Screening in primary health care

Setting priorities with limited resources

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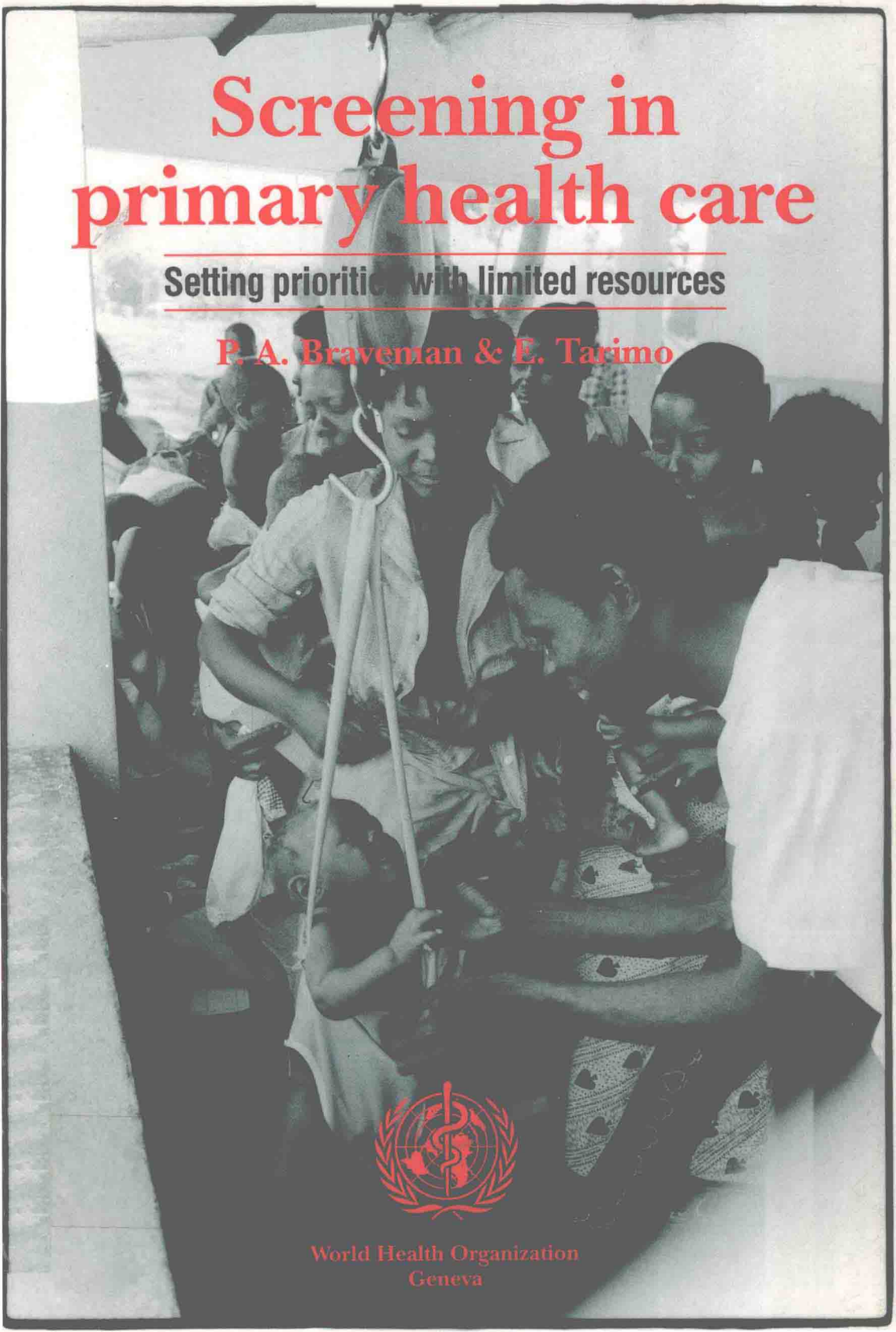

World Health Organization
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Foreword

Health promotion and disease prevention are increasingly viewed as essential for improving the health of populations. Several approaches exist for delivering preventive services and promoting healthy lifestyles. One is centred on the patient/physician interaction and uses the clinical encounter to promote primary and secondary preventive services. This approach, although important, needs to be complemented by population and community-based efforts.

My interest in the subject of this book goes back to my participation in the Canadian Task Force on the Periodic Health Examination. This Task Force was created in the late 1970s in Canada with the specific mandate of examining the world literature on clinical prevention and formulating specific recommendations to health care practitioners and their patients on the use of preventive interventions. The Task Force developed a methodology for examining the efficacy and effectiveness of preventive interventions based on studies done in the field. In 1984, the US Preventive Services Task Force was created with a similar mandate and the two Task Forces established a productive and fruitful collaboration, sharing methodologies and in several instances issuing similar recommendations.

