

eration between countries and technical cooperation between institutions within each country, utilizing to the maximum the technical resources of the Region. The international organizations should prepare an inventory of the agencies and institutions that provide technical and financial assistance, as well as guides to help countries to present technical cooperation proposals.

It would be appropriate for the governing bodies of agencies in the United Nations system to approve resolutions in support of food and nutrition surveillance, as did the XXXIII Meeting of the Directing Council of PAHO, which asked the Director, in collaboration with the Member Governments, to give emphasis to technical cooperation in food and nutrition surveillance and other related matters. The Nutrition Subcommittee of the United Nations Administrative Coordination Committee should revise its definition of the scope of food and nutrition surveillance systems.

### *Training of Human Resources*

Training is needed in all the countries of Latin America and the Caribbean, according to the type of food and nutrition surveillance they carry out. This training should take place in the universities, when feasible. A number of institutions in the Americas now provide such training: Institute of Nutrition and Food Technology (INTA, Chile), University of Valle (Colombia), the Centers for Disease Control and Cornell University (USA), and the Institute of Nutrition of Central America and Panama (INCAP, Guatemala), among others. It is recommended that personnel be trained before data processing equipment is set up; that in-service training, in the form of modules and tutorials, be included in the programs; and that international and bilateral organizations provide assistance to the countries for training personnel in the field of food and nutrition surveillance.



## **Food and Nutrition Surveillance in the English-Speaking Caribbean<sup>1</sup>**

DINESH P. SINHA<sup>2</sup>

The progress in health and nutrition of young children in the Caribbean in the last 30 years has been remarkable. Major reductions have occurred in mortality among infants and children one to four

years old, mainly due to a decline in mortality from malnutrition, gastroenteritis, and respiratory infections. Evidence indicates that this progress was largely brought about by the extension of basic socioeconomic well-being to broader segments of the population through government and private efforts.

In spite of these gains, malnutrition in young children in the Caribbean, though

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not as prevalent as it was in the 1960s, persists as a public health problem in specific geographic pockets. Data disaggregated by economic status are not available. Thus, it is difficult to ascertain how much of the malnutrition is due to poverty, how much is because of improper feeding, and how much can be ascribed to child neglect, but it is known that all three causes are found in the countries.

In order to reduce malnutrition further, and ultimately eliminate it completely, the population groups involved need to be identified and their characteristics and attributes precisely defined. Particularly in those countries where the prevalence is not very high, national programs to combat malnutrition may not produce the desired results unless efforts are directed at specific target groups.

## CONCEPTUAL FRAMEWORK

For over 10 years, the Caribbean Food and Nutrition Institute (CFNI) has been working to establish food and nutrition surveillance systems (FNSS) in its Member Countries. This work has been based on the following guiding principles:

1. No single system of food and nutrition surveillance will be appropriate for all countries.
2. To decide what kind of system can be designed for a country, a preliminary investigation to establish the situation in the country should be carried out. This investigation should examine the food and nutrition situation and organizational capacity to sustain the proposed system, including the potential for expansion.
3. The idea that the system is designed and decisions are made only at the national level, and that the peripheral level only implements those deci-

sions, is outdated and should be abandoned.

4. Every level of the system needs information to decide what actions should be taken to improve nutritional status, but the nature of data needed differs from level to level.
5. Accountability should be established at each level.
6. Since a major part of the basic data collection on food and nutrition is done at the peripheral level, the work cycle (data collection, analysis, decision making, and action) should begin at that level and gradually move upward as the system becomes established.

During 1984, CFNI initiated a project based on the above conceptual framework to monitor and improve the nutritional status of children in the Caribbean.

## DEVELOPMENT OF TOOLS AND PROCEDURES

Tools were needed for precise and uniform measurement of malnutrition and timely and regular reporting. This involved the development of growth charts using 80% (third percentile) of U.S. National Center for Health Statistics/World Health Organization Recommended Standard for Weight-for-Age instead of 90% of Harvard Standard (Gómez classification) as the criteria for malnutrition. The decreasing prevalence of malnutrition and the need for precise measurements also necessitated the use of separate growth charts for boys and girls. In addition, simple tally sheets were needed for periodic compilation of the disaggregated data on malnutrition by health center staff with minimal training.

