

programs, including the necessary components for shelter activation, operation (including provision of care), and demobilization of shelter sites.

Sheltering of medically fragile clients also may be necessary in areas of the world that are not subject to hurricanes, but may face other hazards (floods, tornados, civil unrest, hazardous materials incidents, etc.).

**Keywords:** Florida; hurricane; issues; lessons; medically fragile; shelter; systems

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### After Sphere: An Evaluation to Determine Post-Emergency Phase Refugee Health Indicators

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**Objectives:** In 1997, a collaboration of non-governmental organizations (NGOs) and the International Society of the Red Cross and Red Crescent launched the Sphere Project, which provided mostly qualitative health standards to aid agencies for humanitarian assistance in emergency refugee settings. Yet, despite such efforts, more than half of the world's refugees live in protracted living conditions for which there are no long-term, refugee health indicators.

**Methods:** Through triangulating data from 35 key informant interviews and two focus group discussions, health indicators, appropriate for a post-emergency, refugee setting, were ascertained from the Kakuma Refugee Camp in Kakuma, Kenya. Participants included: (1) representatives from all nine ethnic refugee groups and vulnerable groups, including women, youth, and the disabled; (2) health sector administrators and providers, including community outreach, inpatient and outpatient personnel; and (3) administrative and operational personnel from other camp sectors directly impacting health services, including referral services, food, water and sanitation, and shelter.

**Conclusions:** Evaluation of the data determined that continuous quality improvement (CQI) at all levels of refugee health programming should be integrated in the post-emergency phase. This includes the supervision of refugee healthcare providers, community health workers, and health educators. Continuous quality improvement should include measuring the effectiveness of health programs within the healthcare facilities and community. This improvement must include a focus on human resource development—periodic continuing medical education, ensuring equitable benefits for local and refugee staff, and quality feedback—that would improve care and strengthen morale. Refugees should be involved in the decision-making process and gradually take on greater roles in healthcare delivery.

Surveillance and curative services for chronic diseases, such as hypertension and diabetes, mental health issues, nutritional deficiencies, palliative care for human immunodeficiency virus (HIV) patients, and those with a terminal illness, should evolve in the post-emergency phase after infectious disease surveillance is established, and referral processes, especially for emergencies, should be streamlined.

Mechanisms to ensure horizontal coordination among agencies of various sectors should be in place. Linked data systems—e.g., household-based, post-food distribution monitoring linked with nutritional status of youngest children, sanitation and water data, shared with diarrhea incidence data—are points for coordination. Ensuring equal access to livelihoods and all levels of health care will minimize resentment between the local population and refugees.

Educational programs should become more focused as health problems emerge. Examples include nutritional counseling for HIV-positive mothers who don't breastfeed, family planning, and occupational and societal integration of the disabled. As this study illustrates, the post-emergency phase of the refugee environment has consensus-driven qualitative indicators that can be validated, standardized, and implemented to improve health care.

**Keywords:** effectiveness; evaluation; healthcare; indicators; post-emergency; public health; refugees

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### Efficiency Analysis of the System of Health Support in the Refugee Camps in Northern Caucasus during Anti-terrorist Operations

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From 1999 to 2003, the All-Russian Centre for Disaster Medicine (ARCDM), "Zaschita" of the Russian Ministry of Health provided health support of temporarily displaced persons, in accordance with the tasks assigned by the government. The main tasks for health provision were: (1) rendering emergency medical assistance for patients with acute diseases and traumatic injuries; (2) prevention and early detection of infectious diseases, including tuberculosis (TB); (3) medical examination and detection of people who needed in-patient treatment and specialized medical care; (4) vaccinations for children; (5) providing outpatient and polyclinical assistance; and (6) medical check-ups for patients with chronic diseases.

To achieve these tasks during the given period, multi-purpose, field hospitals were deployed (therapeutic, TB, pediatric), in which various skilled and main types of specialized care were provided. Patients with chronic diseases and long treatment terms were sent to the medical institutions of the Republics of Ingushetia, Dagestan, and Kabardino-Balkaria. For highly technological types of medical assistance, the injured were sent to central, specialized, medical institutions (Moscow, St. Petersburg), as well as to regional specialized institutes (Vladikavkaz, Nalchik, etc.).

For early detection of somatic, psychological, and infectious diseases, a check-up team of physicians from the multi-purpose field hospital went to the camps each day. The team included a physician-therapist, an infectionist, and a doctor specialized in functional diagnostics to review electrocardiograms (ECGs) and ultrasound studies. A special team detected patients and carried out prevention work with TB contact persons using house-to-house visits and fluorography. In some camps, outpatient, polyclinical assistance was provided with the help of doctors from humanitarian orga-

nizations (the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), etc.).

