

PART 1: FACT SHEET

The fact sheet is the first of four parts contained in this module. It provides an overview of nutrition information and surveillance systems for emergencies. Detailed technical information is covered in Part 2. Words in italics are defined in the glossary.

Introduction

Nutrition surveillance or information systems (the terms are used interchangeably here) collect, analyse, interpret and report on information about the *nutritional status* of populations and most importantly are used to inform appropriate response strategies. Nutritional status is a well-recognized outcome of human welfare. Over the past 20 years, methods for collecting information on nutritional status have been standardized with the result that rates of *acute malnutrition* have become one of the most common and reliable indicators used in emergencies. This module is heavily focused on emergency/humanitarian surveillance systems. However, similar principles are used for those systems used in development contexts. Therefore this training module, and the principles within, is relevant for any scenario regardless of the state of population for which information is required.

Nutrition surveillance systems vary significantly and will depend on the context/type of emergency and information required, as well as the capacity of staff and other resources available.

The biggest challenge for all nutrition surveillance systems is to ensure effective linkages between information and action. Recent experience has highlighted varying degrees of success with a variety of nutrition surveillance systems. However, issues such as reliability of data, timeliness of reporting, effective and efficient links to action and sustainability remain a challenge. A further challenge is the interpretation and presentation of findings. Similar levels of acute malnutrition have different significance depending on the context and unless the underlying causes of malnutrition are understood an appropriate/effective response may not be provided.

Objectives

The objectives of a nutrition surveillance system depend on context. These include the following:

- **Advocacy.** This is used as a means of highlighting an evolving crisis
- **Identification of appropriate response/intervention strategies.** In emergencies these may include non-food as well as food assistance to address the underlying causes of malnutrition. In development scenarios, this may include nutrition education and activities directed to increasing diversity of food production food access. Both emergencies and development settings may also require micronutrient supplementation programmes.
- **Triggering a response.** Nutrition surveillance systems provide a trend analysis focusing on the magnitude of change. This may trigger a more in depth assessment that in turn may lead to response.
- **Targeting.** Nutrition information can help target areas that are more at risk or in greater need of assistance,
- **Identification of malnourished children.** Most forms of surveillance will identify acutely malnourished children.

Methods

The following are the main methods used for surveillance:

- Large scale national surveys
- Repeated small scale surveys
- Clinic-based monitoring
- Sentinel site surveillance
- *School census* data

In an emergency setting additional sources of data can be obtained from:

- *Rapid nutrition assessments*
- Rapid screening based on *mid-upper arm circumference* (MUAC)

FACT SHEET

There is no single prescribed method for nutrition surveillance systems in emergencies. What often occurs is that a variety of nutrition information sources are used depending on the context, what is appropriate, available and feasible. Representative data are most easily understood and interpreted. This type of data is therefore the most desirable for a nutritional surveillance system.

Which population groups should be monitored?

In emergencies, acute malnutrition, especially wasting, among children 6 to 59 months is usually taken as a proxy indicator for the general health and wellbeing of the entire community.

However, in certain contexts information on the nutritional status of adolescents, adults or the elderly may also be valuable.

What indicators should be monitored?

A number of standard indicators are used to assess the nutritional status of the population and the underlying causes of malnutrition. These include:

- Anthropometric (body measurements to assess nutritional status) measurements
- Clinical and biochemical indicators of *micronutrient deficiency diseases*
- Indicators to assess the underlying causes of malnutrition such as care practices, health status, water and sanitation, and *food security* indicators such as dietary diversity.

Information on other indicators may also be relevant such as *mortality* (death), population displacement numbers and shelter conditions

Data collection

Factors that have to be considered include:

- Frequency of data collection
- Identification and capacity of enumeration staff
- Access to data collection areas by enumerators

Analysis of data

There are a variety of computer programmes that can be used to analyse nutrition and related data. These include Nutrisurvey (ENA) software and EpiInfo. The quality of data needs to be maintained at a high level in order for it to be credible/provide an accurate representation of the population.

