
PART II

Chapter 3

**INTEGRATED APPROACHES
AND COMPONENTS IN
MATERNAL AND CHILD HEALTH CARE**

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I. Introduction

A recurring issue in the effort to improve the health status of mothers and children is interdependence: problems do not occur in an isolated manner but rather are part of a complex social web. Solutions must therefore be founded on an approach that is both integrated and focused on specific goals (1).

To that end, it is necessary to address the challenge of extending the coverage of services at a faster pace than that of population growth. At the same time, it is necessary to increase the effectiveness of preventive measures and the quality of care in order to achieve the goals established for year 2000 (2).

During the World Summit for Children, held at United Nations Headquarters in New York, on 30 September 1990 (3), the *Plan of Action for Implementing the World Declaration on the Survival, Protection, and Development of Children in the 1990s* was drawn up. This document is a clear manifestation of the commitment to adopt and apply interventions that will serve as a frame of reference for the implementation of more specific priority activities at the national and/or local levels. It also expresses the willingness to allocate the necessary resources to fulfill these commitments.

In order to achieve the intended impact of the goals established at the World Summit, practical instruments must be available for local use, in accordance with the priority of services, the epidemiologic situation, and the status of the various components.¹ These components should be managed in as integrated a fashion as possible in order to reduce costs and increase the efficiency and quality of services.

The instruments needed include specific indicators for each component to measure progress toward the mid-decade (1995) goals of the Summit at the local level. These indicators would also evaluate the impact of the goal on policy-making at the local, national, and regional levels of maternal and child health over the following five years. The aforementioned Plan of Action specifies the components that should be developed on a priority basis in order to attain the goals of the Summit relating to reduction of mortality and morbidity by the end of the decade (Table 1).

This chapter begins by presenting some basic considerations for discussion of the concept of synergism developed by UNICEF as part of its "GOBI-FFF" program.² It also analyzes the difference between an integrated approach to care and the integration of activities. This analysis is based on the relationships between the factors that give rise to health problems in the maternal and child population, viewed from a triple perspective: the individual, the family, and the community (4).

Several approaches to maternal and child health are also examined. The risk approach, for example, applied at both the local level and the national and regional levels, has long served as the basis for epidemiologic research and health interventions in the neediest populations. The chapter also includes some reflections on the gender approach, which is considered to be of utmost importance among the tasks and commitments of the Plan of Action of the Summit, as well as a response to the challenge of achieving an integrated approach to services for the maternal and child population.

¹ The components of maternal and child health care include reproductive health, breastfeeding, control of acute respiratory infections and diarrheal diseases, and integrated approaches to child development, among others.

² GOBI-FFF Program for Child Survival, **G**=Growth Monitoring; **O**=Oral Rehydration; **B**=Breastfeeding; **I**=Immunizations; **FFF**=Feeding, Family Planning and Female Literacy.

In addition, the chapter presents, as a concrete proposal, a frame of reference for integrated implementation of the strategies of the various components of maternal and child health. These same components are explored separately in the different chapters of this publication. This section also outlines, in the form of a plan of action for the local level, several well-defined initial stages for implementation of the strategies.

Finally, although this chapter is not intended to be exhaustive with regard to the individual components of maternal and child health care, it examines several additional considerations and recent trends. This examination serves as both a summary of the present chapter and an introduction to the development of the components in subsequent chapters.

II. Integrated Approaches to Maternal and Child Health: A Conceptual Framework

An examination of integrated approaches to maternal and child health must take account of various components which simultaneously influence the problems of an individual, a family, or an entire community.

In this section, the term "synergism" will be used as an equivalent for an integrated approach to maternal and child health. It attempts to analyze the relationships between the health of the maternal and child population and the factors which, in the three dimensions to be considered (the individual, the family, and the community), may affect the outcome of a certain intervention.

1. Synergism between maternal and child health interventions

The synergistic relationships between the impacts of various social and health interventions are generally difficult to quantify. In interventions with both biological and social components, morbidity and mortality statistics are frequently used as quantitative measures for evaluating the success of strategies.

Unfortunately, collection and interpretation of these data in the field is often a difficult and imprecise undertaking. More important, these data limit the perception of benefit because they cannot fully reflect the result of a given intervention.

The real situation is more like an open system, in which elements are introduced and products are obtained (in other words, the *input and output* of the system). These are generally not considered in regular planning, intervention, and evaluation schemes. Indeed, a breakdown often occurs in the evaluation phase, partly because *it is impossible to measure isolated impacts within the system as a whole*.

At the level of the individual, for example, available criteria are inadequate for measuring functional changes, changes in quality of life, or long-term effects, especially if they derive from the benefits of education or social changes.

Among the most important determinants of infant morbidity and mortality at the individual level, some relationships are well established, such as the one that exists between low birthweight and survival. Less is known, however, about others, such as the nature and effect of specific factors of prenatal development on birthweight.

After birth, growth depends on diet, including breastfeeding and appropriate complementary feeding. Hence, a combination of factors have a significant impact on the nutritional status of the child.

