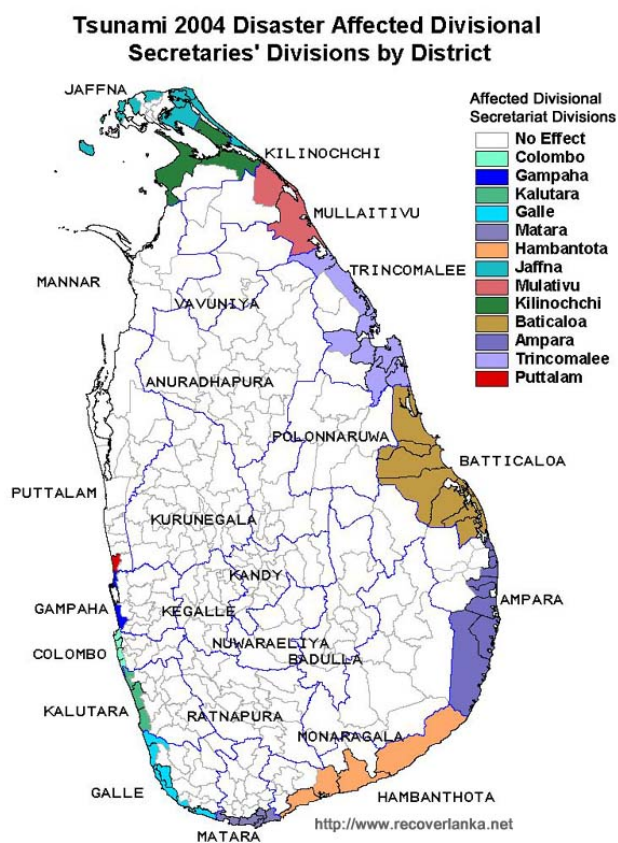


# Tsunami crisis support relief

Rapid assessment  
Early Warning System  
and  
Active surveillance and rumours verification  
Kalmunai region  
Ampara District

16 – 30 January 2005



WHO office Colombo  
Sub Office Ampara  
MSF Spain  
Ministry of Health  
Sri Lanka

**Dr. Augusto Pinto, WHO/CSR/LYO**

- **Description of the assessment methodology**

From 21/01/2005 to 27/01/2005 WHO and MSF Spain, together with the Regional Epidemiology unit of Kalmunai region have carried out a rapid assessment of the performance of the surveillance system put in place by the Ministry of Health to face the Tsunami emergency.

The main objectives of the rapid assessment were:

- To describe data collection and recording
- To identify population under surveillance
- To describe flow of data
- To describe data analysis and report
- To describe feed back procedure
- To describe laboratory capacities to confirm cases in the region
- To describe response capacities
- To assess:
  - Simplicity
  - Acceptability
  - Quality of data
  - Usefulness
  - Representativeness
  - Completeness
  - Timeliness
- To produce recommendations

**Areas visited:**

**District of Ampara, Kalmunai region**

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## Active surveillance and rumours verification:

To verify the performance of the system and the reliability of information collected and reported, we carried out an active surveillance, during the assessment of the system, verifying also all rumours collected at camp level about communicable diseases.

In each camp we were asking to the nurses, to the Public Health Inspectors (PHI) and when present to the medical doctors working for NGOs or other humanitarian agencies whether they have seen, in the past week, any case of suspected watery diarrhoea, bloody diarrhoea, acute jaundice, rash with fever, unknown fever, tetanus in adults or neonatal tetanus.

In each visited area the team made the following steps to verify the eventual detection of the above health events :

- Verification of the information collected at camp level with the register of Medical Officer of Health (MOH).
- Interview of the MOH.
- Interview of the director of the hospital and visit of the wards.
- Interview of the doctor in charge with the Out Patient Departments (OPD).
- In case of admission to the hospital of a suspected case, we visited the related ward to check for the presumptive or confirmed diagnosis.

During the visits the team found few cases of mild diarrhoea and few sporadic cases of bloody diarrhoea. Most of the cases of mild diarrhoea were notified in the first days soon after the Tsunami wave. All of them were treated with ORS and sent home in the same day.

No clusters in terms of time and space have been detected for any of the health events under surveillance.

Most of the cases of bloody diarrhoea detected were in children under five year of age and in most of the cases they were treated before any laboratory diagnosis with Cyprofloxacin or with Metronidazole and cotrimoxazole. All case of bloody diarrhoea met in the hospitals were from the resident population.

According to doctors of OPD hospital the detection of these few cases were in the normal figures of expected cases in this season. No doctors interviewed noticed any unusual increase of any of the health events under surveillance.

### **Assessment of the EWAR system in place**

#### **• Background information**

The East coast of Sri Lanka has been one of the most affected area by the Tsunami. The Ampara district account for more than 10,000 deaths and hundreds of disappeared.

Kalmunai region is the main coastal area in the Ampara district and has been the most affected. The population living on the coast is around 361,000 inhabitants, and among them 162,938 were displaced because the Tsunami wave destroyed all the houses and community shelters.