Clearly, many aspects of recommendations developed and issued in North America may not be applicable to other countries, particularly developing countries. The health situation in developing countries is quite different from that in industrialized countries, as witnessed by disparities in health indicators and health care spending around the world. In addition, many developing countries are in the midst of an epidemiological transition and hence have to tackle infectious diseases as well as the emerging threat of chronic diseases such as cardiovascular diseases and cancer. Any attempt to formulate recommendations for preventive services in developing countries has to be nested in the social and health situation of these countries. The task is huge and complex.

This publication is an initial attempt to look at preventive services in the light of the situation in developing countries, and to examine their efficacy and effectiveness using a method that considers scientific evidence as well as crucial programme and policy issues. The authors have undertaken an extensive review of available literature, including unpublished material of the World Health Organization, and conducted a critical reassessment of general issues pertaining to preventive services from the perspective of the needs of decision-makers in developing countries. They have amassed and organized a wide range of material, examining it from a fresh perspective and with an understanding of important global concerns. They have called into question many assumptions that have been insufficiently examined before and have suggested

a useful framework within which specific issues can be approached in particular settings.

The authors have made an admirable attempt at a difficult task. Their effort should be commended and viewed as the beginning of an exciting itinerary that should lead to a critical examination of preventive services in developing countries. Indeed, the ideas and approaches explored here need to be developed further, tested thoroughly under particular conditions, and translated into specific recommendations that fit specific circumstances.

This publication does not claim to be the definitive word on prevention in developing countries but is an important contribution to an extensive process that should unfold at different levels. It should be viewed as a working document for those interested in going forward and further in the assessment of the efficacy and effectiveness of preventive interventions, clinical and community-based, as they apply to developing countries. It could be used as a reference document by any group operating at an international, national, regional, or local level whose purpose would be to try to delineate those interventions that could be implemented.

Whereas science and policy making are very different endeavours, any attempt to enhance the links between them should be applauded. This book is a good example of technology assessment applied to the area of prevention and for developing countries. It is a flagship for more initiatives of this sort to emerge not only in the area of preventive services but also for other clinical and community health interventions.

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Contents

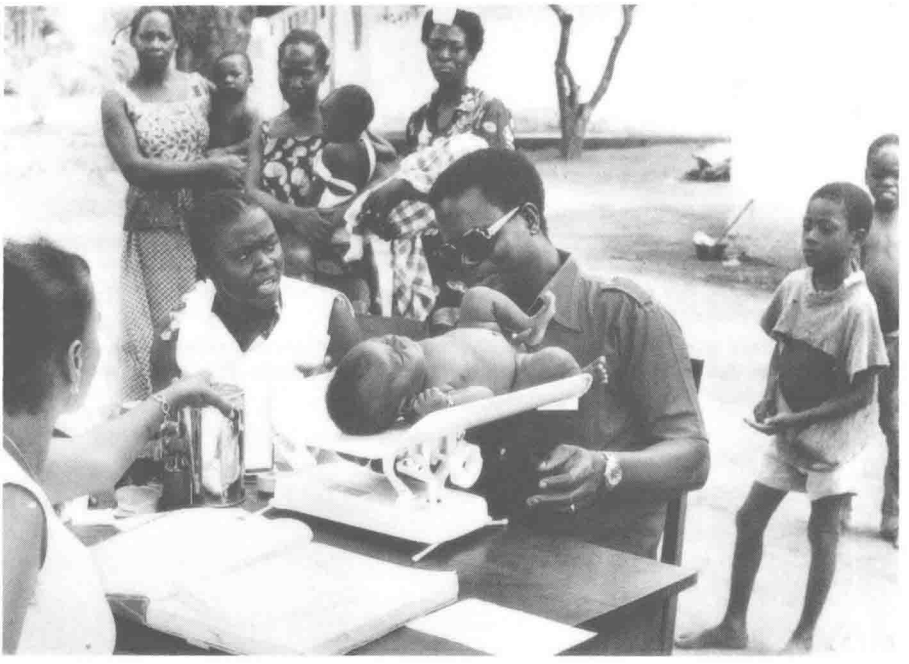
Introduction

The purpose of this publication

Early detection practices have become a routine component of health services in every country in the world. One such practice, health screening, is designed to seek out people likely to have a health problem but who are asymptomatic and thus would not seek care for the problem at that particular time. The goal of screening is to intervene in a timely manner to deal with any inapparent risks or diseases detected, subject to confirmation by other detection methods if the screening procedure is not diagnostic in itself. Health care policy-makers in developing as well as industrialized countries are now frequently faced with decisions on whether, when, or how to introduce screening activities into routine health services.