Moreover, a growing body of evidence demonstrates that there is an association between nutritional status and immune capacity. Most studies, however, have focused on children with severe forms of protein-energy malnutrition, which makes it difficult to separate cause from effect.

The main point to be emphasized here is the multifactorial etiology of child mortality. While the relative contribution of the various factors may vary from case to case, the general concept of multiple etiology remains valid at both the individual and community levels (4).

2. Etiologic mechanisms

2.1 Individual level

Figure 1 shows some of the potential interventions for the individual factors under consideration. Together, they provide a wide range of strategies, including some related to diet and nutrition (nutritional supplements for the mother, breastfeeding, complementary feeding).

Some are related to the prevention of infectious disease (immunizations, malaria prophylaxis, routine parasite disinfestation), while others are intended to treat specific problems (oral rehydration, antimicrobial and antiparasitic therapy, control of specific nutritional deficiencies).

These strategies are part of the constellation of services included in primary health care (PHC), which encompasses some elements of maternal and child health programs.

Figure 1 shows the logical interventions to address the individual problems listed. However, in order to make progress toward the reduction goals of the Summit for Children, it is not enough to prevent a death from dehydration by administering oral rehydration solution (ORS) only to have the child die subsequently of malaria, pneumonia, or dysentery.

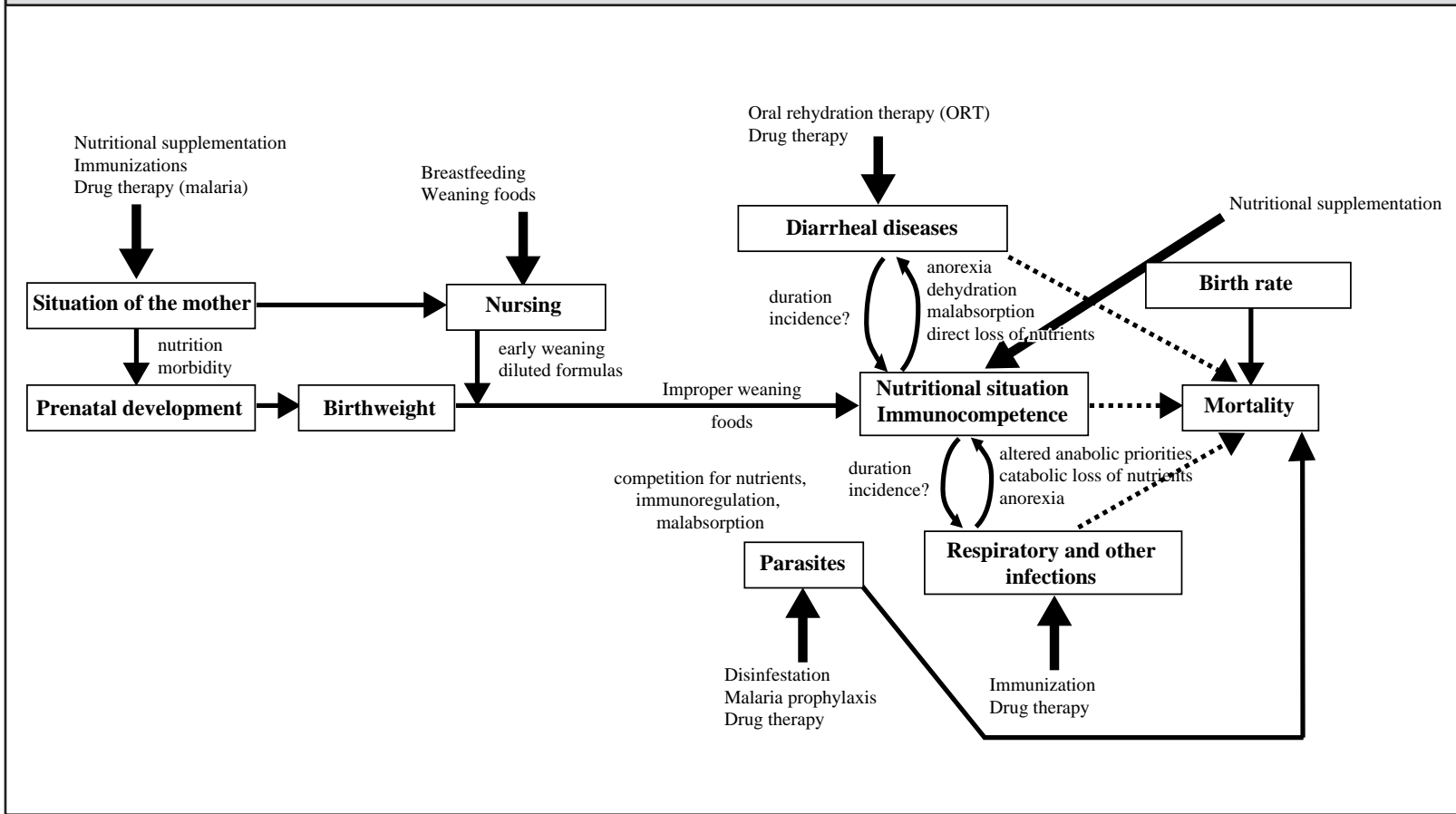
Promotion of breastfeeding and of earlier and more appropriate complementary feeding, in addition to early treatment of diarrhea episodes with ORS, are more effective in reducing the impact of the illness on the host.