Most of the health infrastructures on the coast have also been washed out by the catastrophe, and some of the health personnel and of the patients have died.

Few hours after the tragedy, the local health authorities put in place an immediate response to face the emergency situation. All health personnel were requested to participate in the relief operations under the coordination of the Deputy Provincial Director of Health Service (DPDHS).

To assist immediately the survivors, all Medical Health Officers (MOH) were requested to provide health care to the affected population through mobile clinics or by running again the health units not completely destroyed.

Each mobile clinic was composed by a medical doctor (MOH), a nurse/midwife, and a public health inspector (PHI).

#### **• Objective of the surveillance system in place**

- To ensure timely detection response and control of outbreaks among the displaced population

#### **• Population under surveillance**

At the beginning of the disaster the system was essentially focusing on the population displaced from the affected areas to the camps.

After the first three weeks many displaced people started to move from the camps to the houses of the neighbourhoods, to be hosted by other family members or by friends.

This new situation enlarged the catchments population of the surveillance system including the population living around the camps.

- **Health events under surveillance and cases definitions**

According to the MOH interviewed and the Regional Epidemiologist of Kalmunai, all new cases of the following cases of health events attending a health unit or mobile team should be reported.

<b>Health events</b>
Viral fever
Diarrhea
Conjunctivitis
Acute respiratory Infections
Skin diseases
Scabies
Dermatitis
Others (specify)

In the first week of January MSF Spain together with the regional office of Kalmunai have distributed a written list of case definitions to be provided to the MOHs together with a record book for each camp. However their use remained limited.

- **Rumours and surveillance information coming from the communities:**

The PHIs were the key persons to report eventual rumours from the camps and the surroundings communities.

- **Type of system**

The system in place was:

- Exhaustive: all the camps of the displaced population should report
- Active at MOH level. The MOH collects every day the record forms filled in each camp by the nurses or by the PHI.

Data were collected in each camp and aggregated at MOH level.

- **Reporting units**

The reporting units were the camps.

In the Kalmunai region there were 11 MOH areas, and for each MOH area there were between 5 and 15 camps for a total population of almost 60,000 IDPs at moment of the visit.

MOH	Number of camps	Population
Kalmunai North	10	7770
Kalmunai South	9	19382
Sainthamaruthu	5	7965
Karativu	5	5256
Nintavur	5	4623
Alayadivembu	3	3649
Akkarapattu	5	1782
Thirukkovil	10	2395
Pottuvil	14	5112
Sammanthurai	7	980
Addachennai	4	710
<b>TOTAL</b>	<b>77</b>	<b>59624</b>

- **Flow of data**

**Periodicity: Daily** from the camps to the MOH

**Weekly** from the MOH level to the regional level

**Weekly** from the regional level to the Sate level (Colombo)

**Data transmission:** data are transmitted by hand from the camps to the MOH and by fax, telephone or by hand from MOH to the regional epidemiology unit

There was not regular feedback from the regional level to the MOH area and to the camps.

- **Data collection form**

At camp level a daily data collection form was filled out by the nurses/midwife and the PHI assigned to the camp with aggregated number of new cases of the health events under surveillance.

Deaths were not included. This was due to the fact that deaths usually do not occur in the camp or during OPD activity. The recording of deaths continued to be based at hospital level.

**Weekly data collection form :**

Every Friday MOHs aggregated the daily data in a weekly record form to report to the regional epidemiological office.

- **Data entry and analysis**

The data entry was done by the regional epidemiologist on a Excel spreadsheet.

The regional epidemiologist analysed the data received every week to check if there are any significant increase in the number of cases of the health events under surveillance.

- **Indicators**

The indicators produced were : Number of cases by camps and by MOH by day and by week.

- **Data validation:**

- **MOH area:**

When completing the form the MOH checked that the data received from the camps were reliable according to his personal experience and that all the information were complete

- **Regional unit:**

The regional epidemiologist received the weekly report by fax, telephone or by hand every Friday  
He checked the completeness of the forms and whether there were any “excessive” numbers or “significant increase” of cases.

- **Call back**

Every Saturday, the Regional Epidemiologist called the MOH who did not send the forms to ensure the completeness of the reports by the end of each week.

- **Thresholds triggering actions**

According to the Regional epidemiologist in Kalmunai region, ”significant increase” in number of the cases of the health events reported will trigger action for investigation.

However, thresholds were not specified for any of the health event under surveillance.

- **Laboratory confirmation:**

In Kalmunay district the laboratories attached to the two base hospitals did not have yet the capacities to perform any diagnostic of microbiology, virology or serology, to confirm eventual suspected outbreak.

Laboratories should collect the samples and send them in appropriate conditions and with the appropriate media to the Central laboratory in Colombo, of the Microbiology Research Institute.

The laboratory in Kalmunai hospital was provided with Cary Blair for the transport of stools for diarrhoeal diseases confirmation.

The district laboratory attached to the central hospital in Ampara could perform some bacteriological cultures.