Interpretation of data

The following should be taken into account when interpreting data:

Rates of acute malnutrition in relation to thresholds for response. A number of classification systems have been developed around which particular emergency interventions should be initiated. In addition, more specific nutrition 'decision trees' have been developed to indicate when selective feeding programmes should be started.

Trends over time and seasonality. Nutrition data must be interpreted in relation to pre-emergency levels of malnutrition and normal seasonal patterns.

Underlying causes of malnutrition. The relative importance of food, health and care as nutritional risk factors need to be identified so that appropriate responses can be prioritized.

Relationship between malnutrition and mortality. The relationship between mortality and nutritional status is not clearly defined. In some cases it is strong and in others it is weaker.

Challenges of nutrition surveillance systems

Sustainability is one of the biggest challenges, i.e. to ensure continued effectiveness of the system after the initial donor support has been withdrawn. One of the main reasons surveillance systems fail is that national or local governments are unable to provide the level of resources needed to maintain a system. When establishing a nutrition surveillance system it is essential to consider and plan for long-term sustainability, especially in areas where there is a high likelihood of protracted crisis. Ideally, if a system proves to be effective and sensitive to monitoring change over time, there should be no difficulty in justifying long-term resource provision to maintain a system that provides accurate early warning that in turn can trigger a rapid, geographically targeted response. This is likely to be more cost-effective than mounting a full-scale wide-spread humanitarian response to a nutritional emergency.

Institutional issues, such as where the system should be located within decision-making bodies and how it links with existing early warning systems or health information systems, can also be problematic. The challenge for many information systems is that they rely on a range of information sources that cut across several government ministries including health, agriculture, education and even the bureau of statistics. This means that no one ministry takes responsibility for the management of the system while its utility may be undervalued. Over time it may therefore be abandoned. In some countries where there are recurring humanitarian emergencies a specific department, bureau or high profile (and well-funded) project may be established with responsibility for disaster management and response. This institution is likely to manage the surveillance system and takes responsibility for the information generated by it.

Key messages

1. Before establishing a nutrition surveillance system, be clear on the objectives and what the information will be used for. Consider the availability of resources, staff capacity, sustainability, environmental factors and response capacity.
2. Review and map existing nutrition information sources (indicators collected, frequency of collection, target population) to prevent duplication and, where possible, ensure linkage or integration with existing information systems.
3. Review and map existing sources of relevant non-nutritional information sources and how they can complement and provide data to explain changes in nutritional status. Define a minimum set of core indicators that relate to nutritional status and provide an understanding of the underlying causes of malnutrition.
4. Design the surveillance system on the basis of context and recognise that in some contexts, several data collection methods and analytical tools may be appropriate.
5. Ensure adequate training and supervision of enumerators for data collection.
6. Include simple quality checks to assure reliability of data.
7. Consider contextual issues when interpreting the data: seasonality, population movement, morbidity patterns, and historical trends in nutritional status.
8. Ensure triangulation of information with data from other sources.
9. Ensure information is presented in a timely and accessible manner to decision makers and to the community.
10. Establish triggers to determine when more detailed nutrition assessments are necessary.
11. Consider how the information from the surveillance system will link to action or response. Information is meaningless unless it is used appropriately.
12. For longer term systems in emergency prone areas, consider sustainability issues from the outset.

Linking information to action is of paramount importance. The collection of data that is not linked to action is pointless and unethical. Therefore, nutrition surveillance systems should be designed to maximize the likelihood of response, where needed. This requires: an analysis of an optimal institutional location for the system, consideration of channels for dissemi-

nating information, and a forum in which the analysis will be presented. Furthermore, involvement of decision makers in the design and development of an analytical framework for using the information will strengthen credibility of the system and, as a result, the likelihood of response where necessary.