Children must survive all the events that threaten their lives in order to reach adulthood. However, during the first years of life, the occurrence of many of these events, as well as their severity, is influenced by the child's general state of health. Quantitative factors, such as the magnitude of an infection and the availability of appropriate therapeutic responses, are also decisive. Given this complex combination of interacting factors, *it is highly unlikely that isolated interventions will improve a given situation dramatically.*

A recent review of causes of death in a group of children well covered by the vaccines included in the Expanded Program on Immunization (EPI) (DPT, poliomyelitis, measles, and BCG), who were followed prospectively, found that infant and general mortality rates remained as high as 144 and 45 per 1,000 live births, respectively, per year. Only a few children died from diseases that the EPI vaccines prevent, while malaria and acute respiratory infections, the leading causes of death, claimed many victims. Analysis of other isolated interventions, including oral rehydration therapy, would probably yield similar findings.

It is difficult to prove that dramatic results are not obtained from a single health intervention, and

Figure 1
Direct interventions to reduce the impact of causal factors
affecting child survival at the individual level



Source: Adapted from UNICEF. Conference on Child Health and Survival: The Possible Synergy between the GOBI Activities. 1992

the evidence that there are sound reasons for combining them is still largely intuitive and comes mainly from field studies carried out under conditions of implementation.

Earlier studies aimed at evaluating the effects of combined nutrition and health interventions (Guatemala, Narangwal) are discouraging in terms of the magnitude of the impact observed. Nevertheless, it is apparent that *the multiple factors that contribute to infant mortality and their interactions with a given biological system combine to create a situation in which synergism or an integrated approach may be required to improve survival.*

Hence, although higher birthweight and better feeding should improve nutritional status and enable the host to respond more effectively to infection, other interventions are also necessary to reduce the discomfort associated with illness and the impact of each episode in order to bring about a greater reduction in mortality (4).

2.2 Family level

At this level, behavior and practice are not directly affected by the availability of a particular intervention. The intervention may be considered a necessary, but not sufficient, condition for producing the desired effect.

Hence, factors such as maternal age at birth, maternal health practices, use of health services, and family size, among others, are all determinants of the impact of programs that target any point in the etiologic process.

Additional strategies are required to address problems at this level (Figure 2). One of these strategies is education, whose components include literacy training, other technical interventions, and the socializing effect of the educational process *per se*. Family planning and epidemiological surveillance are other strategies that help make it possible to identify children at high risk and apply measures to reduce the risk of death.

The inclusion of components such as growth monitoring, promotion of female literacy, and family planning is therefore a logical measure for increasing the effectiveness of programs. These components also provide a classic example of interventions that can be carried out in an integrated manner.

The quantitative effect of such measures is difficult to estimate. However, their importance can be appreciated by examining the failure—due to problems of compliance and acceptance—of operationally sound programs which were expected to yield certain benefits (4).

