

profile, socio-demographics, the extent of support requested by the host nation, language difficulties, limited resources, and time.

**Planning and preparation:** It often was not difficult to identify the needs of the target population, but it was difficult to fulfill most of them. Medical activities were tailored towards obtaining the greatest health benefits for the most people, and focused on primary health care (preventive and curative interventions). Preparation examined selection and availability of relevant medical specialists, logistics (requirement for surgical facilities, the need for portable power, water supply, and transport vehicles), training, and preventive medicine issues. Operationally, detailed information on the location, berthing facilities and general road conditions was required.

**Execution:** The RSN medical team comprised of an occupational/public health physician, a general practitioner, a few medical orderlies, and non-medical personnel (driver, technician and radio-operator). Medical activities consisted of outpatient screening and treatment (81%), dental treatment (9%), nutritional supplementation, and health education. Surgical procedures included circumcision for male children (religious reasons), norplant insertions, cataract surgery, cleft lip repair, and minor and intermediate (requiring general anesthesia) surgery (10%). Socio-civic activities included basic public health interventions, building basic infrastructure, and food aid. More than 2,000 patients were seen, with about 45% of patients being <15 years old. The commonest medical conditions were ranked as: 1) respiratory tract conditions; 2) diarrhea/malnutrition; 3) skin conditions; and 4) musculoskeletal problems. The patient profile, statistics, and significance will be discussed in detail.

**Problems encountered:** Remote islands, lack of berthing facilities, access to shore, and to the villages, transport of medical supplies and equipment, lack of electricity, and vulnerability to communicable disease.

**Advantages of a joint medical mission:** The benefits were synergistic in that the two agencies were able to complement each other's medical services, and overcome limited medicines and equipment.

**Conclusion:** The Navy has a unique role in medical relief in remote rural communities due to its ability to access these areas. The assistance by the RSN was limited in scope and duration, and planned to supplement or complement the efforts of the Indonesian team. In planning for short medical relief missions in rural areas, the priority is given to overcoming public health deficiencies and communicable diseases, while taking into consideration personal safety and resource limitations.

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**Keywords:** access; activities, social-civic; diarrhea; communicable diseases; food; Indonesia; infrastructure; navy; relief, malnutrition; medical; primary health care; public health; resources; respiratory conditions; rural; Singapore; skin diseases

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### The Action of the Japan Disaster Relief Team for Nicaragua in Hurricane Mitch

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On 27 October 1998, a big hurricane named Mitch attacked Central America, and Nicaragua suffered big damage from it. According to the Pan-American Health Organization (PAHO), Nicaragua had 800,000 victims, 1,848 casualties, 1,287 missing, and 228 injured. The Japanese government accepted a request from the Nicaraguan government for the dispatch of the Japan Disaster Relief (JDR) medical team.

The JDR team stayed in Nicaragua from the 14 to 22 November. This team consisted of three doctors, six nurses, three medical coordinators, and three administrative coordinators. Doctor and nurses from Japan Overseas Cooperation Volunteers (JOCV) and the Japanese Embassy also assisted.

We stayed in Nueva Vida, Managua province, and Malacatoya and Tepalon, Granada province, and built clinics to see the victims. We saw 1,120 patients (Nueva Vida, 463; Malacatoya, 544; Tepalon, 133). The number of male patients was 413 (36.8%), and female, 707 (63.2%). 612 patients (54.6%) were children under 14 years old. We had a number of female or child patients who generally were vulnerable in disaster.

Infectious diseases were the main problem encountered, while the traumatically injured patients were very few. 34% of the total number patients had respiratory infectious diseases, 17% had gastrointestinal infectious diseases, and 16% had skin infectious diseases. We saw eight patients with cholera in Malacatoya, but did not see signs of an outbreak of infectious disease such as dengue, cholera, and malaria.

We also conducted research on the needs for the medical care and sanitation problems of drinking water. The research on medical care needs in Nueva Vida contributed to obtaining information about diseases and injuries of victims in the camp, evaluating our activities, and leaving the information about medical care needs for local staff. These studies of drinking water did not reveal any significant problems due to good management of sanitation.

The JDR medical team arrived in the disaster area during the subacute stage, two weeks after the hurricane attacked. Through our medical activities and research, we were able to understand the needs according to the disaster cycle. It seems that international disaster relief will continue to play an important role at the subacute stage. We need to discuss more on methods for activities and researches at this stage.

**Keywords:** cholera; dengue; disaster; Hurricane Mitch; infectious diseases; Japan Disaster Relief team; malaria; Nicaragua; vulnerability