

Nutritional Surveillance

John B. Mason, Jean-Pierre Habicht,
H. Tabatabai, V. Valverde



WORLD HEALTH ORGANIZATION
GENEVA

NUTRITIONAL SURVEILLANCE

The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this organization, which was created in 1948, the health professions of some 160 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

By means of direct technical cooperation with its Member States, and by stimulating such cooperation among them, WHO promotes the development of comprehensive health services, the prevention and control of diseases, the improvement of environmental conditions, the development of health manpower, the coordination and development of biomedical and health services research, and the planning and implementation of health programmes.

These broad fields of endeavour encompass a wide variety of activities, such as developing systems of primary health care that reach the whole population of Member countries, promoting the health of mothers and children; combating malnutrition; controlling malaria and other communicable diseases including tuberculosis and leprosy; having achieved the eradication of smallpox, promoting mass immunization against a number of other preventable diseases; improving mental health; providing safe water supplies; and training health personnel of all categories.

Progress towards better health throughout the world also demands international cooperation in such matters as establishing international standards for biological substances, pesticides and pharmaceuticals; formulating environmental health criteria; recommending international non-proprietary names for drugs; administering the International Health Regulations; revising the International Classification of Diseases, Injuries, and Causes of Death; and collecting and disseminating health statistical information.

Further information on many aspects of WHO's work is presented in the Organization's publications.

NUTRITIONAL SURVEILLANCE

JOHN B. MASON
*Director,
Cornell Nutritional
Surveillance Program,
Ithaca, NY, USA*

JEAN-PIERRE HABICHT
*Professor
of Nutritional Epidemiology,
Cornell University,
Ithaca, NY, USA*

H. TABATABAI
*Research Associate,
Cornell Nutritional
Surveillance Program,
Ithaca, NY, USA*

V. VALVERDE
*Coordinator,
Food and Nutrition Planning,
Institute of Nutrition
of Central America and Panama,
Guatemala*



WORLD HEALTH ORGANIZATION
GENEVA
1984

The Cornell Nutritional Surveillance Program is a joint venture between the Division of Nutritional Sciences, Cornell University, and the Office of Nutrition, Bureau of Science and Technology, United States Agency for International Development, with the objects of undertaking research and of providing training in nutritional surveillance.

CONTENTS

	Page
Preface	9
Chapter 1. The role of nutritional surveillance in tackling nutrition and health problems	11
Chapter 2. Initial assessment	41
Chapter 3. Nutritional surveillance for health and development planning: uses and organization	59
Chapter 4. Nutritional surveillance for health and development planning: data characteristics, outputs, and sources	83
Chapter 5. Nutritional surveillance for programme management and evaluation	139
Chapter 6. Timely warning and intervention programmes	177

ISBN 92 4 156078 9

© World Health Organization 1984

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. For rights of reproduction or translation of WHO publications, in part or *in toto*, application should be made to the Office of Publications, World Health Organization, Geneva, Switzerland. The World Health Organization welcomes such applications.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The authors alone are responsible for the views expressed in this publication.

PRINTED IN BELGIUM
83/5732 - Vismelle - 6000

ACKNOWLEDGEMENTS

This book is based on a background document prepared for an International Workshop on Nutritional Surveillance, held in July 1981 in Cali, Colombia. The workshop was sponsored and supported financially by the United Nations Administrative Committee on Coordination - Subcommittee on Nutrition; and was also supported by the Foundation for Higher Education (FES) of Colombia, the Agency for Technical Cooperation (GTZ) of the Federal Republic of Germany, the Kellogg Foundation, the Pan American Health Organization, the United States Agency for International Development, the University of Valle, and the World Health Organization.

The first version was prepared in 1981 by the Cornell Nutritional Surveillance Program - Director, John B. Mason; Assistant-Director, Hamid Tabatabai - with the guidance of Professor J.-P. Habicht and Professor M.C. Latham. Other programme staff involved in the preparation of the first manuscript were Terry Elliott, Maarten Inaminik, Robert Jackson, Cay Loria, Janice Mitchell, and June Wolgenuth. A revised version was used at a workshop convened jointly by Cornell University and UNICEF, on Social and Nutritional Surveillance in Eastern and Southern Africa, in May 1982, in Nairobi, Kenya.

The authors wish to acknowledge the substantial contribution to Chapter 1 by David O. Dapice, Associate Professor of Economics, Tufts University. We also greatly appreciate the helpful comments of many colleagues who have reviewed the draft in its many stages, including: D.J. Casley, D.O. Dapice, A. Horwitz, J. Kreysler, J. McKigney, P. Payne, E. Thorbecke, and K. Williams.

The authors especially wish to thank Janice Mitchell, for revising the final text, and Sondra Palmer for transferring it into the word processor.

We owe particular thanks to Dr John McKigney, Office of Nutrition, USAID, for his crucial support to nutritional surveillance and to the programme at Cornell; and to Dr M.C. Nesheim, Director of the Division of Nutritional Sciences, for enabling the work to be carried out at Cornell.

Finally, and most important, we wish gratefully to acknowledge the unstinting help of many colleagues in many countries and international agencies, who have frankly discussed their experiences and views with us, and agreed to our drawing on this information. Without their long-term efforts in nutrition, development, and health, there would be no such thing as nutritional surveillance, and no experience to build upon.

The Cornell Nutritional Surveillance Program is supported by a Cooperative Agreement with the Office of Nutrition, USAID (No. AID DSAN CA-0240) between the Office of Nutrition, Bureau of Science and Technology, USAID, and the Division of Nutritional Sciences, New York State College of Human Ecology and Agriculture and Life Sciences, Cornell University, Ithaca, New York.

Preface

In most developing countries, the balance between an adequate level of nutrition and severe malnutrition is finely poised. Relatively minor changes in the economic situation or in environmental factors can upset this balance and precipitate widespread protein-energy malnutrition. There is therefore a need for programmes that will monitor the nutritional status of the population, ensure timely warning of impending shortages in food consumption, and instigate both long-term and short-term measures to prevent such crises or, at least, to alleviate them. These are the purposes of nutritional surveillance.

The first chapter of this book examines the role of nutritional surveillance. It discusses a number of planning considerations and the relation of health, nutrition and basic needs to different development strategies. It also outlines the types of action that can be taken to improve nutrition and the various data requirements. A procedure for deciding the precise purpose of nutritional surveillance and hence the way in which the system might operate is described in Chapter 2. This deals with initial assessment and should provide guidance on the priorities that will subsequently require attention. In the next two chapters, the principles that apply to all the purposes of nutritional surveillance are set out in detail. For example, the users need to be identified, the organizational structures set up, outputs decided upon, and data sources selected. Chapter 5 covers considerations specific to evaluation and develops theories to guide systems aimed at this objective. Timely warning and intervention programmes, which are described in Chapter 6, differ in a number of respects from the other two types of surveillance, particularly in regard to organization and data requirements.

The book is organized primarily to cater for the needs of practitioners of nutritional surveillance, i.e., those directly involved in planning and evaluating measures to improve nutrition. However, it is hoped that others concerned in more general ways with nutrition will also find some of the information useful. They may wish to skip some sections, such as those on organizational details, but may find it useful to consider both the theory of the different uses of the information collected and the examples given of data that have been used for different purposes.