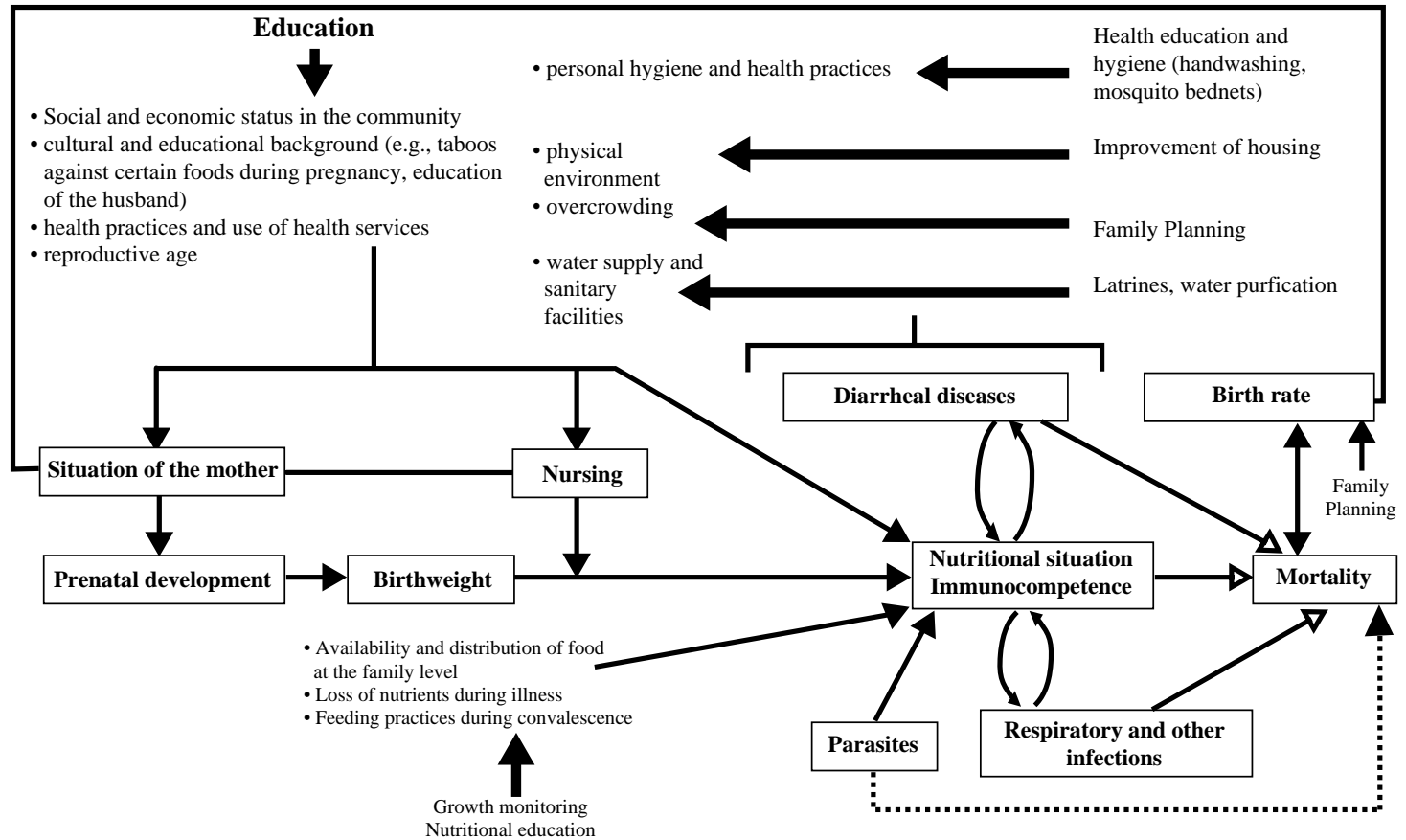
2.3 Community level

These combined measures still lack the crucial component for achieving the desired synergism or integration, namely, community organization and participation, which is essential even in the case of interventions at the individual and family levels.

Community participation is needed, for example, to build drinking water supply and excreta disposal systems, health services, educational establishments, and systems of communication. But for the improvement of housing and distribution of foods, *community action* may also be required, especially for initiatives involving such things as changes in construction and agricultural techniques. Actions at this level must therefore be taken directly *by the community for the community.*

Interventions by the community are generally broader in scope and are essential in order to mod-

Figure 2
Indirect interventions at the family level that can improve child survival



Source: Adapted from UNICEF. Conference on Child Health and Survival: The Possible Synergy between the GOBI Activities, 1992.

ify the social systems, political organizations, or cultural values of a society. In addition, these interventions provide support programs that simultaneously involve individuals and families.

Examples abound of interventions that have failed due to lack of political commitment on the part of community or government leaders or because prevailing cultural concepts hindered their acceptance. Family planning programs are a classic example. Moreover, community hostility toward such programs may impede the implementation of other changes.

Interventions aimed at improving drinking water supply have also failed to yield all the expected benefits. This is because, among other reasons, new technology is not maintained, or water use habits do not change in spite of the new technology.

Child health and survival have improved in countries in which the government has had the political will to make decisions and allocate sufficient resources to support the interventions selected. In these nations, the State has organized its political, social, and cultural resources in order to achieve this goal.³

This level of commitment appears to be the indispensable element for establishing the necessary synergism or integration of health interventions (4).

It may be the most important factor, but it is also the one most frequently overlooked in the rush to establish intervention programs at the individual and family levels. In addition to being geared toward separate action, these interventions do not take advantage of the potential of existing programs. As a result, they are not integrated into the services; on the contrary, they tend to "dis-integrate" them.

3. Additional considerations

It is assumed that synergism or integration will be better achieved by linking specific interventions at the individual, family, and community levels. The "menu" of interventions is not necessarily as important as the need to first address several of the stages in the "pathogenesis" of infant mortality.

However, some of the specific actions required in these stages will be different, depending on where they are carried out, since certain mechanisms predominate in certain areas. In some countries, it will be necessary to consider additional interventions besides those already established (4).

Some of these interventions are discussed in the last part of this chapter, in the section that examines various additional aspects of the components of maternal and child health.

It would be ideal to incorporate all the components described below with a view to achieving an integrated approach to care. However, it is important bear in mind—as will be emphasized in the section on reproductive health—that if the minimum additional resources needed for integrated action are not available, it is sometimes better not to attempt it.

Often there is a risk that programs and services that are working reasonably well will be weakened if an attempt is made to add to them increasingly complex activities without first undertaking a reorganization or providing new inputs that will make it possible to carry out these activities appropriately, within an integrated approach to care (5).

3 This has been the case in Costa Rica, Sri Lanka, Cuba, and China, among other countries.

III. Approaches to Maternal and Child Health Care

In order to provide truly integrated care to the maternal and child population, it is necessary to recognize the approaches to care on which investigation of the health problems of this group has been, or should be, based, as well as the strategies that have been implemented to solve them.

