Train team leaders about special groups (infant care, care of pregnant mothers, follow up patients)
3. Promote breast feeding and use of cup and spoon where ever possible (extra milk for breast feeding mothers)
4. Carry out group discussions/ individual conversations to improve positive thinking
5. Distribute educational leaflets

***Educating residents of camps***

Very important for sustainability of measures to improve health in the camps

*Issues to be addressed include:*

- organisation of camp
- identifying leaders and delegate activities
- demonstrate the relevance of health messages
- adapt the health measures to the resources available in the camp
- make arrangements for provision of the resources required to practice what you preach
- make use of available resources with care
- provide written material (their capacity to remember is impaired due to trauma)
- coping skills and life skills
- encouraging to get back to their former activities, income generation and resettlement

The following information has been compiled from guidelines issued by the Health Education Bureau and World Health Organization. It provides a structure for health care workers to educate the people affected by a disaster.

## Prevention of respiratory tract infections

- Report to the health officials in the respective areas if you have a constant running nose, cough and sneezing as such symptoms may lead to respiratory problems.
- People with cough or sneezing should use a mask made of clean cloth to prevent infecting others.
- Avoid contact with people with symptoms of respiratory tract infection.
- Avoid smoking.

## Prevention of diarrhoeal diseases

- Always use boiled cooled water for drinking. If not, try to use bottled or chlorinated water for drinking.
- Whenever possible continue to breast-feed infants. If powdered milk is used prepare under hygienic conditions using boiled cooled water.
- Cover cooked meals to safeguard it from flies. Whenever possible eat food soon after cooking.
- Wash hands with soap before eating or feeding children and after going to the toilet.
- Always use latrines for daily motions. Children's faeces and urine should also be put into latrines.
- Keep the living environment clean to prevent breeding of mosquitoes and other insects in order to minimise the spread of diseases. Carcasses of dead animals found near by should be buried.
- A person having more than three motions per day should immediately report to the health officials for necessary advice.

## Educating on Women's health issues

☞ Maintain your general cleanliness whenever possible.

**Regarding your family**

☞ If you or any member your family is experiencing any illness or discomfort inform the health care personnel or relevant authorities.

☞ Obtain help and advice from the health care personnel and authorities in order to avoid disruption of your child's immunization schedule.

**Special Instructions**

☞ If you are experiencing your monthly periods please obtain sanitary napkins and necessary advice from health care personnel.

☞ Proper disposal of used sanitary napkins is essential.

☞ Continue with any family planning method that you have been practicing.

☞ If you were using:

1. Oral contraceptive pills –› obtain them from the medical officer in your camp
2. Another Contraceptive Method –› obtain necessary advice from the medical officers to continue with this method.

**The safety of you and your children is your responsibility. Be aware that in situations like this there is a risk of sexual abuse and harassment to you, your daughters and even to your sons. Therefore, be cautious and vigilant. If you feel that you or anyone else is at risk, immediately inform:**

- **Relevant authorities**
- **Health Personnel**
- **Security Forces**

## Advice to persons on returning home

☞ Be extremely careful of damp walls and broken glass and nails found in the debris. If injured obtain medical assistance immediately.

☞ Beware of damaged electric wires.

☞ Clean the surrounding environment Drain accumulated water in the environment.

☞ Carcasses of dead animals found near by should be buried.

(Source: Health Education Bureau)

Plan your mobile clinic before going to the field.

# Conducting a mobile health clinic

**Target groups:**

- Acutely ill persons: fever, wounds and injuries, respiratory tract infections, diarrhoea, epidemics
- Follow up patients of chronic illnesses: hypertension, ischemic heart disease, diabetes mellitus, bronchial asthma, epilepsy, joint disease, psychiatric conditions
- All children < 10 years
- All elderly > 60 years
- Pregnant mothers

## Planning

1. Issue a record for clinical notes
   - a note pad for all acutely ill persons
   - a personal health record for follow up patients and elders > 60 years
   - a growth monitoring and immunization record for all < 10 years
   - an antenatal record for all pregnant mothers

2. Screening
   - infants: weight
   - 1-10 year olds: personal hygiene
   - pregnant mothers: LRMP and POA, BP, Hb, urine for albumin
   - Follow up patients and elders > 60: CBS (glucometer)
   - Follow up patients and adults > 40 years: BP

3. Consultation
   - history/ examination
   - clinical notes
   - treatment

4. Pharmacy (Pharmacist, pharmacy students or 3/4th year medical students)
   - written instructions given to follow up patients and those with treatment for > 1 day
   - BNF

5. Nursing care and minor surgeries (Nurses, 2/3rd year medical students)
   - Incision and drainage
   - Wound dressing

Don't forget to take an updated formulary!

Issue a record for clinical notes.

## PERSONAL HEALTH RECORD

SERIAL NO. | | | | | |

NAME: .....

AGE: .....yrs SEX: M / F

NIC (if available): .....

ORIGINAL ADDRESS: .....

.....

CURRENT LOCATION: .....

