

**Preliminary Report
Post-Hurricane Mitch Needs Assessment
American Red Cross International Services
Centers for Disease Control and Prevention
February 1999**

GUATEMALA

I. Background:

In late October and early November 1998, Hurricane Mitch, one of the strongest, most devastating hurricanes of this century, caused widespread destruction throughout Central America. Guatemala was affected for several days by high winds and torrential rains that caused enormous damage to the infrastructure of this country. The American Red Cross International Services (ARC) was requested to address relief efforts related to health in the hurricane-affected areas of Central America and requested CDC to perform a needs assessment to assist in directing its efforts.

II. Methods and Materials:

Household surveys were performed using a modified cluster-sampling method. The most heavily damaged regions were identified by the in-country ARC delegates and were located in 8 departments. The 8 departments were divided into clusters based on distribution of 44,581 households affected by the hurricane. Thirty clusters were randomly selected with probability proportional to the number of households within a cluster. One adult family member was interviewed from each of 7 randomly selected households within a cluster. Two hundred and thirteen interviews were completed, representing approximately 1296 people

A questionnaire in Spanish was utilized to address health care needs and availability, food and water availability, housing, and storm warning and preparation. The interviewers were local Red Cross personnel and volunteers guided by the principal investigator.

Data was entered and analyzed in Epi Info 6.1. Frequencies of variables were calculated for the population as a whole and stratified by 2 geographical areas considered to have diverse sub-populations of special interest. One geographical area (Region 1) consists of 2 departments: Quiche and Huehuetenango. This region was more isolated and thought to have limited access. The other geographical area (Region 2) consists of 6 departments: El Progreso, Zacapa, Jalapa, Chiquimula, Jutiapa, Santa Rosa. This region was most affected by Hurricane Mitch.

III. Results:

Demographics:

Of the households interviewed, 73% had not sustained damage to their home. Within the households that had experienced damage to their homes, 23% had damage but were able to live

in their home and 2% had damage that had been repaired. Only 2% of the households were completely destroyed. Ninety-four percent of the households were living in their homes. The mean household size of the population interviewed was 6.1 people (range 1-18 people) before the hurricane and remained the same after the hurricane. Children 2 years of age and under were in 45% of households and people 65 years of age or older were in 27% of households. Eleven percent of households had a pregnant woman. A death had occurred due to the hurricane in 1% of households.

Health and Health care:

Overall, access to health care did not change since the hurricane. Forty-five percent of households reported access to health care before the hurricane and 45 % reported access after the hurricane. However, those households with access before and after the hurricane may be different. Similarly, access to a pharmacy remained at 46% before and after the storm. Health care is provided mostly from a clinic (64%) or health promoter (13%). None of the households relied on healthcare from disaster services. Health care information was collected for conditions needing attention in the past month and conditions needing attention at the time of the survey. Within the past month, 9% of the households had one or more members who had sustained an injury. A total of 22 people sustained injuries.

During the same time period, 41% of households had one or more household members who had been ill: respiratory illness (40%), gastrointestinal illness (23%), chronic illness (17%), stress reaction, including insomnia and poor appetite (4%), and malaria (1%). The total number of people with illness over the past month was 291 of 1296 people. Forty-seven percent of households reported needing medications, representing a total of 234 people.

Figure 1 Reported Illness During the Past Month

Type of Illness	Percent of Households
Illness overall	41%
Gastrointestinal	23%
Respiratory	40%
Malaria	1%
Stress	4%
Chronic	17%
Other	15%

Twenty-six percent of the households were in need of health care at the time of the survey ranging in age from newborn to 89 years old. The predominate type of illness was pain reported by 21% of people needing care. This category includes arthritis, headache, leg cramps and other general pain complaints. Respiratory illness (20%), which included self-reported complaints of cold, cough and other respiratory symptoms and gastrointestinal illness (20%) including complaints of diarrhea, vomiting, abdominal pain, and ulcer were the next highest categories. Neurological illness (9%) represented nervous conditions and unspecified mental problems. Birth defects (4%) included Down's syndrome and cerebral palsy. Fever category (3%) includes complaints of fever and infection. (Figure 2)

Food:

Before the hurricane, 80% of families reported having enough food every day of the week. This decreased to 75% at the time of the interview. The mean number of days a week without sufficient food was 1 and remained unchanged before and after the hurricane. Food was reported as the most important need in 9% of households.