Recent publications (USPSTF, 1989; CTF, 1979, 1984, 1986, 1989, 1990, 1991) have summarized the conclusions reached in comprehensive, systematic, and intensive reviews of evidence on the potential benefits and risks of many routine procedures used to screen persons for health problems in highly industrialized countries, thus providing guidance for policy-makers and clinicians in such countries. However, there is no recent literature dealing with the general subject of health screening in the developing countries. In the absence of relevant alternative sources, policy-makers in developing countries are often under pressure to adopt recommendations put forward by the available sources that appear most authoritative scientifically. Such pressure operates despite misgivings about the relevance of the available references to prevailing local conditions.

Expensive modalities of medical care employing high technology have proliferated in industrialized countries in recent decades; such technology has an inevitable lure for developing nations as well. The "health transition" is a term used to denote the shift in the morbidity and mortality profile of a developing nation from one overwhelmingly dominated by acute infectious diseases and short life expectancy towards one in which there is an increasing burden of chronic noncommunicable disease in an aging, more urbanized population. This phenomenon has compounded the dilemmas facing health policy-makers in developing countries when deciding on investment in technology. On the one hand, with the health transition, pressure has become increasingly strong to adopt approaches used in industrialized countries, including high technology procedures for the early detection of cancer and other noncommunicable diseases. Such pressure tends to come from those population groups, generally urban and relatively privileged, that use clinical



Screening for infant growth in a well-baby programme. (WHO/18212)

services most and understandably want the highest quality of care. At the same time, however, in the course of the health transition, the overall resources of developing countries have generally increased minimally, if at all. Furthermore, the burden of infectious disease and many forms of suffering whose causes are preventable by measures that use relatively low technology remains distressingly high in developing countries, especially in rural areas and among urban slum dwellers. The diversion of limited resources towards modalities employing higher technology may thus prove detrimental to the most vulnerable sectors of the population.

This publication is an attempt to place health screening within the context of the principles of primary health care, a strategy discussed in Chapter 1. The primary health care strategy prioritizes the use of technology and all available resources in the most equitable, efficient, and effective way. The goal of this publication is to increase the likelihood of screening being used as a tool within that strategy and of its not being used when other methods would be more productive.

We see this effort as a beginning, not as an end-point. The intention is not to provide definitive answers but to raise important questions and recommend an approach to decision-making that can be applied by policy-makers and programme managers to their own specific circumstances. While it is hoped that this publication will be of interest to clinicians, it is not intended to serve as

Screening should be used as a tool within a primary health care strategy that prioritizes the use of resources in the most equitable, efficient, and effective way. (WHO/18430)

a guide to clinical practice. Guidelines on practice must be developed at the appropriate level within each country, taking account of local conditions and needs. If this publication serves its purpose, it will raise questions and stimulate interest, thus helping to initiate a process leading to the development and continuing reassessment of policies and guidelines on practice in many settings. Although the book is mainly addressed to decision-makers in developing countries, we believe that the primary health care strategy has much to offer policy-makers in industrialized countries as well. This is true whenever inequities and problems associated with poverty exist, and is especially so where there is no national health care programme guaranteeing access to basic preventive and curative services for the entire population, regardless of ability to pay.

Comparison with other works assessing health screening

This publication is distinct from previous work on health screening in scope, methods, and objectives. It was not within the scope of our project to evaluate the scientific quality of the studies used as references. The stated recommendations on screening were developed, after a review of the literature and consultation with experts, to illustrate the application of a recommended approach rather than as definitive prescriptions. In contrast, national task forces in Canada (the Canadian Task Force on the Periodic Health Examination) and the USA (the US Preventive Services Task Force) set up large consensus panels which systematically assessed the quality of the evidence, using the assessments as a basis for clinical practice recommendations on a range of preventive services, including screening, in the North American setting. A similar task on a somewhat smaller scale was recently undertaken by a large working party which assessed the health screening of children in the United Kingdom (Butler, 1989; Hall, 1989). A book published by the Nuffield Trust (Holland & Stewart, 1990) takes a thoughtful look at screening for all age groups within the context of health services in the United Kingdom and has considerable relevance for other industrialized countries with national health programmes. Although no large task forces took part in its preparation, its authors provide an intensive review of the quality of the scientific evidence for and against the use of particular screening tests.