1. Risk approach

The risk approach is a method used to measure the health care needs of specific groups. It is also a tool for determining health priorities and defining needs with regard to reorganization of health services. It seeks to improve care for all, giving greater attention to those with the greatest need.

1.1 Strategy for addressing the health problems of human groups according to their priority and degree of unmet need

The goal of "health for all by the year 2000" recognizes the existence of inequalities in the satisfaction of the needs and aspirations of the various human groups that make up societies. Because of their living conditions, these groups are exposed to different sets of risk factors, which affect their living standards and well-being. The main objective of this strategy is to reduce these inequalities, and it is therefore aimed primarily at groups with unmet needs.

From the standpoint of the health sector, the principal criterion for identifying priority human groups is their degree of unmet need in terms of their access to health services. This criterion is complemented by others relating to the magnitude and nature of the risks to which groups are exposed as a consequence of their living conditions.

The design of a strategy for addressing the health problems of these groups is based on the possibilities for extending the coverage of services. It also takes into account the analysis and formulation of solutions to address groups of risk factors and the capacity of other sectors and their institutions to improve living conditions.

The identification of priority groups according to their degree of unmet need, together with the identification and analysis of their risk factors, constitutes the basis for the identification of the corresponding solutions and programming, as well as for sectoral planning (6).

1.2 Health services systems and the risk approach

The risk approach provides a methodological tool that makes it possible to carry out an orderly analysis of the health system, which is an open and highly dependent system that operates in an environment of uncertainty and conflict.

To ensure the attainment of the purposes of the health sector, it is not enough to identify priority human groups and their problems. Neither is it sufficient to design numerous objectives, goals, plans, and programs or to establish an extensive and detailed description of legal and regulatory functions and provisions. It is necessary, in addition, to develop viable strategies and foster the capacity for inter- and intrasectoral negotiation in order to:

- harmonize objectives;
- procure and allocate the resources needed to have an impact on the principal health problems of populations; and
- administer those resources with the greatest possible degree of social efficiency.

In the health sector, the experience derived from the process of extending health service coverage to marginalized populations confirms the lessons that have been learned in the broader field of development.

The true value of the risk approach strategy is that it provides an appropriate methodological process for the planning and administration of health services. It is also consonant with the postulates regarding the quality of services, which establish that a minimum of health care services should be provided to the entire population and that more resources of all types should be allocated to those who need them the most (6).

1.3 Uses of the risk approach: From information to intervention

The risk approach can be applied at the local, national, and regional levels. The information derived from its use can in turn be used to establish health education practices and to improve care. Participation of the community in the identification of individual or collective risk factors makes it possible to raise awareness of health problems and community action programs.

At the local level, it may foster increased coverage, improve the referral system, and facilitate the control of risk factors. It may also lead to changes in lifestyle and living conditions, as well as in the environment.

Finally, the risk approach helps to identify the role that other factors (social, economic, and environmental) play in the health/disease process (see Table 2). Plans for using the risk approach should be adapted to local patterns of health care, local values, religious practices, and local methods of service payment.

Its practical application is feasible at the local level where referral systems and medical interventions to modify risk factors in maternal and child health are reasonably well-known and where it is generally possible to redistribute local resources (6).

2. Gender approach

The gender approach does not exclude, but rather goes beyond, the sphere of physiology. It looks not only at the set of biological factors that are linked to sex, but also at the roles and relative importance that culture assigns to men and women and the patterns that govern their relationships with one another.

Socialization and institutional control (7) are the mechanisms by which the gender construct exercises its influence on the health of individuals and on the role that they play in health development.

In this section, some of the contexts in which this approach is applicable will be examined. These have an influence on the establishment and operation of services at the local level and on the provision of integrated care in the area of maternal and child health.

2.1 Gender, health status, and differences in care

Some examples that explicitly illustrate the differentiating effect of gender factors on the health of individuals in the region include:

- Complications of pregnancy, childbirth, and the puerperium figure among the five leading causes of death of women of childbearing age in almost all the countries, despite the physiological, not pathological, nature of this process and the eminently preventable nature of these deaths;
- In more than 80% of cases, responsibility for fertility regulation rests entirely with the woman, and it is she who suffers the harmful side effects of contraceptive technologies;
- Funding for research on contraceptives, particularly those intended for use by men, is extremely limited;
- The ratio of cases of male and female sterilization is 1:300 in some countries, despite the fact that vasectomy is a simpler, cheaper, and less invasive operation than female sterilization; and
- The abuse of medical-surgical technologies such as Caesarean section and hysterectomy specifically affects women (7).

2.2 Gender and the participation of women in health development

Social gender constructs exercise an unquestionable influence on the division of labor in the production of health. This occurs both in formal health care systems and informal health care networks, as well as in the community.

The decisive role that women have traditionally played in informal family and community groups has had a profound impact on society.

WHO has recognized that women are the main providers of primary care: it is women who collect and carry water, prepare meals, feed their families, and look after children, the infirm, the elderly, and the disabled. It is mothers who generally take children to be vaccinated and to be examined at health centers, and it is they who teach health and hygiene practices in the family.

