

Tsunami Disaster - 2004

Emergency Management & Aftercare in Medical Officer of Health Area - Matara Sri Lanka



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Introduction

Southern province of Sri Lanka consists of three districts, Galle district, Matara district and Hambantota district. Matara District is divided into fourteen Medical officer of health areas. Matara district is bordered by the sea on south. The southern most Medical officer of health areas (MOH areas) are Weligama, Matara, Devinuwara and Dickwella. All these areas were affected by Tsunami and this report is on the activities carried out in **Matara MOH area** during and after Tsunami.

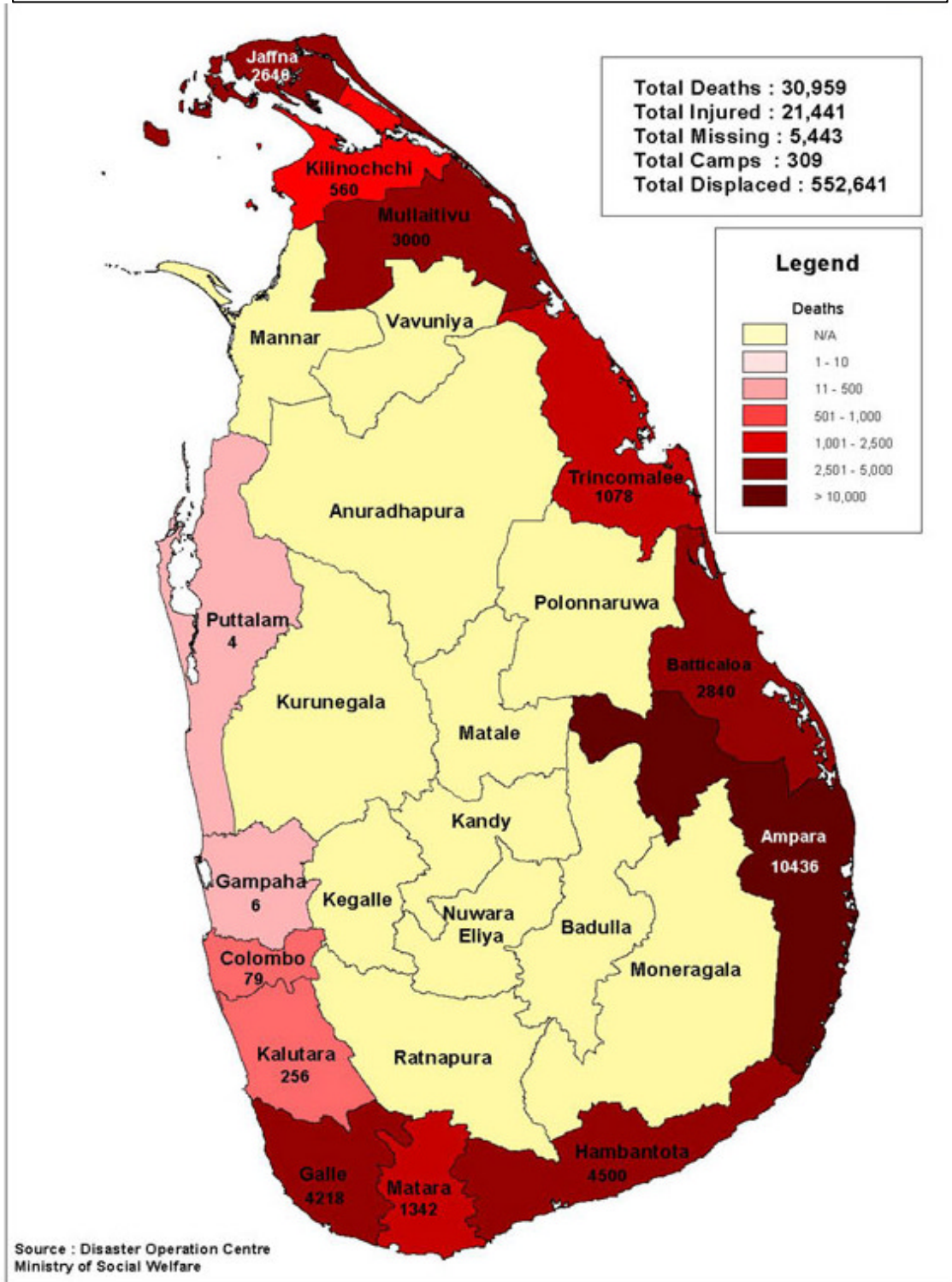
Matara MOH area is subdivided into thirty smaller units which are Public Health Midwife areas (PHM areas). Matara MOH area has a population of 105,000 in 2004 and its area is about 50 square kilometers. Paddy cultivation and the fisheries industry are the major sources of income of these people. River Nilwala which starts from northern part of the district falls to sea at Matara after crossing the town in the middle.

