Chapter 7

Sudden population displacements

Purpose of assessment

The purpose of this rapid health assessment is to:

- describe the type, magnitude, and possible evolution of the displacement;
- assess the health and nutritional impact of the displacement on the displaced and host populations;
- initiate a health and nutrition surveillance system;
- assess the adequacy of existing response capacity and the immediate additional needs, and
- recommend priority actions for rapid response.

Background

People may be displaced from where they live by natural or man-made disasters, force or the threat of force, or other pressures. The term "refugee" refers to displaced persons who cross an international border. The country to which they flee is referred to as the "host country". In contrast, "internally displaced persons" do not cross an international border and remain within their country of origin.

Displaced persons may move as a large group over a short period or move in small groups over months or years. Large concentrations of displaced persons may be found in poor, peripheral, and under-served sections of large cities The sudden arrival of large numbers (sometimes hundreds of thousands) can create a health emergency This protocol addresses rapid health assessment in all emergencies owing to sudden displacement of both refugees and internally displaced persons

The rapid health assessment has to include the host population because of the additional stress that may be placed on local organizations.

Conducting the assessment

The rapid assessment consists of:

- defining the area where the displaced are located,
- deciding what information to collect,
- assessing health status;

— assessing environmental conditions; and
— assessing local response capacity and additional immediate needs.

Defining the area where the displaced are located

Displaced persons may be found:

— scattered in small groups along a stretch of border, in many instances living with local villagers of the same ethnic group, or even relatives;
— massed in a relatively well-defined area near a border;
— located in transit camps organized by local officials not far from a border;
— clustered in small groups scattered along the coast of a host country, having fled by boat; and
— grouped together in urban or peri-urban settings.

Before the field assessment, review any recent information collected and compiled on the displaced group and the host areas by ministries or response and recovery organizations based in the capital city. In addition, determine whether there have been any preliminary requests, orders or actual procurement of food, medical or other emergency supplies.

Deciding what information to collect

Before the assessment, investigators must decide what information to collect, and prioritize it to ensure that the essential information will be gathered if time or resources are inadequate. This information may include:

— an estimate of population size and trends of displacement;
— the rates and the major causes of mortality;
— the existence of diseases of epidemic potential, such as measles, cholera, and meningitis,
— the major causes of morbidity;
— the availability of food and the nutritional situation, and
— the population's basic environmental needs, such as water, shelter, and sanitation facilities.

A checklist will ensure that important data are not forgotten The sample checklist on page 60 is provided as an example.

Assessing health status

Assessing health status consists of collecting demographic and background health information, and information on the three key indicators for a displaced population's state of health· nutritional status, mortality and morbidity

Demographic characteristics

- The following information should be collected:
  — population size with age–sex breakdown (e.g. <1, 1–4, 5–14, 15–44, 45–59, >60 years old);
  — number of arrivals and departures per week;
  — predicted number of future arrivals;
  — ethnic composition and place of origin,

  - identification of at-risk groups, (e.g. infants less than one year, children less than five years, pregnant and lactating women, households headed by women, unaccompanied children, disabled and wounded, elderly), and
  - average family or household size.
- This information is needed because:
  - the total population is the denominator for all death and morbidity rates, which might be estimated at later stages,
  - estimating population size makes calculating emergency supplies possible; and
  - a breakdown of the population by age and sex allows for the targeting of special interventions (e.g. immunization and care for pregnant and lactating women).
- Demographic information can be obtained from:
  - existing reliable census;
  - registration records maintained by camp administrators, local government officials, religious leaders, and others;
  - interviews with leaders within the displaced groups;
  - visual inspection during a walk through the area (This gives a quick impression of sanitary conditions and population density. Note, however, that it is unwise to base conclusions on visual impressions alone Depending on the time of day and cultural habits, the population may differ. For instance, people may be gathering firewood away from the settlement),
  - aerial photography and use of global positioning systems (GPS); and
  - a small survey (In sampled dwellings, record the number of family members, age and sex of each, and the number of pregnant and lactating women Calculate the average number of persons per visited dwelling, then the total number of dwellings in the camp or settlement.)