It can be affirmed that, as a result of long-standing inequalities, the health system has been built largely on the work, the time, and the gender roles of women (7).

2.3 The gender approach to equity between the sexes

Mortality, which is the variable most frequently used as an indicator of health (or "non-health"), does not reflect the profound variations in the health and quality of life of survivors. It reflects only the extreme breakdown of health.

This is a consideration of fundamental importance in the study of populations from a gender perspective, since females, at any age, tend to experience lower rates of mortality than males, but they are subject to greater morbidity.

This higher morbidity is expressed in a higher incidence of acute disorders, as well as in greater prevalence of non-fatal chronic illnesses and higher levels of short- and long-term disability. Moreover, the disadvantages of women in terms of general health conditions persist even when reproductive health problems are eliminated from the analysis.

Hence, the goal that guides initiatives aimed at women is to contribute—from within the health

system—to the reduction of inequities between the sexes. This objective is pursued through strategies designed to rectify the long-tolerated discrimination against women and enhance appreciation of the equal value of all members of society (7).

2.4 Women's health in development: Challenge and responsibility of all sectors

Women's issues have occupied entire agendas of late. Various resolutions and declarations have established regional commitments to promote and protect the health of women, not only as mothers but also as workers. However, it would appear that the policy approaches, program orientations, and the content of health services have not yet provided the elements necessary for the achievement of those objectives.

Policies and strategies for promoting the equality and involvement of woman in development have, in some cases, taken second place to poverty alleviation strategies and structural adjustment measures. In other case, they have simply been sidelined or ignored in the context of global or sectoral public policies.

Nevertheless, analysis and general experience suggest that when women are recognized and given the opportunity, they can organize and mobilize to improve the health of all, even in situations of constrained financial resources (7).

Hence, one of the principal *tasks* identified in the *Plan of Action for Implementing the World Declaration on the Survival, Protection, and Development of Children in the 1990s* is strengthening the role of women in general and ensuring their equal rights, which will work to the advantage of the world's children. The Declaration also emphasizes that girls must be given equal treatment and opportunities from the very beginning.

At the same time, it establishes the commitment to strengthen the role and status of women and promote responsible planning of family size, child spacing, breastfeeding, and safe motherhood (3).

3. Integrated approach to care

According to a World Bank report cited by Dr. Hiroshi Nakajima, Director-General of WHO,⁴ the challenge faced by health planners and promoters of health policies is to channel resources in such a way that health systems are strengthened rather than fragmented and to enhance the ability to obtain sustainable results in health (8).

At the same time, according to J. G. Speth—a UNDP participant in the same conference—the vision of an integrated approach to child survival calls for an examination of the closely related issues of population and the status of women. The future of children will be better safeguarded where social systems are not stretched to the breaking point due to explosive rates of population growth.

Children will prosper—Speth says—in those education and health services systems that are capable of meeting the demand for basic services and where growth driven by employment can create a sustainable existence for young people as they grow up and prepare to enter to the workforce (and where economic realities do not force poor children into the workforce prematurely); where

4 In his closing remarks on integrated action plans during the conference *New Perspectives on Integrated Services and Their Contributions to Mid-Decade Goals*, New Delhi, India, 2-4 February 1994.

natural resources are managed to meet the needs of people in terms of food, fuels, and environmental services on a sustainable basis; and where all people, including women, have a say in the decisions that affect their lives (8).

These statements present a sound vision of an integrated approach to health, bearing in mind the widely accepted concept of health as a complete state of well-being, and not merely the absence of disease.

3.1 Meaning of an integrated approach to health

The difference between *an integrated approach to health care* for certain groups—in this case mothers and children—and *the integration of activities* in the delivery or provision of health services must be clearly established. The aim in addressing the broad spectrum of needs of individuals in all the stages of their lives is to ensure their productive involvement in economic and social growth efforts.

By providing comprehensive protection to the individual, the family, and the community, society also invests in human capital. The establishment of integrated health activities, seeking to extend coverage to meet 100% of the needs of included groups, is expected to lead to indicators similar to those registered in the most developed countries of the Region or among the groups that are economically most well-off.

In order to talk about an integrated approach to health, then, it is necessary to consider both the target population and the priorities that health programs must include to establish such an approach at the local level.

3.2 Implementation of activities by component with a view to integrating maternal and child health activities at the local level

Countries differ with regard to the magnitude of their problems and their priorities for addressing them. At the same time, they have had different experiences in terms of time and approaches, and they have made varying degrees of progress in the development of each component.

The same is true at the local level, where from a strategic point of view the selection of priorities should be the main concern. These will be set in accordance with the most pressing needs of each locality, the feasibility of obtaining resources, the degree of development of local health establishments or local organizations at the time health actions are planned, and the expected scope and coverage of the interventions.

In addition, research interests prompted by international policies and trends or emergencies caused by major epidemics such as AIDS may, at a given point in time, lead to increased investment in health for certain components in certain regions.