## HEALTH PROBLEMS

| | | Initial Treatment | Discontinued (D) |
|---|---|---|---|
| Injuries & Wounds: | | | |
| Fractures | ☐ | ..... | ..... |
| Multiple injuries | ☐ | ..... | ..... |
| Infected wounds | ☐ | ..... | ..... |
| Cellulitis | ☐ | ..... | ..... |
| Respiratory Problems: | | | |
| Bronchitis | ☐ | ..... | ..... |
| Wheezing | ☐ | ..... | ..... |
| Pneumonia | ☐ | ..... | ..... |
| Eye | ☐ | ..... | ..... |
| Skin | ☐ | ..... | ..... |
| Diarrhoea | ☐ | ..... | ..... |
| Fever | ☐ | ..... | ..... |
| Chronic Diseases: | | Long Term Treatment | |
| IHD | ☐ | ..... | |
| HT | ☐ | ..... | |
| Diabetes | ☐ | ..... | |
| CVA | ☐ | ..... | |
| Epilepsy | ☐ | ..... | |
| Psychiatric illness | ☐ | ..... | |
| Thyroid disease | ☐ | ..... | |
| Bronchial asthma | ☐ | ..... | |
| Others (specify) : | | | |
| ..... | | ..... | |

## CLINICAL NOTES

| Date | Diagnosis | Treatment Given | Change of Treatment |
|---|---|---|---|
| | | | |

## REMARKS

## The Family card

**Family Card**

District: . . . . . GN division: . . . . . .
Family No: . . . . .
Name of chief householder: . . . . . .
Previous Address: . . . . . .
. . . . . .

No. living members in the family:

| **Adults** | **No.** | **Children** | **No.** |
|---|---|---|---|
| | | < 1 yr. | |
| M | | 1 - 5 yrs. | |
| F | | 6 - 10 yrs. | |
| Pregnant | | 11 - 19 yrs. | |

No. reported missing:

No. confirmed dead:

(Source: Faculty of Medicine core group on disaster management)

**Estimate the amount of drugs needed to conduct your clinic. Given below is a sample list of drugs for a mobile health clinic (approximate estimates for 1000 people camp). Calculations need to be adjusted according to the local needs of the area.**

| Drug | Dose | Quantity |
|---|---|---|
| Paracetamol | 500 mg | 5000 tab |
| Paracetamol syrup | 125 mg/5ml | 100 bottles |
| Ibuprofen | 200 mg | 1000 tab |
| Diclofenac sodium | 50 mg | 750 tab |
| Chlopheniramine | 4 mg | 500 tab |
| Loratidine | 10 mg | 50 tab |
| Promethazine | 25 mg | 100 tab |
| Prednisolone | 5 mg | 200 tab |
| Salbutamol | 2 mg | 3000 tab |
| Salbutamol inhalers | 100 micrograms | 50 inhalers |
| Beclamethasone/ Budesonide inhalers | 100 micrograms | 50 inhalers |
| Choline theophylline | 100 mg | 500 tab |
| Spacer device | regular size | 1 |
| Amoxycillin | 250 mg | 2000 cap |
| Amoxycillin syrups | 125 mg/5ml | 100 bottles |
| Cloxacillin | 250 mg | 1000 caps |
| Cloxacillin syrup | 125 mg/5ml | 20 bottles |
| Erythromycin | 500 mg | 500 tab |
| Metranidazole | 200 mg | 1000 tab |
| Ciprofloxacin | 500 mg | 200 tab |
| Cotrimoxazole | 480 mg | 400 tab |
| Furazolidone | 100 mg | 200 tab |
| Mebendazole | 100 mg | 600 tab |
| Pyrantal Pamoate | 100 mg | 500tab |
| Diazepam | 5 mg | 50 tab |
| Carbemazepine | 200 mg | 200 tab |
| Phenytoin sodium | 100 mg | 100 tab |
| Chlorpromazine | 25 mg | 50 tab |
| Chlorpromazine i.m. inj. | 25 mg | 2 vials |
| Haloperidol | 0.5 mg | 50 tab |
| Amytriptyline | 25 mg | 200 tab |
| ORS | 200 ml packs | 500 pkts |
| ORS | 1L packs | 50 pkts |
| Atenolol | 50 mg | 500 tab |
| Hydrochlorothiazide | 50 mg | 200 tab |
| Enalapril | 5 mg | 500 tab |
| Frusemide | 40 mg | 200 tab |
| Frusemide i.v. | 10 mg | 5 vials |
| ISDN | 10 mg | 500 tab |
| Diltiazem | 30 mg | 50 tab |
| Nifedipine SR | 20 mg | 200 tab |
| GTN | 0.5 mg | 50 bottles |