Given that no rapid method is entirely reliable, a combination of them and comparison of the resulting estimates should be used. As soon as possible, ensure that a system for registering new arrivals is established. Record the names of household heads, number of family members by age and sex, former place and region of residence, and ethnic group, where applicable.

Background health information

- The following information should be collected
  - main health, nutritional, and psychosocial problems in place of origin and among host population;
  - public health programme coverage in place of origin and among host population (e.g. measles immunization);
  - previous sources and types of health care, including traditional medicine;
  - availability of health workers in the displaced population;
  - important health beliefs and traditions; and
  - social organization.
- This information is needed in order to.
  - identify current health priorities for immediate intervention;
  - identify potential health threats;

  - collect baseline information for future monitoring; and
  - ensure appropriateness of planned health interventions.
- Background health information can be obtained from:
  - documents and reports from the host government ministry of health and universities, as well as international and nongovernmental organizations (collect information on endemic diseases and public health programmes in the displaced population's place of origin and in the host area);
  - interviews with community leaders, household heads, health workers, and individuals; and
  - development organizations, private companies, and missionaries with experience with the displaced population.

Nutritional status

- The following information should be collected:
  - prevalence of acute protein–energy malnutrition in children 6 to 59 months of age or 60 to 110 centimetres in height, and
  - prevalence of micronutrient deficiencies
- This information is needed, in combination with information on food sources and security, to design feeding interventions and to identify groups at nutritional risk.
- Information on nutritional status can be obtained from:
  - anthropometric and micronutrient deficiency screening on all newly arrived children (or a sample of children if there are insufficient personnel, or too many new arrivals);
  - inclusion in any household survey of an assessment of nutritional status using anthropometric measures and micronutrient deficiency screening;
  - weight-for-height measurement[1] and examination for clinical signs of vitamin A, B and C deficiencies (see Chapter 8);
  - review of local hospital records (e.g. admissions and deaths due to malnutrition);
  - interviews with resource people among the displaced (assess food availability before displacement and the duration of the journey from place of origin to the present site); and
  - visual inspection, bearing in mind that it is unwise to base conclusions about childhood nutritional status on visual impressions alone.

Mortality

Death rates will be very difficult to calculate accurately in a rapid health assessment, owing to the lack of time for collecting and analysing information. Reliable death rates can be calculated only if:

  - census information has already been systematically collected by national authorities or other organizations that provides a total population count by age and sex;
  - the population remains static other than births and deaths (there are few people joining or leaving the population);

[1] Mid-upper arm circumference (MUAC), and QUAC (MUAC for height) can also be used, but are considered less accurate than weight-for-height measures.

— a mortality surveillance system is in place,
— the information is classified appropriately, e.g in rational age groups, independently for both sexes;
— mortality information is collected over a statistically valid period of time (where mortality is very high, this period can be quite short—where it is low, sporadic, or of uncertain causes, then this can be a very long period);
— death rates are calculated by a national demographer or, if a demographer is not available, an epidemiologist

However, approximate death rates can still be estimated if only a few of these conditions are not present. It may be possible to calculate: crude death rate (number of deaths per 10000 people a day), age-specific death rates (number of deaths per 10000 people of a given age group per day), and cause-specific death rates (number of deaths from a given cause per 10000 people a day)

- To calculate crude death rate, age-specific death rates, and cause-specific death rates, the following information should be collected:
  — population numbers by sex and by rational age groupings (e.g. <1, 1–4, 5–14, 15–44, 45–59, >60);
  — number of deaths over a statistically valid time period (crude death rate);
  — number of deaths for relevant age groupings over a statistically valid time period (age-specific death rates); and
  — number of deaths and the expected causes of each death over a statistically valid time period (cause-specific death rates).
- This information is needed because the crude death rate and the death rate in children less than five years of age are important overall indicators of the population's health. For any country in the world there is an estimate of the crude death rate available This figure should be noted by the rapid assessment team, and compared with calculated death rates in given situations. Table 5 indicates the degree of severity of different death rates, although the actual figures are value judgements rather than scientific indicators.
- Information on mortality can be obtained from.
  — a system of mortality surveillance (a sample morbidity and mortality weekly surveillance form is shown on page 61);
  — designation of a single burial site for the camp or settlement, monitored by 24-hour grave-watchers, and development of a verbal autopsy procedure for expected causes of death using standard forms (Remember that death registration may be incomplete if rations are