It should be noted that, within this broad area of work, integration takes place in different ways at each level and may occur in general (9):

- at the level of ideas;
- in planning;
- in organization and implementation;
- in the content of programs;
- in actions by those who provide services to families and the community.

Given the strategic option of working by component at local operational levels—an approach that is already being applied in most of the countries—efforts should be directed toward providing comprehensive care and integrating health activities in order to achieve the objectives and goals proposed in accordance with the perceived needs at each level.

It will be necessary to concentrate these efforts on directing the strategies of the various components that are already organized towards achieving continuity across time through an approach that seeks to meet health needs throughout the life cycle, continuity among the three levels of care through a better system of referral and back-referral, and a practical effort at integration through the combination of various interventions—corresponding to any of the components—in the treatment of the same user on the same occasion.

3.3 Conditions for an integrated approach to health

Certain basic conditions must be fulfilled in order to successfully apply an integrated approach to the delivery of health services at the local operational level. These include:

- a) **Access**, in geographical, cultural, economic, and functional or operational terms, for all inhabitants to services at the local level;
- b) **Use**, which means that the population has the opportunity to use the services when needed, continuously and with the possibility of being referred progressively to the highest level of complexity if needed;
- c) **Quality** that is acceptable based on pre-established standards, the response capacity of the services, and users' perceptions;
- d) **Interdisciplinary and intersectoral approach**, which implies that the care provided is not merely a sequence of separate activities, but rather an integration of knowledge, abilities, and experience from various fields in addition to health (10).

IV. Implementation: The Role of Integration in Carrying Out the Components of Maternal and Child Health

In this publication the components are examined separately in terms of strategies, operative instruments, stages of implementation, and reference to technical documents and other materials available for their establishment at the local level, among others.

After undertaking a prior analysis of integration in the delivery of the services and making the decision to adopt this approach, although activities continue to be organized by components, these activities can be carried out independently, simultaneously, or, preferably, in an integrated fashion.

In Part III of this publication, the integrated approach is explored in greater depth in the chapter entitled *Integrated Management of Childhood Illness*. The description of specific stages whose components overlap to a certain extent with those of the stages described below might seem repetitive. However, since the strategy is the same, the two sets of stages can complement one another when applied at the local level, where the health worker will use whichever elements are best suited to the local environment and to needs and resource availability.

1. Frame of reference

The differences between the health conditions of mothers and children in the developing countries of the Americas and those in the developed countries may be explained by the coexistence of two types of closely linked factors:

- Factors related to the incidence and prevalence of various diseases, pathological states, and risk factors, which are determined largely by the prevailing inequalities in socioeconomic conditions and which affect the health of mothers and children. These adverse factors persist in the developing countries, although they have been partially or totally controlled in the developed countries; and
- Factors related to the structure and organization of health care at the level of health services and the community. These determine the possibilities of access and use of the strategies available for the control of health problems and risk factors.

The importance of both kinds of factors becomes apparent when it is taken into account that the existence of specific strategies for the control of numerous health problems has not necessarily ensured the control of those problems. It suffices to mention, for example, the time that elapsed between the availability of the smallpox vaccine and the definitive eradication of the disease or the prevalence of deaths from measles, whooping cough, acute diarrheal diseases, and pneumonia, despite the existence of highly effective technological means of preventing them. Changing this situation will therefore require a coordinated effort involving community organizations, civil and municipal authorities, and NGOs, among others. This effort should be aimed at bringing about the implementation of strategies in a framework of social organization and participation that will ensure community access and use.

This effort might be planned in the following stages:

- a) Identification and study of the problem;
- b) Design and selection of strategies;
- c) Development of basic materials for the implementation of the strategies;
- d) Definition of sites and phases for implementation;
- e) Development of operative plans at the implementation levels;
- f) Implementation of the operative plans;
- g) Monitoring and evaluation.

Based on the progress that has been made in the countries in recent years, conditions should be suitable for carrying out the first three stages. A proposal for a model of integrated management of maternal and child health could then be developed for the countries. This model should be developed for implementation taking into account existing health structures, which have increasingly adopted local or community-based approaches to work. It is also important to involve all the sectors mentioned above (NGOs, community organizations, the educational sector, the food and nutrition sector, and others).

The proposal to be developed would therefore be based on the results of implementation of the following stages:

1. Identification and study of the problem of maternal and child health at the local level in the countries of the region;
2. Design and selection of strategies for the control of the principal problems that affect the health of mothers and children;
3. Development of basic materials for the implementation of the strategies.

2. Stages of planning

2.1 First stage: Identification and study of the problem of maternal and child health at the local level in the countries of the Region

Based on numerous studies of this group, the principal problems that affect maternal and child health can be summarized as follows:

- a) Problems that affect maternal health: pregnancy, childbirth, and the puerperium; abortion; and high fertility, and the effects of these problems on children, both at birth and in the perinatal period, as well as their subsequent impact on growth and development;
- b) Health of adolescents;
- c) Vaccine preventable diseases of childhood;
- d) Problems that affect child growth and development;
- e) Acute diarrheal infections;
- f) Acute respiratory infections.