| | | |
|---|---|---|
| Glibenclamide | 5 mg | 400 tab |
| Metformin | 500 mg | 500 tab |
| Tolbutamide | 500 mg | 400 tab |
| Soluble Insulin | 100 U/ml | 20 vials |
| Lente Insulin | 100 U/ml | 20 vials |
| Insulin syringes | 1ml | 20 |
| Aluminium hydroxide | 500 mg | 1000tab |
| Famotidine | 20 mg | 200 tab |
| Vitamin B Complex | | 500 tab |
| Folic acid | 5 mg | 500 tab |
| Ferrous sulphate | 200 mg | 500 tab |
| Multivitamin | | 500 tab |
| Anti ptussive cough syrups | | 50 bottles |
| Expectorant cough syrups | | 50 bottles |
| Chloramphenicol eye drops | | 10 nos |
| Gentamicin ear drops | | 10 nos |
| 0.9% Sodium chloride | 500ml | 10 bottles |
| Lignocaine for LA | 50 ml | 2 bottles |
| Cotton wool | Large pack | 5 packets |
| Gauze | Large pack | 5 packets |
| Bandages | | 50 nos |
| Crepe bandages | | 20 |
| Plasters | Large | 5 |
| Povidone iodine (Betadine) | 500 ml | 3 bottles |
| Glove box | | 1 |
| Face masks | | 50 |
| Dressing forceps | | 2 |
| Scissors | | 2 |
| Scalpel blades (size 11) | | 1 box |
| BP handle | | 1 no. |
| Tetanus toxoid | | 20 vials |
| Soframycin cream | | 50 |
| Miconazole cream | | 20 |
| Hydrocortisone cream | | 20 |
| Methyl salicylate | Big Can | 2 |
| Diclofenac sodium gel | | 10 tubes |
| Nystatin oral gels | | 5 nos |
| BB cream | | 20 cans |
| Envelopes | | 2000 nos |
| Syringes | 2ml, 5ml, 10 ml | 25 each |
| i.v. cannulae (butterfly) | | 25 nos |
| i.v. drip giving set | | 10 nos. |
| Suture material | Nylon, Silk | 10 each |
| Glucose | | 10 packets |
| Adrenaline | 1:1000 solution | 5 vials |
| Hydrocortisone | 100 mg | 10 vials |
| Promethazine inj. | 25 mg | 5 vials |

(Source: Department of Pharmacology, Faculty of Medicine, University of Colombo)

**Drugs should not be wasted. Donations should be relevant to the present needs of the target community.**

## Guidelines for drug donations

### Selection of drugs

1. All drug donations should be based on an expressed need and be relevant to the health problems.

2. All donated drugs or their generic equivalents should be approved for use in the national list of essential drugs for Sri Lanka.

3. The presentation, strength and formulation of donated drugs should, as much as possible, be similar to those of drugs commonly used in Sri Lanka.

### Quality assurance and shelf life

4. All donated drugs should be obtained from a reliable source and comply with quality standards in both donor and recipient country.

5. No drugs should be donated that have been issued to patients and then returned to a pharmacy or elsewhere, or were given to health professionals as free samples.

6. After arrival in the country all donated drugs should have a remaining shelf-life of at least one year. An exception may be made for direct donations to specific health facilities, provided that: the responsible professional at the receiving end acknowledges that (s)he is aware of the shelf life; and that the quantity and remaining shelf life allow for proper administration prior to expiration.

### Presentation, packing and labeling

7. All drugs should be labeled in English; the label on each individual container should at least contain the International Nonproprietary Name (INN), batch number, dosage form, strength, name of manufacturer, quantity in the container, storage conditions and expiry date.

8. As much as possible, donated drugs should be presented in larger quantity units and hospital packs.

9. All drug donations should be packed in accordance with international shipping regulations, and be accompanied by a detailed packing list which specifies the contents of each numbered carton by INN, dosage form, quantity, batch number, expiry date, volume, weight and any special storage conditions.

### Information and management

11. Recipients should be informed of all drug donations that are being considered, prepared or actually under way.

11. The declared value of a drug donation should be based upon the wholesale price of its generic equivalent in Sri Lanka.

12. Costs of international and local transport, warehousing, port clearance and appropriate storage and handling should be paid by the donor agency, unless specifically agreed otherwise.

(Source: WHO (1999) Guidelines for drug donations, Geneva, World Health Organization)

**Infections are common in overcrowded settings such as refugee camps: dysentery, acute gastroenteritis, upper respiratory tract infections, vector borne infections (especially dengue and malaria), exanthemata (especially chickenpox), scabies, ringworm and head lice.**

***Important:*** Leptospirosis is unlikely to be seen following sea water exposure. However it may come about if refugee camps are flooded after the current north east monsoon rains.

## Management of infectious diseases

**Don't forget to NOTIFY !**

### Dysentery (Blood and mucous diarrhoea)

Wherever possible, try to obtain stool specimens for full report + culture and transport to the appropriate center indicated below. If an organism is grown, its identity and antibiotic sensitivity will be extremely useful in the very likely event of an epidemic.

***Antibiotic treatment of dysentery***

Oral antibiotics : nalidixic acid ; furazolidone,
mecillinam , ciprofloxacin,

## Watery diarrhoea

**The most important step is oral re-hydration.** If this is not tolerated due to vomiting, consider transfer to a facility for intra-venous fluids.

Antibiotics are not useful except in the following few and rare situations.

1. In patients who are immunodeficient (eg. Diabetes, cancer, immunosuppressive therapy. The elderly and neonates)
2. In patients who are prone to life threatening complications if bacteraemia develops (eg. Patients with artificial prostheses such as heart valves, indwelling pacemakers, artificial joints, severe atheromatous disease).

Again try your best to obtain and transport stool specimens for culture.