Services:

Households reported services including electricity (89%), telephone (23%), transportation (83%), and waste disposal (23%). Information was obtained by radio (54%), TV (28%), or neighbors (13%).

Water and Sanitation:

Running piped water was available in 76% of households at the time of interview. The remaining households received water from a well (19%) or used bottled water (1%). None of the households relied on disaster services for water.

Sixty-eight percent of households treated their water before drinking, 45% boiled their water and 33% used chlorine. Bathrooms or latrines were available for 85% of households.

Reported Needs:

At the time of the survey, households reported medical services (11%), food (9%), and housing (7%) to be their greatest needs. For the second most important need, households reported food (22%), medication (18%), medical services (12%) and agriculture (10%).

Hurricane Warning Information:

Fifty-six percent of household reported having information about the hurricane prior to its arrival. However, 47% of households reported receiving warning >24 hours. Television was the

main medium for information on the hurricane, with 39% of households receiving warning from TV. Radio was the source for warning to 32% of households. The remaining households were notified by neighbors, firemen, the newspaper, or by relief workers.

Hurricane Preparation:

Although 56% of the households had warning, 65% did not do anything to prepare. Those who did prepare either stored food and water (25%) or evacuated (15%).

Region 1: Huehuetenango and Quiché

Demographics:

Households in this region ranged in size from 1 to 14 people with a mean of 6.7 before the hurricane and 6.6 after the hurricane. Eighty percent of the homes did not experience damage to their homes while 19% had damage, but were still able to live at home. Only 1% reported their home was destroyed in the hurricane.

Health and Health Care:

Nine percent of these households reported someone who sustained an injury during the past month and 59% had at least one person who was ill during the same time period. Respiratory illness was most common followed by gastrointestinal illness. Forty-seven percent of the households had someone who did not have needed medicines. Access to a pharmacy was 66% before the storm and 67% after. Health care access was 62% before and 64% after the hurricane. Access to a pharmacy and healthcare remained almost the same before and after the storm.

Water and Sanitation:

Running piped water was available in 87% of the households before the hurricane and remained the same after the hurricane. Seventy-four percent of the households treated their water by boiling it before drinking and 12% use chlorine. Latrines were used by 58% of the households and toilets in 34%.

Region 2: El Progreso, Zacapa, Jalapa, Santa Rosa, Chiquimula, Jutiapa.

Demographics:

Households ranged in size from 1 to 18 people with a mean size of 5.6 that remained the same with respect to hurricane occurrence. Sixty-five percent did not incur any damage to their home, 4% of the homes were destroyed and the remaining 31% had damage that was repaired (5%) or damage, but were able to live in their homes (26%).

Health and Health Care:

Nine percent of the households reported someone who had sustained an injury during the previous month while 56% had one or more people with an illness. Respiratory illness was most common followed by gastrointestinal illness. Access to medical care before the hurricane was 28% and remained the same after the storm. Similarly, access to a pharmacy was reported in 27% of the households before the storm and was unchanged after the storm. Forty-six percent of the households had someone who did not have a needed medication.

Water and Sanitation:

Running piped water was available in 63% of the households before the hurricane and 65% after the storm. Eighty percent of the households treat their water before drinking it, 54% used chlorine and 16% boiled the water. At the time of the survey, 40% of the households reported having a toilet and 40% a latrine.

IV. Conclusions:

1. The needs identified by this assessment reflect long term problems with respect to access to medical services and supplies countrywide.
2. The timing of hurricane warning is often inadequate for preparation.
3. Appropriate preparation usually does not occur.

V. Recommendations:

1. Community access to services and supplies should be enhanced in the context of the existing health care system.
2. Reexamine the current disaster warning system to increase the amount warning time given to communities. Consider defining a plan that encourages collaboration of media personnel, meteorologists, NGOs, etc.
3. Develop or strengthen instructional programs on appropriate disaster preparation for communities. Consider utilizing preexisting educational materials for community health programming.