Table 5. **Degree of severity of different death rates**

Degree of severity	*Crude death rate (deaths/10000/day)*	*Under-five death rate (deaths/10000/day)*
Normal or mildly elevated	0.3–1.0	0.6–2.0
Severe	1.0–2.0	2.0–4.0
Critical	>2.0	>4.0

reduced for a family after a death is reported, because of the desire to retain rations);
— hospital records and records of organizations responsible for burial;
— interviews with community leaders; and
— mandating registration of deaths, issuing shrouds to families of the deceased to help ensure compliance, monitoring records of private burial contractors, or employing volunteer community informants who report deaths for a defined section of the population (e.g. 50 families).

Morbidity

- The following information should be collected:
  — number of cases of various diseases, including diseases that cause substantial morbidity, such as diarrhoea, respiratory infections, and malaria, and diseases that may occur in large epidemics, such as measles, cholera, and meningitis; and
  — population size.
- Information on morbidity can be obtained from:
  — local hospital and clinic records;
  — patient registers and records in camp or settlement clinics, hospitals or feeding centres;
  — interviews with resource people within the displaced population (e.g. midwives and other health workers); and
  — a simple morbidity surveillance system. (When deciding whether a disease should be included in routine surveillance, consider the proportion of all morbidity caused by the disease, the seriousness of the disease in terms of the likelihood that it will result in death, and the likelihood that the disease will spread rapidly and result in a large epidemic.)

Assessing environmental conditions

Two priorities should be borne in mind in environmental assessment: shelter and water. Displaced persons can die quickly of exposure without shelter in inhospitable climates and within a few days without adequate water To assist in setting priorities for public health programmes, information should be gathered on a number of elements.

Water supply

Information is needed on the current sources of water supply, the quantity, the quality, and the transport and storage capacity, including storage in households.

Sanitation

Information is needed on current methods of excreta disposal, the availability of soap, the presence of disease vectors, including rats, and the adequacy of burial sites.

Material possessions of displaced persons

Information is needed on the amount of blankets and clothing, shelter material, and domestic utensils (especially for preparing food and collecting water), as well as livestock, funds and other possessions.

Characteristics of the location

Information is needed on the following:

— climate, including seasonal variations;
— access to location by road, rail, and air;
— availability of land and extent of crowding;
— security against natural and man-made hazards,
— availability and proximity to building materials for shelter, and to fuel;
— soil topography and drainage; and
— possibility of foraging for foodstuffs.

Methods of collecting information

This assessment is largely carried out by visual inspection. Interviews with local officials and technical specialists are useful. In some instances, special surveys should be performed (e.g. investigations by entomologists for local disease vectors and water engineers to assess water resources).

Assessing local response capacity and immediate needs

Coordination

The information below should be obtained from national and international organizations, United Nations organizations, and NGOs working in the emergency-affected area:

- Who is in charge of coordinating health, water, and sanitation activities?
- Who supplies what services in these sectors?
- Who coordinates food delivery to the area and its distribution to the affected population?

Food supplies and sources

Well-nourished people can last days without food; however, already malnourished people may need food much sooner.

- Assess the quantity and type of food available to the population. If food is already being distributed, estimate the average number of calories received per capita for the period for which food distribution records are available.
- Assess the quality of the food available, its caloric and micronutrient content, and its acceptability to the recipient population
- Inspect local markets for food availability and prices. Assess what foods are being traded and their exchange value.
- Assess local, regional, and national markets for availability of appropriate emergency foods.
- Include in any household survey an estimate of food stores in each household, looking for obvious inequalities between different families, ethnic or racial groups.
- Assess the cash and material resources of the displaced population to estimate their local purchasing power.

Feeding programmes

- Assess feeding programmes (general ration for the entire population, selective feeding for those at increased nutritional risk, and therapeutic

feeding for severely malnourished persons) set up by local officials, NGOs, church groups, local villagers, or other groups (see Chapter 8).
- A detailed assessment of feeding programmes could include admission criteria, figures for enrolment, attendance and discharge, quantity and quality of food provided, managerial competence, availability of water, utensils, and storage.