The present work differs from most of the earlier efforts in the field in that it is explicitly aimed at policy-makers rather than clinicians; it is also unique among such efforts in that it is primarily concerned with the needs of developing countries. This has led to an emphasis on the wider economic and social implications of any decision to incorporate a given early detection activity directed at asymptomatic individuals into routine health services. Particular attention has been paid to questions of access, equity, and long-term social and economic development, along with the technical and ethical issues addressed in earlier literature.

This publication is divided into eight chapters.

- Chapter 1 discusses how health screening has been viewed to date, briefly explains primary health care, and poses the crucial questions that arise when screening is assessed from the standpoint of primary health care.
- In Chapter 2, we recommend a series of criteria to guide decision-making on whether or not to use health screening as part of an approach to the prevention of a given health problem.
- Chapter 3 presents principles to be applied in the planning and implementation of health services using screening, once it has been decided that the use of screening would be advisable.
- Chapters 5 through 8 review selected examples of the potential use of screening in relation to the concerns and criteria presented in the previous chapters, in order to illustrate the application of the recommended approach and to suggest options for consideration. For each of the screening practices reviewed, there is a recommendation on whether

priority should be given to its possible adoption as part of a primary health care approach to prevention. The recommendations are intended to generate discussion and new research, and are not definitive prescriptions. The methodology used to arrive at them is discussed in Chapter 4. Summary tables are presented after the review of screening practices (pp. 139–164).

CHAPTER 1

Reassessing health screening from a primary health care standpoint

Definition and scope of health screening

> Health screening: Presumptive methods for actively seeking to identify unrecognized health risks or asymptomatic disease for timely intervention.

Health screening can be defined as the use of presumptive methods to identify unrecognized health risk factors or asymptomatic disease in persons determined by prior studies to be potentially at elevated risk and able to benefit from interventions performed before overt symptoms develop. Screening is usually more rapid and less costly than definitive diagnosis, and positive screening results often require confirmatory diagnostic tests. The subject of this publication is prescriptive screening, i.e., screening performed in order to

Screening techniques include enquiry, observation, and physical examination with and without the use of instruments, as well as laboratory methods. (A. Pratinidhi/WHO/19597)

direct preventive or curative activities to those who are screened and can benefit from timely interventions that are feasible under local conditions. Unless otherwise specified, it should be assumed that when the term "screening" is used, it refers to prescriptive screening. The term "health screening" and other terms and abbreviations frequently used in this publication are defined in the Glossary (page 165).

A screening activity should never be thought of as a service in itself. Screening is a component of a wider strategy which may include definitive diagnosis and always includes a plan of action for health promotion and the prevention or control of disease. For example, screening for cervical cancer is useless unless resources are in place to provide effective follow-up and treatment for those found to have cancerous or precancerous lesions. At times we refer to a screening-diagnosis-and-timely-intervention or, for brevity, a screening-and-timely-intervention strategy. Any screening procedure needs to be thought of as part of a sequence of activities culminating in effective action at the primary, secondary, or tertiary levels of prevention. Prevention and its levels are discussed later in this chapter and defined in the Glossary (page 167).

Early detection is a broader term encompassing screening, case-finding (detecting disease in a person presenting for care for other reasons) and other approaches to early detection, such as mass campaigns to educate the public to consult the available clinical services when easily recognizable signs or symptoms occur. The line between symptomatic and asymptomatic may be blurred at times, however. In settings where access is extremely limited, many signs or symptoms, even quite serious and painful ones, may be considered normal because services for their treatment or prevention have not historically been accessible and the population has thus come to see them as an inevitable part of life. Blindness due to onchocerciasis in endemic areas is a striking example, as is gross haematuria due to bladder infection with schistosomes in regions where schistosomiasis is endemic, or even grotesquely large goitres in areas of endemic iodine deficiency. Even in industrialized countries, among population groups with low income and a low level of education, and with limited access to health care, many older people needlessly suffer blindness due to cataracts, and postmenopausal women endure urinary incontinence due to uterine prolapse. This occurs because of a belief among those affected or those caring for them that the symptoms are normal for people of that age and not indicative of disease.

In this publication, therefore, we have occasionally construed screening very broadly to include any practice for presumptive early detection of health problems that are not apparent to the individuals concerned. This may include early detection of diseases with symptoms that people with greater health knowledge and access to care would have identified as pathological. Strictly speaking, however, such practices fall into the category of early detection rather than that of screening, which should refer only to detection of asymptomatic conditions. Generally, where health problems have characteristic symptoms that would be easily recognizable in an informed population, we recommend using public education to promote self-referral to easily accessible