During the given period, medical assistance was given to >150,000 patients, including 38,000 children. More than 1,300 patients with active TB were detected, and were given in-patient treatment, and >3,500 contact persons received pharmacotherapy. In-patient assistance was provided to >18,000 patients in the field hospitals, >4,000 people in the hospitals situated near the boundaries of the Republic, and >700 people received highly technological types of assistance outside the Republic. More than 15,000 children were vaccinated. Outbreaks of infectious diseases and group diseases among the temporarily displaced persons from the Chechen Republic were not observed during that period.

A proposed system for providing medical assistance to the temporarily displaced populations in Northern Caucasus showed high efficiency and may be recommended for use in other countries in analogous situations.

**Keywords:** assistance; efficiency; Chechen Republic; health support; Northern Caucasus; vaccinations

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### Provision of Medical Support in Large-Scale Disasters: Level of Commitment by the Municipal Bodies in Prefectures and Government Ordinance-Designated Cities in Japan

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**Objective:** When a disaster occurs, the municipal bodies must perform prompt and effective allocation of comprehensive disaster medical support. However, establishing the appropriate system for disaster medical support is in its infancy in most of the municipal bodies in Japan. In this study, the current issues affecting the municipal bodies in Japan were surveyed and analyzed in regards to the system for provision of disaster medical support, and the results were analyzed in order to establish future recommendations. **Methods:** In October 2004, a questionnaire was sent to a total of 60 Japanese governmental bodies and the responses were collected.

**Results:** Of the 60 bodies, 37 (68%) completed and returned the questionnaire. Nine (22%) have a special working committee for the provision of disaster medical support. In regards to developing operational guidelines for disaster medical support management, 25 (68%) of the respondents have designed their own guidelines, while 34 (92%) have stockpiled medical kits and supplies for a disaster in their storage bases. However, of the 68% who designed guidelines, 22% actually made the availability of the guidelines known publicly; of the 92% with stockpiled supplies, 19% made the existence of the stockpiles publicly known. In regards to the system for processing information at the time of a disaster, 38% of the respondents have set up a system that enables them to collect information from all the relevant organizations including local municipal

offices, major hospitals, and related representatives. This study did not find any municipal body that regularly organizes workshops or training sessions in order to train future managers or coordinators for overseeing efficient provision of disaster medical support.

**Discussion:** The results of the survey showed that: (1) no practical working relationships have been established among related representatives to deal with disaster medical support at the time of a disaster; and (2) a number of municipal bodies have designed guidelines for managing disaster medical support, have arranged to have medical kits and supplies for disaster in stock, and have set up a system to deal with a flood of information in a disaster. However, few municipal bodies have exercised an adequate level of public relations or organized official training sessions in their municipal areas. Thus, it is feared that the aforementioned publicity and facilities may be in vain at the time of a disaster, as they would not function in the optimal manners intended. Each municipal body should take immediate action in the following areas: (1) exercising appropriate professional relations with the medical organizations/institutions and with the public; (2) developing and implementing a system for disaster medical support through proper establishment of working relations among relevant representatives; and (3) offering educational programs to the members of the healthcare community in order to increase the awareness of disaster medical support needs.

**Keywords:** guidelines; Japan; large-scale disaster; medical; municipal bodies; publicity; support

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### Lapses in Response to Road Traffic Crashes in Nigeria

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**Introduction:** The World Health Organization (WHO) statistics show that since the advent of the automobile, more than 32 million persons have died from traffic crashes, and an average of 700,000 persons die annually. Data from the WHO further reveal that the number of annual deaths due to traffic crashes is more than the number who have died from earthquakes, floods, typhoons and all other natural disasters combined. Another global report from the WHO reveals that developed countries or highly motorized countries (HMC) account for 85% of vehicle ownership, while transitional countries account for only 15% of car ownership. Paradoxically, developed countries account for only 15% of road traffic crashes while transitional countries account for 85% of road traffic crashes. Based on data from Federal Road Safety Commission (FRSC), Nigerian Police, and the Save Accident Victims Association of Nigeria (SAVAN) organization, incidents of road traffic crashes associated with morbidity and mortality are astronomically on the rise. Analysis of these data shows that from 1955–2004, deaths per crash illustrate poor coordination and several lapses of first responders, hence unacceptable deaths are recorded per-accident cases. Non-existing prehospital structures at all levels have contributed to unac-