- If the transport time is more than 24 hours transport medium should be used.
- Stool transport media for dysentery and diarrhoea should be obtained from the nearest General Hospital by the MOH of the area.
- After collection, specimen should be transported to the below indicated center:

Ampara, Batticaloa and Hambantota Districts: Medical Research Institute
Galle and Matara districts: Teaching Hospital Karapitiya
Jaffna, Kilinochchi, Mulativ, Vavunia and Trincomalee districts: Teaching Hospital, Kandy
Colombo & Gampaha districts: Teaching Hospital Ragama

## Management of diarrhoeal diseases: Health education

☞ **Give the child more fluids than usual to prevent dehydration** - Use the recommended home fluids. These include Oral Rehydration Solution, food-based fluids and plain water. Give as much of these fluids as the child will take. Continue giving these fluids until diarrhoea stops.

☞ **Preparation and administration of ORS**

1. Dissolve the entire contents in 1000ml of boiled cool water.
2. Avoid adding anything else (eg. sugar)
3. Once prepared, use within 24 hours and discard the balance. Reconstitute freshly after 24 hours.
4. Give a teaspoonful every 1-2 minutes for a child under 2 years. Give frequent sips from a cup for an older child.
5. Continue breast feeding and other fluids.
6. If vomiting – withhold for sometime (10 minutes) and restart giving ORS every 3-4 minutes. If still vomiting, take to hospital.
7. If eyelids become puffy stop administration.

| Age | Volume in 24 hours |
|---|---|
| < 6 months | ¼- ½ litres |
| 6 months – 2 years | ½ - 1 litre |
| 2- 5 years | ¾ - 1½ litres |
| > 5 years | as required |

Sachet should be stored in a cool dry place.

☞ **Give the child adequate food to prevent malnutrition**

☞ **Take to hospital /doctor immediately if**

-child not taking anything orally (need i.v. fluids)
-drowsy and lethargic (severe dehydration → need i.v. fluids)
-excessive vomiting (need i.v. fluids)
-Blood and mucous diarrhoea → require antibiotics.

## Respiratory tract infections

**If there is an outbreak of respiratory tract infection (influenza like illness) contact Director MRI regarding viral studies.**

**Don't forget to NOTIFY !**

### Acute sinusitis

(Other features of respiratory tract infections such as laryngitis and bronchitis too can be simultaneously present.)

***Antibiotic treatment of acute sinusitis***

Oral antibiotics: 1st choice co-amoxiclav; or cefuroxime

Other: cotrimoxazole

### *Eye infections*

**It is very important to clinically evaluate for the possibility of complications such as keratitis (eg. Eye pain, blurring of vision, circum-corneal injection, corneal opacities) since such patients must receive specialist care.**

***Antibiotic treatment of eye infections***

Eye drops: chloramphenicol ; gentamicin,

Ointment: fusidic acid

### Caution!

- **Using antibiotics with unnecessarily broad spectra on a large scale can give rise to pseudomembranous colitis, which can then spread as an epidemic in refugee camps. Particularly troublesome antibiotics in this regard include clindamycin and the cephalosporins. Try to avoid such antibiotic use.**

- **Antibiotics contraindicated in pregnancy and childhood eg. quinolones (ciprofloxacin), tetracyclines (doxycycline) should be prescribed carefully, since the drugs may be shared with pregnant/childhood members with the same symptoms.**

**Many people with chronic diseases have lost their drugs and records, and do not have access to clinics.**

## Management of Chronic Diseases

- If there is a local plan established by the doctors/institutions in the area affected, it is best to support it rather than try to correct it. Do not undermine it.
- An important job for the visiting doctors conducting camps is to pick up the uncontrolled hypertensives, diabetics, asthmatics. They should ideally be referred to the local hospital for control.
- Where drugs need to be started, it is best to start once- or twice-daily drugs to ensure improved compliance.
- Also look out for patients with epilepsy, depression, psychoses, long term steroid intake - their treatment needs to be reinstated.
- Try to avoid drugs contraindicated in pregnancy or childhood EVEN FOR MALE ADULTS since they may share the drugs with pregnant/childhood members with the same symptoms.
- Try to avoid drugs with frequent or dangerous drug interactions.
- Maintain records of what you do - and refer to records made by doctors who treated your patients before you.
- Be very patient with the patients and spend a lot of time talking to them - this helps to befriend them and also unearth the previous histories of illness/treatment more completely.

(Source : SLMA)

**Optimize the use of existing primary health care services in providing maternal and child health needs.**

# Maternal and Child Health Services

Important immediate and intermediate issues to be considered following the disaster:

- Provision of safe delivery facilities for pregnant mothers
- Care of sick infants and children
- Maintenance of nutritional status of pregnant and lactating mothers, infants and young children
- Management of psychological trauma of families with special emphasis on children
- Prevention of communicable diseases
- Provision of care and support (physical and psychological) to affected health staff.

- Establish teams
- Establish collaborations
- Mobilise community participation
- Rapid assessment
- Regular visits
- Provide guidance

1. ***Establishment of District teams*** - It is essential to establish a 'District Team' of health workers under the leadership of DPDHS. The 'District Team' should comprise of DPDHS, MOMCH, RE, HEO, RSPHNO and SPHID. MOMCH should be responsible to rapidly assess, organize and implement the maternal and child health services in the affected areas by coordinating with the MOHs and the Heads of the institutions.

2. ***Divisional Teams*** - The MOH is responsible to organize, coordinate and implement MCH services in the respective divisions with the available staff. If necessary, health staff may be mobilized from adjacent unaffected areas to work with the existing staff.