The Caribbean Growth Chart and Child Health Record are simple charts for each sex that are easy to understand and

interpret. On the back of the charts are instructions for collecting various biological determinants of nutritional status. Take-home growth charts were developed as educational and motivational tools for the parents and are basically the same as the one used in the clinics. On the back of the growth charts educational information regarding feeding, immunization, developmental landmarks, and schedule of clinic visits is provided for parents.

A system to collect disaggregated data on pockets of malnutrition and contributing factors had to be developed. In addition, it was important to develop a follow-up record. A Child Health Follow-up Record form was designed to record not only progress in the health of the child but also the social history of the child's family and, most importantly, the household food situation. If a child is malnourished, the first question that needs to be answered is, "Does the family have enough food to feed the child?" The management of children from families with and without adequate food is different.

Tally sheets have been designed as an aid in preparation of monthly reports on clinic coverage and prevalence of malnutrition and illnesses. They have been kept simple so that the health center staff can do a preliminary analysis of the situation before forwarding the results to higher levels.

A system of monitoring nutritional status of individual children and the community has been designed. The action necessary to improve nutrition is indicated at every step. Once such a system was developed, the data had to be used to initiate action at different administrative levels of the health care system in order to improve nutritional status.

Finally, a field guide has been developed that explains the tools in detail. It also describes the procedures for moni-

toring individual and community nutritional status and step-by-step action to be taken. The field guide is of help in staff training as well as in uniform and consistent performance of activities.

The tools, the monitoring system, and the field guide were field-tested for over a year in Antigua, following which the project was extended to other CFNI countries.

## **APPLICATION OF FOOD AND NUTRITION SURVEILLANCE**

A systematic approach was developed for applying the tools and monitoring system and improving nutritional status. It consists of the following steps:

1. Meeting or correspondence between CFNI and the country officials to establish the terms of reference for the work.
2. Evaluation of the present system of growth monitoring in the country and collection of disaggregated data on the nutritional status in the previous year to locate pockets of malnutrition, using CFNI forms and according to CFNI procedures; data are then analyzed and reported by CFNI.
3. A three-day training-cum-planning workshop for the health center staff, their supervisors, and various national-level staff in collaboration with CFNI. The objectives of the workshop are to discuss the results of evaluations in step 2; to discuss use of the Caribbean Growth Charts to improve the nutritional status of children; to design a country-specific system; and to develop a detailed two-year work plan to implement and maintain the system.
4. Implementation of the system as outlined in the work plan.

5. Monitoring and evaluation, with further assistance from CFNI staff in the solution to problems arising during implementation and institutionalization of the system.
6. Discussion with national officials to establish a multisectoral food and nutrition surveillance system for the country.

Following the approach outlined above, 11 countries are at different stages of implementing the new system for monitoring and improving nutritional status of children. As the project pro-

gresses, it is being formally evaluated in the hope that this evaluation can guide institutionalization of the system. Work is also in progress to systematize data collection, collation, and analysis of food availability by other sectors, for example, agriculture (food production), industry, and commerce (food imports and distribution). Attempts are also being made to integrate at the national level information from various sources so that a comprehensive food and nutrition surveillance system that provides adequate information to policy makers and senior officials can be established.



## The Value of Nutrition Surveillance: A Case Study from the United States<sup>1</sup>

FREDERICK L. TROWBRIDGE<sup>2</sup>

The nutrition surveillance activities conducted by the Centers for Disease Control (CDC) are part of a broad range of nutrition-monitoring activities in the United States. These activities include surveys of food consumption patterns, the Food and Drug Administration's surveys of food purchase patterns, and the National Center for Health Statistics' (NCHS) surveys of nutritional status and dietary intake in a representative sample of the U.S. population. CDC's nutrition surveillance activities are unique in that they relate not to the general population

but rather to low-income populations served by public health clinics. The surveillance data are collected voluntarily by participating state health departments. CDC provides technical assistance to states but offers only limited funding support.

### CDC NUTRITION SURVEILLANCE SYSTEMS

CDC operates two nutrition surveillance systems. The Pediatric Nutrition Surveillance System monitors the nutritional status of more than two million infants and children per year in 38 state health departments, including Puerto Rico and the Navajo Nation. Most of the data are collected on children attending the Special Supplementary Food Pro-

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