Health services and infrastructure

To assess health services and infrastructure available to the displaced population, the following should be considered.

- **Access:**
  - — access by the displaced population to local pre-existing health facilities; and
  - — ability of local health services to absorb the influx of displaced persons
- **Facilities:**
  - — type of facilities available, i.e. number of clinics, hospitals, and feeding centres;
  - — size, capacity, and type of structures (tent, local materials, permanent structure) of health facilities set up specifically for displaced population; and
  - — adequacy of health facilities' water supply, refrigeration facilities, and generators and fuel.
- **Personnel:**
  - — type of health personnel and relevant skills and experience present in the hosting area (include sanitary experts, nutritionists, nurses, and doctors working in the private sector);
  - — health workers present among the displaced population, including traditional healers, traditional midwives, doctors, and nurses; and
  - — availability of interpreters.
- **Drugs and vaccines:**
  - — availability of essential drugs and medical supplies; and
  - — availability of essential vaccines and immunization equipment.
- **Non-food items:**
  - — availability of items needed to address needs identified in the section above,
  - — storage facilities for vaccines (cold chain), food, and non-food items; and
  - — transport, fuel, and communications.

Presenting results

In presenting the results of your assessment, indicate the following information

- Summarize rapid assessment findings, according to the headings listed in this document.
- Estimate, quantify, and prioritize needs for additional assistance, based on preliminary findings (e.g food, drugs, technical personnel, equipment for improving water quality, and vector control measures).
- Prepare and convey assessment findings to appropriate emergency health decision-makers at subnational, national, and international levels.

Box 2. **Sample checklist for rapid health assessment in sudden population displacements**

Characteristics of the population and location

Demographic characteristics
- Total population size
- Proportion less than and greater than five years of age
- Size of at-risk groups
- Average household or family size

Background health information
- Main health and nutritional problems before displacement
- Coverage of public health programmes
- Previous sources of medical care
- Number and type of health workers in population
- Health beliefs and traditions
- Social organization

Nutrition
- Protein-energy malnutrition
- Micronutrient deficiencies

Mortality
- Crude death rate
- Age-specific death rates (less than and greater than five years of age)
- Cause-specific death rates

Morbidity
- Number of cases (and rates) of specific diseases

Water and sanitation
- Sources
- Quantity
- Quality
- Transport and storage
- Excreta practices
- Soap
- Vectors, including rats
- Burial sites

Material possessions
- Blankets and clothing
- Shelter
- Domestic utensils
- Livestock, money

Location
- Access
- Amount of land
- Other hazards
- Building materials and fuel
- Climate
- Topography and drainage

Response capacity

Coordination and services by existing organizations

Food available
- Access to local supplies
- Type of food
- Quantity
- Quality
- Feeding programmes

Health services available
- Access to and capacity of local services
- Health personnel
- Interpreters
- Type of facilities
- Type of structures
- Water, refrigeration, and generators at facilities
- Drug and vaccine supplies

Other materials available

Logistics
- Transport
- Fuel
- Storage of food, vaccines, and other supplies
- Communication

Box 3. **Sample morbidity and mortality weekly surveillance form**

This form should be adapted for specific situations.

From:____/____/____/ To:____/____/____/
Town/Village/Settlement/Camp:_____

Population

Population at beginning of week	
Births this week	+
Deaths this week	−
Arrivals this week	+
Departures this week	−
Estimated population at end of week	
Total population under five years of age	

Mortality

Reported primary cause of death	Female/age						Male/age						Total
	<1	1–4	5–14	15–44	44–59	>60	<1	1–4	5–14	15–44	44–59	>60	
diarrhoeal disease													
respiratory disease													
malnutrition													
malaria													
measles													
trauma													
other/unknown													
Total													

Average crude rates (deaths/10 000 total population/day) ☐

Average under-five year old death rates (deaths/10 000 total under-fives/day) ☐

Box 3. **Continued**

Morbidity

Primary symptom/ diagnosis	Female/age						Male/age						**Total**
	<1	1–4	5–14	15–44	44–59	>60	<1	1–4	5–14	15–44	44–59	>60	
diarrhoea/ dehydration													
fever with cough													
fever and chills/malaria													
measles													
trauma													
other/unknown													
Total													

Comments