3. ***Establish collaboration with Health Ministry***- It is very important to be in touch with the Health Ministry officials, FHB, Epidemiological Unit and HEB to get necessary guidelines, equipment and other support.

4. ***Mobilize community participation***- Wherever possible involvement of formal, informal leaders and volunteers should be done to identify problems and to take appropriate actions.

5. ***Establish inter-sectoral collaboration***- Coordinate with Divisional Secretary to identify the temporary settlements and work with personnel responsible for other related sectors e.g., social service officers, Samurdhi officers, NGO, private sector etc. to provide essential facilities for the people who are affected.

6. ***Rapid assessment of the situation*** - A rapid assessment of the situation at district level (by the DPDHS & MOMCH) and at divisional level (by the MOH) should be carried out using annexed format.

7. ***Regular visits to the people who are affected*** - Field health staff should make arrangements to visit the temporary shelters (camps) regularly. In most areas there may be groups settled with relatives temporarily who should also be identified and visited by the team to provide essential care.

8. ***Provide guidance to health staff and volunteers*** - Identify volunteers and guide them to provide necessary information and care on health related issues.

9. ***Antenatal care for pregnant mothers*** - MOH should mobilize their staff to identify the pregnant mothers in the affected areas and provide necessary care.

- It is important to take measures to ensure that every pregnant mother delivers in an institution. Reassure mothers by informing them that the hospitals are safe, equipped with necessary facilities and cleared of dead bodies. If the delivery facilities are destroyed or non-functioning inform the mothers regarding the closest facility available.

- All mothers should be provided with basic antenatal care from a close by clinic or it may be necessary to establish special satellite clinics considering the temporary settlements in the area.

- Special attention should be given to high-risk mothers and mothers close to term. Educate mothers on identifying 'danger signs' and advise them to enter the nearest hospital if they develop a danger sign.

- PHM should be advised to reside in her area of work and be prepared for any emergency home deliveries.

- All pregnant mothers in problem situations need reassurance and adequate psychological support by health staff, volunteers, family members and others.

10. ***Intrapartum care for pregnant mothers***- MOMCH should visit all the labour rooms in the area in order to identify deficiencies. Where existing labour rooms are destroyed, strengthen the facilities in the labour rooms in the nearest institution or try to locate the places where temporary labour rooms could be established in adjacent medical institutions. Take actions to mobilise equipment, other supplies and human resources from unaffected areas.

- Take necessary measures to ensure proper functioning of labour rooms with special emphasis on infection control as routine procedures may have been disturbed due to the prevailing situation.

- Use suitable disinfectants to clean the floor and the other surfaces (trolleys, walls, etc) of the labour rooms.

- For the maintenance of sterility, try to continue Central Sterilising Service Department (CSSD) procedures if available. In case CSSD procedures are not available try and substitute sterilization by boiling.

- To sterilize metal instruments steam sterilization using pressure cookers can be done. In the absence of above measures, boiling for 20 minutes should be used.

- Plastic and non-metal instruments and linen, mackintosh etc. should be kept immersed in fresh chlorine solution (Approx. 60 g of TCL powder dissolved in 4 litres of water) for 10 minutes followed by thorough washing with a detergent and clean water. Chlorine solution should be prepared daily.

- Sucker tubes, forceps and surgical instruments must be washed and disinfected by immersing in a solution of Cidex for 20 minutes. This is followed by washing with boiled cooled water. The Cidex solution so prepared can be kept for 2 weeks.

- Hibisorub can be used to wash hands. In the case of scarcity of water, 70 % Alcohol wipes are used. After every 10th patient the hands must be washed with soap and water.

11. ***Field services for Children***
    *a.) Nutrition of infants and young children*
    *b.) Management of psychological trauma*

12. ***Communicable diseases***

# Assessment form for maternal and child health needs

**1. Identification of the target groups in temporary shelters**

| Target group | | Number |
|---|---|---|
| Pregnant mothers | POA up to 36 weeks | |
| | >36 weeks | |
| Postpartum mothers | | |
| Infants (0-1 year) | Neonates -.1- 28 days | |
| | Post neonates >28 days- 1yr. | |
| | Number without mothers | |
| | Number without both parents | |
| Preschool children (1-5 years) | Number without mothers | |
| | Number without both | |
| | Parents | |
| Children aged 6-9 years | | |
| Adolescents aged 10-19 years | | |

**2. Information on primary care facilities**

| | Name / Place |
|---|---|
| Names & designations of the MOH office staff lost their lives/injured | |
| Names & designations of the MOH office staff displaced | |
| Names of affected/damaged Institutions with maternity facilities in the area | |
| Name of destroyed/damaged MOH offices (specify damage) | |
| No. of MCH Clinic centres destroyed/ damaged (specify damage) | |
| No. of PHM offices destroyed/damaged | |
| No. of vehicles destroyed/damaged | |

**3. Estimated No. of deaths in the MOH area**

Pregnant Mothers :
Infants :
Preschool children (1-5 years) :
Children/ Adolescents (6 - 19 years) :
(Source : Family Health Bureau)