26th December 2004 dawned to Sri Lanka as another normal day. People were more in a holiday mood, as it was full moon poya day, Sunday as well as Christmas season.

Tsunami tidal wave attacked the southern Sri Lanka few minutes after 9a.m. This was an unexpected, sudden disaster causing devastation of the costal region with total disturbance of regular human activities.

In Matara MOH area, out of thirty PHM areas seven PHM areas which were located in the costal belt were partially or totally affected.

Map of Sri Lanka depicting districts. Matara district is in the southern most area



Matara district depicting it's 14 MOH areas, Matara is one of southern MOH areas



Medical Officer of Health area Matara



This map shows the medical officer of health area Matara depicting the smaller units called Grama Niladhari divisions. Two such units make one Public health midwife area. The PHM areas along the coastal region were affected by the Tsunami wave. Those areas were Madiha, Polhena, Thotamuna, Pamburana, Kada Weediya, Kotuwegoda, and Eliyakanda. The MOH office is indicated by a red dot. The former MOH office was located inside the hospital and was partly damaged.

Affected PHM areas

Out of thirty PHM areas seven were partially or totally affected. Madiha, Polhena, Pamburana, Totamuna, Kadaweediya, Kotuwegoda and Eliyakanda were affected. Polhena, Totamuna were most damaged.

Nilwala River flows through the city of Matara and meets sea at Thotamuna. As the impact of the tidal wave was much absorbed by the river, it overflowed causing floods on either side.

Buildings Affected

Deputy Provincial Director's (of Health Services) office, which was located in fort about 10 – 20 meters from sea was destroyed, with its vehicles, equipments and documents.

General Hospital Matara, located close to the Nilwala River was flooded to some extent.

Regional drugs stores which was situated at paramulla about 200 meters away from the sea, was damaged completely with its vehicles, vaccines, refrigerators and drugs.

Matara MOH office was not affected as it is located away from sea.

Staff Affected

Two public health inspectors (PHI) and 4 public health midwives (PHM) were affected in the disaster. PHI motor bicycles and houses and property were damaged. PHM Polhena was much affected and her parents died, her house was fully damaged and property was lost. PHM Pamburana too had her house and property damaged. PHM Kadaweediya had sea water floods without major damage to buildings. Thotamuna PHM's office was destroyed with equipments and documents.

Paramulla clinic which was held in a Municipal Council owned building was under water but not destroyed.

Affected Population

| | |
|----------------------------|--------|
| Population of the MOH area | 106416 |
| Population affected | 14978 |
| Number of Deaths | 375 |
| Number Disappeared | 96 |

Table 1. **Affected population by PHM area**

| Number | Area | Total population of P.H.M Area | Affected population |
|--------|---------------|--------------------------------|---------------------|
| 1 | Kotuwegoda | 4065 | 3475 |
| 2 | Eliyakanda | 2276 | 976 |
| 3 | Totamuna | 3201 | 2148 |
| 4 | Polhena | 3562 | 2583 |
| 5 | Pamburana | 2813 | 1546 |
| 6 | Walgama South | 4707 | 3580 |
| 7 | Kadaweediya | 3556 | 670 |
| | | 24180 | 14978 |

By the evening of 26th there were seventeen refugee camps in temples and schools. People have run away from sea and found shelter in a secured place. Number of camps was reduced to twelve the next day.