- **Feed Back**

The central epidemiologic department in Colombo received the weekly report from affected districts and produces a weekly summary report published in the Ministry of Health web site.

- **Rumors verification, signal detection**

In case of report of unusual events from the camps or in the surrounding community the PHI and the MOH were usually in charge with the verification of the rumours.

- **Preparedness, response and coordination:**

The regional epidemiology department was in charge for the preparedness and response of epidemics. The implementation of the investigation and response activities at peripheral level was carried out by the Mobile Clinics.

Health coordination meetings were usually organized at regional level (Kalmunai) according to specific needs, however there was not a routine meeting to discuss about epidemiological surveillance and discuss about weekly data reporting.

## **Results:**

- **Strengths**

The system was conceived to be highly **sensitive** according to the crisis condition and the need to detect events as early as possible.

The system was well established, especially at front line level among the camps of displaced population. The presence of the personnel involved in the system was highly decentralized.

The personnel involved, were highly motivated and the **acceptability** of the surveillance system was very high among them. All the health personnel involved consider the system very **useful**.

The communication between regional and peripheral level were very good.

**Timeliness** was good; delays in sending forms were very rare.

**Representativeness** was high. However the majority of most severe cases went directly to the hospital OPD and thus could not be detected by the system.

**Completeness** was 100% in the first two weeks and 90% in the third week after the Tsunami

There was a high sense of abnegation among the personnel involved in the surveillance system expressed by their constant presence at every time of the day.

Some NGOs, namely MSF Spain and Merlin, were collaborating closely with the Health authorities in strengthening the existing surveillance system.

- **Limits**

### **Data collection and data recording**

#### **At camp level:**

There was not a standard and formal recording system (registry) at mobile clinic level.

Most of the MOH were writing the prescription for the patients on a little paper without reporting the suspected diagnosis in a record book.

The record daily form was filled by the nurses or by the PHI soon after the visit of the MOH.

#### **At hospital level:**

The OPD of the hospitals of the region have between 350 and 600 patients per day. However all these visits were not recorded in a record book.

However the doctors working in the hospital OPD have to report all notifiable diseases as from the national law for the control of communicable diseases.

Until the third week after the Tsunami, the surveillance system for communicable diseases did not include any hospital OPD activities.

#### **At MOH level:**

MOH consolidated the daily data collected by nurses and PHI to fill up the weekly record form. Sometimes, some MOHs were consolidating the weekly data based essentially on their memory.

### **Health events under surveillance, case definition and thresholds**

The health events under surveillance did not include syndromes such as acute Jaundice or Bloody diarrhoea or suspect measles..

However according to the regional epidemiologist, if a case of these syndromes was detected, it would be reported and specified under the line "Others" and thus immediately notified.

Until the third week of the crisis there were not specified case definitions for the health events under surveillance.

Thresholds have not been specified for each of the health event under surveillance and there were not specification of the action to be triggered in case of suspected outbreak.

### **Population under surveillance, use of denominators:**

Cases reported by the surveillance system did not include only the population of the camps but also the resident population. Therefore, in terms of computing incidence rate or death rate the denominator needed to be adjusted to a wider population including the residents around the camps.

### **Data quality and data validation:**

Data transmitted should have the possibility to be counter checked by the presence of outpatient record books.

### **Indicators, Data analysis:**

The indicators produced were absolute number of cases by MOH areas and camps.

Data were not always presented by age groups.

Graphics or maps were not routinely produced at regional level.

### **Feed Back:**

Given the excessive workload and limited personnel, no bulletin was produced, at regional level to feed back the frontline workers at camp level

### **Laboratory confirmation:**

Transport media for specimen collection should be positioned in all hospitals of the region.

## **NGOs and partners:**

Some NGOs providing health care in the camps, did not follow strictly the rules as indicated by MOH, and did not record their OPD activities causing, sometimes, losses of information for the system.

## **Conclusions**

The regional surveillance system has shown a very high flexibility. An Early Warning System, adapted to the crisis condition was put in place 24/48 hours soon after the disaster, mobilizing the existing local health personnel.

The adapted EWAR system showed a very high sensitivity, as requested in emergency situation, with a very high level of acceptability, usefulness, simplicity and representativeness. Timeliness and completeness were also very high the first three weeks of activities.

More attention should be given to the use of standard case definition and the definition of thresholds for alert signals.

Data analysis at regional level needed to be supported by an automatic computer application able to produce immediately the defined indicators, to alert according to defined thresholds, and to produce standard bulletin for routine feedback.

Standard procedures for specimen collection and transport in emergency situation should be produced to ensure good quality of diagnosis. Transport media should be positioned at peripheral level to ensure the collection of all specimen when required.

Regional epidemiologists and Medical Officer of Health should be trained in field epidemiology and surveillance of communicable diseases in crisis situation as preparedness of eventual future disasters.

Lesson learned during the crisis situation could be useful for strengthening the national surveillance system with specific regard the EWAR and laboratory components.