**In a catastrophic situation, expressions of grief and shock could manifest in a variety of ways**

## Psychological Support

### General guidelines on providing psychological support

- Listening to their grievances
- Identify and refer those with acute severe depression, suicidal ideation
- Establish a daily routine especially for children
  - meal time
  - study time
  - play / recreational time
  - work time
- Assist in creating recreational activities within the camp
  - Children: toys, reading books, pastel/ pencils/ drawing books
  - Adults: indoor games
- Make sure that the residents get involved with their pre-tsunami daily activities e.g. a labourer may be encouraged to get back into any sort of related work he is able to find
- Provide assistance in school work
- Provide them with text books, a blackboard and chalk (if available)
- Train educated volunteers to assist schooling children
- Coordinate with religious leaders to organize religious activities such as daily religious observances
- Assistance for established foster parent schemes:
  - Identify orphans from each camp (with their basic identification details)
  - Develop a cumulative list of orphans and direct them to foster parent schemes
- Provide opportunities to earn a living using their livelihood skills
  - e.g. masons to build houses

Children may be affected psychologically due to the disturbance in the daily routine and loss of parents and belongings. Therefore it is important to assist them to recover from this situation to the extent possible.

**The role of the MOH**

- All MOH should liaise with the MO/Mental health attached to the local District/Base hospital and Consultant Psychiatrists in providing services.
- Encourage the parents/caregiver to provide love and care to them whenever possible.
- Keep the children occupied at all times by providing opportunities to play with each other using locally available low cost material such as coconut shells, plastic bottles, tins etc and get them engaged in group activities. Introduce traditional games. Encourage the children to draw (drawing could be made in the ground/sand using a stick). Provide facilities to listen to music.
- Mobilise donors to provide cheap play items, drawing materials.
- Engage the children and parents in religious activities to improve interaction among displaced families and to overcome grief. Do not discuss regarding bad experiences with or in front of them.
- Identify high-risk children such as those having some behavioral disorder or orphaned and refer them for specialized care.
- Identify caregivers/mother figure for those infants and children who have lost both parents and entrust them with the task of providing care for them until some arrangements are made.
- In situations where both parents and relatives are lost, ensure that foster parents abide by government rules and regulations, making arrangements with child probation.
- Ensure that the children are protected from child abuse.

(Source: Family Health Bureau)

**The psychological impact of trauma on children is more severe than in adults, but children are unable to express their negative thoughts.**

# Psychological impact of Tsunami and the role of the paediatrician

On the 26th December 2004, a large number of children in Sri Lanka experienced a highly traumatic event. The extent of the psychological trauma suffered by these children is determined by a variety of factors. However, this trauma is by no means minor by any standard, if one considers the extent of losses suffered. These children have lost parents, siblings, friends, pets, toys, school books and their prized possessions, which all children passionately guard. In addition, they have been in a near death situation and feel totally helpless when their loved ones got washed away. Hence, evidence of psychological effects should be carefully evaluated in all children who were affected by the disaster so that measures could be taken to prevent long term psychological disturbances. Almost all children are more vulnerable to psychological trauma when compared to adults. Even among them, there are ones who are more at risk.

***Identifying children at high risk***

- children who are also injured or physically ill
- who had near-death experience
- lost parents / guardian
- always had temperamental difficulties
- intellectually impaired or have learning difficulties
- when adult care givers are not coping, depressed, injured or physically ill and are unable to offer proper parenting
- adolescents

## Symptoms of psychological trauma

A range of symptoms may occur depending on the age of the child, severity of the child's experience, degree of vulnerability and the events in the aftermath.

1. In the first 1 - 2 weeks, some children will be numbed, withdrawn, not talking and refusing meals. Others may even behave as if nothing has happened. This situation will before long be replaced by emotional distress and anguish about the reality.
2. Fearful anticipation of recurrence of the traumatic event and lack of confidence about safety. Children may also show fear about being alone, strangers, darkness and other common situations.
3. Sleep disturbance, nightmares
4. Repeated questioning and seeking reassurance
5. Regressive behaviour with thumb sucking, bedwetting, baby talk etc.
6. Disturbed attention and concentration with difficulty in school work
7. Irritability, temper outbursts
8. Visual hallucinations of the traumatic events
9. Re-enactment of the event in play activity repeatedly
10. Depressive symptoms like crying, somatic complaints, sleep and appetite disturbance
11. Older children and adolescents may express suicidal wishes

***Identifying children who need further attention***

- persistent, unabating or worsening symptoms
- preoccupation and constantly talking about event
- having behavioural problems
- continuing to re-enact event or hurtful / self-mutilating behaviour
- avoiding situations reminding of event or showing fearful anticipation of recurrence
- showing a change in temperament since the event

***What children need***

- Avoid exposure to trauma on media
- Re-establish routines as far as possible
- Keep them occupied with activities
- Listen and understand outbursts, but set limits on harmful talk and action
- Encourage talking about worries and fears
- Reassure of safety
- Be honest
- Ensure adult care
- Look after diet and physical health
- Provide personal items, toys, books, etc.
- Respect their right to their name, family, relatives, privacy, education, religion and inheritance
- Protect from exposure to drugs, alcohol, smoking and abuse

***How children understand death and disaster***
- depends on age and cognitive maturity

At 3-5 yrs. - as similar to sleep or going on a long journey
At 5-9yrs. - understand that death is not irreversible but does not think that it will happen to them
At 9-10yrs. - understand that death is irreversible and can happen to anyone

(Source: Sri Lanka College of Paediatricians (2005) Psychological impact of tsunami and the role of the Paediatrician (Fact sheet prepared and distributed by Sri Lanka College of Paediatricians with the assistance of Dr. Hemamali Perera)