Management during the acute stage

As the Deputy Provincial Director of Health Service's (DPDHS) office was destroyed and none functioning, a temporary coordinating centre was established in general Hospital, Matara. An official from Ministry of Health Colombo, Director General Hospital Matara, Regional Epidemiologist, MOH of affected areas, and other officials met twice daily in this centre to discuss and plan day to day activities. A meeting was held in the morning to plan and a meeting in the evening to review. Officials from the presidential secretariat, WHO, UNICEF and Nongovernmental Organizations participated in these meetings and gave their fullest possible support. This organized agenda facilitated proper functioning and adequate health care in all camps and affected areas. This temporary centre functioned as the coordinating center until, the DPDHS office was temporary started at the chest clinic Matara.

Population in Refugee Camps –MOH area Matara

| Refugee Camp | Population |
|--------------------------------------|------------|
| 1. Rahula college | 2300 |
| 2. Sariputra school | 400 |
| 3. Weeraba Piriwena (temple) | 200 |
| 4. Wewahamanduwa school | 800 |
| 5. Madiha Weeratungaramaya (temple) | 300 |
| 6. Walgama Sri Vijayathilakaramaya | 180 |
| 7. Ilam Vidyalaya | 118 |
| 8. Nilwala Primary school | 80 |
| 9. Kadaweediya Mosque | 200 |
| 10. Madiha Dammawansikarama (temple) | 50 |
| 11. St Thomas Girls School | 50 |
| 12. Kitulewela Temple | 91 |

Management of Refugee Camps

Rahula College which is located in the centre of the town was the largest camp and there were 2300 occupants initially.

Health authorities were faced with the problem of maintaining sanitation and prevention of out breaks of communicable diseases. A public health Inspector was appointed to each camp to stay in the camp. PHM visited the camps daily. Public Health Nursing Sister worked in the Rahula camp. Other officials at MOH office visited camps regularly.

- Temporary latrines were built in adequate number with the support of government and non government organizations.
- Daily cleaning of latrines arranged.
- Safe drinking water was provided by the water board –chlorination levels were regularly monitored.
- Garbage disposal was regular with the support of municipal council. Lidded bins were provided.
- Tropical Chloride of Lime (TCL), Fly killing insecticides were provided to PHI to maintain satisfactory level of sanitation.
- Cooking area was supervised by PHI and food brought from out side too was checked by PHI.
- Mothers, women, babies were cared by PHM or PHNS.
- Weaning food (“poshana Bath”) was prepared in camps by PHM

During the first week there were many organized groups visited the camps with food, clothing or other necessary items for refugees. By the 2nd week, donors and well wishers had to come through the divisional secretariat. Officials from government and soldiers from army and police were kept in all camps to provide security and to prevent unnecessary crowds getting into camps.

Treating Patients in Camps

Teams of doctors were arriving from other areas of Sri Lanka and overseas to serve in refugee camps. They were always directed to the coordinating centre and from there were sent to camps according to the needs.

A Medical centre was established in Rahula College where Medical students served round the clock. Doctors from General Hospital Matara and District Hospital, Kamburupitiya visited camps regularly.

Pharmacists served in Rahula camp through out this period.

Situations of Drugs

Although the regional drug stores were destroyed, Hospital drug stores functioned as the main drug stores for the first two weeks.

There were donations of drugs from all over the world. Ministry of Health sent all essential drugs to MOH offices during the initial period.

We were not short of drugs at all. Whatever was not available, we were able to purchase with available funds.

A nebulizer was kept at the Rahula camp.

We were able to get down the ambulance from General Hospital Matara to refugee camps when necessary.

Diseases Surveillance in Camps

- PHI visited daily to every room or tent in the camp to identify patients with communicable diseases.
- Grama Niladhari and Other officials in the camp were made aware to report about patients.
- PHI kept daily records of patients seen by doctors.
- Notification forms were provided to doctors working in camps to notify any communicable disease to camp PHI, thereby the MOH.
- Regular notifications from General Hospital, Matara informed us about patients admitting from camps.

