

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

**NICARAGUA**

**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. Nicaragua was battered for several days by high winds and torrential rains that caused enormous losses of life, catastrophic damage to the infrastructure of this country, and hundreds of thousands left homeless. 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:**

We performed household surveys using a modified cluster-sampling method conducted the week of February 2, 1999. The most heavily damaged regions were identified by the in-country ARC delegates and were subsequently divided into clusters based on the distribution of an estimated 85,833 families affected by the hurricane. Using a random number generator we selected 30 clusters with probability proportional to the number of households within a cluster. One family member was interviewed from each of 7 randomly selected households within each cluster. Two hundred and five interviews were completed representing approximately 1511 people.

We administered a questionnaire in Spanish to address healthcare availability and healthcare needs, food and water availability, housing, and storm 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 sub-populations of special interest, such as shelters and the Rio Coco area.

**III. Results:**

**Demographics:**

Of the surveyed households, 24% were living in their own homes, 69% were still remaining in shelters, and 5% were living with friends or family. Seventy-eight percent of households reported complete destruction of their homes, 14% reported sustaining damage that could be