## The role of Medical officers of Mental Health

***General guidelines***

- Work under the guidance of the consultant psychiatrists/PDHS/RDHS
  - to promote the mental health of those affected by disaster
  - to prevent mental disorders.
- Visit camps for and communities affected by the disaster.
- Provide necessary guidance and support to the volunteers, community leaders, health staff and other sectoral staff

**How to deal with bereavement**

- Let the person share their thoughts and feelings
- Encourage sharing of feelings with friends and relatives
- Encourage participation of religious activities associated with death
- Encourage gradual return to daily life
- Identify persons with suicidal risk and refer for further assessment

**The stages of grief**

1. It cannot be true: the stage of denial
2. I feel miserable: the stage of sadness
3. Its time to move on: the stage of reorganisation

**Some survivors may need specific help**

What is needed is listening to peoples' experiences, meeting them regularly, providing emotional support, simple practical help, advice, and problem solving.

***Procedure for psychosocial support***

- Develop a good rapport with the person
- Listening to the persons concerns
- Give information ,explanation and advice
- Encourage the expression of emotion
- Improve morale
- Review and develop intact assets
- Encourage self-help

**When to prescribe**

- Depression is a normal reaction in stressful situations
- However, using antidepressant medicine may be helpful in specific cases
- But this **should be done with extreme caution and only if necessary.**
- In a person behaving in a disturbed manner -appropriate use of sleeping tablets or tranquillizers for short periods may help.

(Source: Ministry of Health)

## Providing psychological support- Guidelines for Policy Planners

**Policy planners must play an active role to relieve the psychological impact on the community.**

**Immediate measures**

1. Coordination of effort: Encourage networking and also to remain in touch with a central source

2. Public information: Make use of the mass media to:
   - Emphasize that in this situation grief is NORMAL as are all the symptoms of grief and should be expressed.
   - Feeling guilty for being spared is also NORMAL.
   - Reinforce the use of traditional ways of grieving and seeking solace.

3. Children require special thought and specific planning.

   - Children need to be protected from an endless review of events, which maximizes the impact of trauma.
   - Schools should reopen in all unaffected areas. Where schools have been destroyed it is essential that children are provided with simple play materials and also organized activity.
   - Requests for donations should include requests for simple toys e.g. balls, and writing and drawing materials.
   - Children must as far as possible be left with family / familiar adults in the aftermath-not taken away from family / familiar people.

4. Awareness of high risk groups: Local administrators should make a note in each area of high risk groups: workers involved in disposal of bodies; those bereaved; those rendered homeless; some volunteers. This information will help in monitoring those that may later require more help.

**Subsequent action**

1. Development of resource groups with counseling skills. Use must be made of available resources in the country particularly of groups already trained in counseling techniques

2. A programme of training which will initially strengthen the skills for counseling and supervision of core groups of trainers, which would then extent skills to other groups through a planned cascading of training

3. Making available resource materials. This will include manuals on working with traumatized groups, working with children. A detailed bibliography can be made available. Resource material should be in Sinhala and Tamil as well as English.

4. Implementation of therapeutic help which includes networking with local administrators, identification of high risk groups, involvement of specialist professionals to provide support and supervision, coordination to facilitate complementary action and prevent duplication of effort.

(Source: UK-Sri Lanka trauma group)

**Deaths due to disaster often require medico-legal investigation, especially for identification.**

# Medico-legal aspects in management of a mass disaster

## Advanced planning

1) Appointment of teams for each area.
   - Pathology Teams –
     Experienced Pathologists
     Mortuary Technicians
     Secretaries
     Photographer
     Police exhibits/Productions officer
   - Forensic Odontologist
   - Funeral Directors
   - Ancillary Staff
2) Define the roles of Supervising Pathologist and other members of the team.
3) Provision of Major Disaster Mortuary

## Essential requirements for a major disaster mortuary

- Area
- Security
- Access
- Office Facilities - Documentation and Communication
- Infrastructure
- Viewing Area
- Parking
- Support facilities
- Storage
- Friends and Relatives Reception Centre

## Flow plan at the major disaster mortuary

1) Reception and Documentation
2) External Examination and Unclothing
3) Special Investigations
   - Radiology
   - Odontology
   - Finger printing
   - Other Examinations
4) Autopsy and collection of specimens
5) Disposal of bodies
   - Embalming
   - Encoffining
6) Storage of property and specimens
7) Disposal of waste materials

## Equipment

1.) At the Scene
   - Body bags
   - Scene labels & indelible pens
   - Protective clothing
2.) Document Cases
3.) At the Major Disaster Mortuary
   - Autopsy
     I. Trolleys
     II. Mortuary Labels
     III. Check List
     IV. Protective Clothing
     V. Instruments
     VI. Specimen containers
   - Disposal
   - Other Investigations

(Source: Department of Forensic Medicine, Faculty of Medicine, University of Colombo)

# Communication and dealing with the media


**The media are important partners in an emergency. They have a most powerful means at their disposal. In seconds they can summarise an emergency and inform every household with a television or radio. You can influence how they project the emergency to the public. The imagery transmitted by the media evokes enormous response. It focuses world attention and mobilizes the conscience of nations to deliver humanitarian relief.**