Prevention of Possible Outbreaks

We were anticipating spread of enteric diseases mainly.

- Health education by PHI through public addressing system in camps daily played a major role.
- Handouts on primary health care were distributed among indwellers.
- Posters printed and written on Bristol boards were exhibited in many places of the camp.
- Provision of safe drinking water- Either boiled cooled or bottled water. Unlabeled bottled water was checked for microorganisms by the laboratory at water board free of charge before distribution among people.
- Cleaning of latrine regularly and provision of baby commodes, advice on safe disposal of excreta of children.
- Fly breeding was minimized by provision of lidded bins and spraying of fly killing insecticides with early disposal of garbage.
- Breast feeding was promoted whenever possible and distribution of bottles and formula were discouraged and minimized.
- Patients with infectious diseases were admitted to Hospital earliest possible. Hospital ambulance service was helpful.
- Fogging of camps once in two weeks to reduce mosquito density.

Diseases reported in refugee camps during first three weeks.

| Disease | Number |
|------------------------------|--------|
| Respiratory tract infections | 48 |
| Wounds | 175 |
| Acute gastro enteritis | 32 |
| Bacillary dysentery | 03 |
| Mumps | 02 |
| Herpes Zoster | 03 |
| Tetanus | 01 |
| Conjunctivitis | 03 |

Vaccination in Camps

Tetanus toxoid was given to patients with minor and major wounds. Oral Typhoid vaccine brought by a Korean health care team was taken by us and given to food handlers in camps (with the approval of Regional Epidemiologist) Routine vaccination was not carried out in camps; mothers and children were sent to the closest Maternal and Child Health Clinic for vaccination. Hepatitis A vaccination was given in one camp by the Korean team.

Mothers and Women

We had five maternal deaths due to Tsunami in our MOH area. One was a doctor in General Hospital Matara.

There were twenty pregnant mothers in camps initially.

Women who needed to continue with family planning were supplied with the necessary items.

Psychological Support

Psychiatrists and other counselors arrived at camps within the initial period. They were able to communicate with people and be supportive just after the disaster. Many were suffering from grief reaction. Few people with suicidal ideas had been identified and the necessary support was given by the psychiatrists.

| Disease | Number |
|---------------------|--------|
| Depression | 40 |
| Schizophrenia | 02 |
| Delusional Disorder | 01 |
| Phobia | 25 |

Health Care of Affected Areas

After the first few days, cleaning up of the affected area was started, security forces, local authorities from other areas, foreign missions helped in cleaning up.

Some of displaced people gradually started visiting their homes and tried to clean up houses which were intact. We had to cover up affected areas for health care provision as same as in refugee camps.

- Mobile clinics for wound dressing and vaccination with Tetanus toxoid.
- Doctors conducted mobile field clinics for patients in affected areas.
- Disinfectants were distributed to clean houses
- Latrines which were filled up were emptied.
- Wells were emptied and chlorinated.
- Spraying of larvicidal chemicals and fogging for mosquito control.
- Disease surveillance by the area PHI, PHM and doctors conducting mobile clinics.

Funds and Donations

Funds from WHO and donations of drugs and equipment were useful to provide a satisfactory service initially to the displaced population. Funds enabled us to have adequate transport facilities and communication facilities which established a successful team work.

Secondary Stage

Three week after the disaster, the number of initially displaced population in camps was reduced, to 1200. As the schools needed to reopen; people were relocated in six semi permanent camps. They will be in these camps until they get their own houses. These camps were built by NGOs and maintained by the government.

| Name of the Camp | Population | | | |
|-----------------------------|------------|------------|-----------|-------|
| | < 5 years | 5-59 years | >60 years | Total |
| Matara Maha Vidyalaya | 23 | 194 | 13 | 230 |
| Nupe Gamunu Vidyalaya | 12 | 105 | 03 | 120 |
| Solis camp | 13 | 91 | 07 | 111 |
| Hittetiya RajaMaha Viharaya | 13 | 159 | 50 | 222 |
| Kithulewela Temple | 34 | 195 | 04 | 233 |
| Pamburana Walukaramaya | 14 | 119 | 04 | 137 |
| Cultural Centre | 03 | 23 | 06 | 32 |
| Total | 112 | 886 | 87 | 1085 |

We continue to have our established health care system in these camps too. In every camp there are adequate number of latrine s, washing and bathing areas, cooking area, play area, Preschool and an entertainment center, officials from Army, Police Divisional secretariat, MOH office are staying in camps.