- Seek them out; don't wait for them to come to you.
- Encourage them to keep you informed of what they see,
- respond where possible.
- At all times foster goodwill and cooperation with the media.
- Give them constant updates, informal interviews etc. Encourage them to share your vision for long term effective assistance.
- Use them to help coordinate the emergency. Tell them what you are doing and why..
- Don't be shy to explain the need for funding

***Preparing for an interview***

- ✓ Prepare yourself beforehand
- ✓ Plan what to say
- ✓ Don't use jargon. If you have to, explain the terms
- ✓ Be simple. Remember your audience is the man on the street
- ✓ Take command
- ✓ Prepare handouts

## Some important points:

- ☆ Be careful of what you say in the presence of reporters. There is no such thing as "off the records"
- ☆ Never make disparaging or critical remarks about local authorities or international organizations.
- ☆ Never criticize your team. Do not mention weaknesses - which might be all that is reported.
- ☆ If you are unsure your teams position on a particular issue, say so.

## *Issuing a press release*

- ✓ Your key point should be in the first paragraph
- ✓ The text needs to be brief (maximum one A4 page)
- ✓ The title and the opening line are the most important part: they need to grab attention and encourage people to read on
- ✓ Avoid referencing academic work or text, refer to people or researchers
- ✓ Use a language that is appropriate for the audience

(Source: WHO (1999) Handbook on emergency field operations, Geneva, World Health Organization)

Don't believe all that you hear.

# Myths and realities in disaster situations


- ***Myth: Dead bodies pose a health risk and cadavers are responsible for epidemic in natural disasters***

  ***Reality:*** Contrary to popular belief, dead bodies pose no more risk of disease outbreak in the aftermath of a natural disaster than survivors.

- ***Myth: Epidemics and plagues are inevitable after every disaster***

  ***Reality:*** Epidemics do not spontaneously occur after a disaster and dead bodies will not lead to catastrophic outbreaks of exotic diseases. The key to preventing disease is to improve sanitary conditions and educate the public.

- ***Myth: The fastest way to dispose of bodies and avoid the spread of disease is through mass burials or cremations. This can help create a sense of relief among survivors.***

  ***Reality:*** Survivors will feel more at peace and manage their sense of loss better if they are allowed to follow their beliefs and religious practices and if they are able to identify and recover the remains of their loved ones.

- ***Myth: It is impossible to identify a large number of bodies after a tragedy.***

  ***Reality:*** Conditions always exist that allow for the identification of bodies or body parts. Source: WHO/PAHO Myths and Realities in the Management of Dead Bodies.

- ***Myth: Foreign medical volunteers with any kind of medical background are needed.***

  ***Reality:*** The local population almost always covers immediate lifesaving needs. Only medical personnel with skills that are not available in the affected country may be needed.

- ***Myth: Any kind of international assistance is needed, and it's needed now!***

  ***Reality:*** A hasty response that is not based on an impartial evaluation only contributes to the chaos. It is better to wait until genuine needs have been assessed.

- ***Myth: Disasters are random killers.***

  ***Reality:*** Disasters strike hardest at the most vulnerable group, the poor -- especially women, children and the elderly.

- ***Myth: The affected population is too shocked and helpless to take responsibility for their own survival***

***Reality:*** On the contrary, many find new strength during an emergency, as evidenced by the thousands of volunteers who spontaneously unite to sift through the rubble in search of victims after an earthquake.

- ***Myth: Locating disaster victims in temporary settlements is the best alternative.***

***Reality:*** It should be the last alternative. Many agencies use funds normally spent for tents to purchase building materials, tools, and other construction-related support in the affected country.

- ***Myth: Things are back to normal within a few weeks.***

***Reality:*** The effects of a disaster last a long time. Disaster-affected countries deplete much of their financial and material resources in the immediate post-impact phase. Successful relief programs gear their operations to the fact that international interest wanes as needs and shortages become more pressing.

- ***Myth: Starving people can eat anything***

***Reality:*** This attitude is inhumane and incorrect. Even if hungry initially, people often do not consume adequate quantities of unvaried and unfamiliar foods for long enough. More importantly, the starving people are often ill and may not have a good appetite.

- ***Myth: Refugees can manage with less.***

***Reality:*** This misconception dehumanizes the refugee. It implies that, once uprooted, he or she no longer has the basic human rights to food, shelter and care - that these are now offered as charitable acts and that refugees can (or should) make do on much less than non-refugees. In fact they will often need more than their normal food requirement at first if they have become malnourished and sick before arrival at a camp and need rehabilitation; and may suffer exposure from inadequate shelter. Source: Lancet, Vol. 340, Nov 28, 1992

- ***Myth: Energy adequacy means nutritional adequacy.***

***Reality:*** The diet needs to be adequate in both quantity and quality, meeting requirements for calories, protein, and micro-nutrients. Foods should be diverse and palatable, and the special needs of weaning children must be met.

- ***Myth: It is best to limit information on the magnitude of the tragedy.***

***Reality:*** Restricting access to information creates a lack of confidence in the population, which can lead to misconduct and even violence. Source: WHO/PAHO Myths and Realities in the Management of Dead Bodies.

Source: WHO, Myths and realities in disaster situations, Available online:
http://www.who.int/hac/techguidance/ems/myths/en/)

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