Problems identified in refugee camps

(1).Plastic water tanks of 2000 liters capacity have been used as latrine pits in three camps .These filled very soon and needed emptying daily or every other day . We have been able to install new concrete “Hume Pipes” with a bigger capacity to overcome this problem. (With the help of a NGO)

(2).Gully bowsers were needed regularly to camps and affected area to empty latrine pits. Municipal council was unable to provide the service satisfactorily and bowser belonged to Army was used. Later UNICEF intervened as those two were not sufficient to fulfill the demand, and donated one bowser (made by a local company) to the health sector. (DPDHS office)

(3). Food provided to camps was satisfactory in protein, carbohydrate and fats. Fruits were deficient.

(4). Latrine construction on temporary basis is a basic need , but immediately after the disaster we were unable to put up temporary latrines till about one week.(as the people were staying in schools and temples they used the latrines belong to those institutes)

(5). Regular psychological support by Psychiatrist / counsellors was delayed.

(6). School children tend to stay in camps without going to school as the donations were distributed in the morning hours in camps.

On going activities

As healthcare providers of the area we continue to have our health care system in camps until they are closed.

- Maintenance of satisfactory sanitary conditions
- Monitoring of chlorination of drinking water.
- Regular disposal of garbage.
- Mobile clinics daily.
- Disease surveillance.
- Regular psychological support.
- Distribution of food supplementations such as Thripasha.

Suggestions for future plans

Tsunami was an unexpected sudden disaster, similar events can occur in future. E.g. Cyclones earth quakes, floods.

Health authorities were able to manage this disaster satisfactorily without outbreaks of communicable diseases. But we could plan a better system.

Every district could have an **emergency protocol** which can be implemented within few hours at any such disaster.

Disaster management team has to be established in every district with intersectional collaboration to handle disaster situations successfully.

I wish to thank the staff of the MOH office Matara, for their dedicated service.

| | |
|---------------------------------|-----------------------------|
| Additional MOH | -Dr O.I.V Vipulaguna |
| Registered Medical Practitioner | -Dr Dulani Samarasinghe |
| Supervising PHI | -Mr. Ariyasiri David |
| Public Health Nursing Sister | -Mrs. G.G.S Mahanama |
| PHI | -Mr. P.A Pematratne |
| PHI | -Mr. H.W Vijitha |
| PHI | -Mr. W.N. Prasad |
| PHI | -Mr. Jagath Pushpasiri |
| PHI | -Mr. Anura Kodagoda |
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| PHM | -Mrs. G.W Malani |
| PHM | -Mrs. Nayana Samarawickrama |
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| PHM | -Mrs. K. Somawathi |
| PHM | -Mrs. G.W Kalyani |
| PHM | -Mrs. Sandyaseeli |
| PHM | -Mrs. Palangasinghe |
| PHM | -Mrs. Sriyani Swarnalatha |
| PHM | -Mrs. M.B Vasantha |
| PHM | -Mrs. Dinaseeli Vitharana |
| Labourer | -Mr. T.V.G Gunasiri |
| Labourer | -Mr. S G Hettiarachchi |
| Fogging machine operator | -Mr. Sumithrananda |
| Driver | -Mr. Sunil Weragoda |

We are grateful to,

DPDHS office Matara
Ministry of health
Epidemiological unit
Family health bureau
General hospital, Matara
District Secretary
Municipal council
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Psychiatry Hospital Angoda
DPDHS, Rathnapura
DPDHS, Kurunegala
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IOM
GOAL
World vision
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