The magnitude, trends, and characteristic of all these problems have been studied in recent years. Although a more thorough examination of many issues is needed, these studies have yielded sufficient information for a basic situation assessment of each problem in the developing countries of the Americas. The first step, therefore, should be to systematize this information.

2.2 Second stage: Design and selection of strategies for the control of the principal problems affecting the health of mothers and children

With regard to control of the aforementioned health problems, the following is a list of the strategies currently available, to which others may be added after a more in-depth review:

- a) vaccination;
- b) breastfeeding;
- c) child growth and development monitoring (monitoring record);
- d) appropriate management of cases of acute diarrheal disease (oral rehydration therapy and oral rehydration salts);
- e) standard case management of acute respiratory infections;
- f) perinatal care (perinatal clinical record);

- g) family planning;
- h) adolescent health.

Since these strategies were developed specifically to target each of the problems they are intended to control, it will be necessary to carry out a general review thereof at the national level. This will help to decide the way in which they are to be implemented in a combined manner as part of the desired integrated approach. It will also be necessary to develop an overall strategy for the execution of the specific actions proposed in each stage.

2.3 Third stage: Development of basic materials for the implementation of the strategies

Once the technical strategies to be used have been formulated, responsibility for their application must be determined, for which purpose it will necessary to know what knowledge, attitudes, and practices are expected of the community and of each type of health worker that will intervene in the control of the problem.

The ideal way of obtaining this feedback would be to institute a participatory process of ongoing communication involving the community, which will make it possible to undertake the activities needed to transfer the desired knowledge, attitudes, and practices. This will require:

- a) Training of the personnel involved and of the community in the control of the problem;
- b) Provision of the supplies needed to apply the strategy effectively;
- c) Supervision of application of the strategy;
- d) Monitoring and evaluation to determine whether the activities and results are progressing as planned.

Although the evolution of these activities may differ depending on the specific characteristics of the locality, the health personnel, and the community, in all cases it will be necessary to have the following basic materials, which may be adapted to local conditions:

- Training: modules and other instructional materials such as videos, slides, practical exercises, games;
- Communication: posters, pamphlets, videos, slides, games;
- Supervision: model guides for direct supervision and indicators and methodologies for indirect supervision;
- Monitoring: methods and instruments for gathering information.

These materials, which have generally already been developed for each of the components of maternal and child health, can be revised and adapted for application in an integrated fashion, which may require changes and sometimes even the development of new materials.

2.4 Subsequent stages

Once the strategies and the materials for their implementation have been selected, the next step will be to establish the criteria, if any, for choosing the places in which they will be implemented. These criteria might be derived from two basic approaches:

- a) Implementation of the strategy in the places in which the maternal and child health situation is most serious (thus applying, in part, the risk approach).
- b) Implementation of the strategy in the places in which it is easiest to do so, from the standpoint of the existing structure, performance, and personnel of the health system, among other factors.

Since the two approaches are often in opposition to each other, it might be advisable to settle on an intermediate solution.

At this point, the proposal should be discussed at the local level—or the central level if necessary—for analysis and study, as well as for identification of the places in which it might be implemented. The implementation process will require:

- Adaptation of the proposal based on local characteristics;
- Development of operational plans that contain the activities to be carried out in the course of implementation;
- Monitoring of the execution of the plans and their impact on the problem;
- Evaluation.

V. Already Established Components of Maternal and Child Health: Some Additional Considerations and Recent Trends Consistent with an Integrated Approach

1. Integrated Approaches to Child Development

Since the conventional strategies in the health sector focus on illness, the concept of an integrated approach to child development may represent an unique opportunity to adopt a positive perspective on health, given the central role of child development in tying together maternal and child health activities (*II*).

These activities have been an important instrument for involving the community in health practices and even in achieving the application of a truly integrated approach in maternal and child health.

When mothers bring their children to health services for "well-child" visits, for example, other measures have been incorporated, including immunizations, prophylaxis for parasitic diseases, and early attention to incipient cases of diarrhea or acute respiratory infections. In later stages, these measures would tend to become part of the package included in the initiative known as "integrated management of childhood illness."

2. Control of Diarrheal Diseases (CDD)

Thanks to correct management of patients with diarrhea, through oral rehydration therapy and rapid intravenous rehydration, mortality from diarrhea has been steadily decreasing (*II*). But since

rehydration is treatment, not prevention, in order to further reduce diarrhea mortality in the region, it will be necessary to integrate truly preventive approaches, as called for by the goals of the Summit. Examples of such approaches include assuring that the entire population has access to safe drinking water and appropriate excreta disposal systems.

Nevertheless, the prevalence and incidence of diarrhea will not decline significantly until the economic situation of the countries in which the rates are highest reaches a point of stability.

Efforts on the part of the ministries of health of the region—with direct advisory services from PAHO and WHO—to improve epidemiological surveillance in the wake of the recent cholera epidemic that struck a number of countries should continue to be directed toward preventing new outbreaks. At the same time, efforts should be focused on preventing diarrhea in children and on ensuring integrated management of diarrhea cases in accordance with the guidelines established for other programs, such as those on control of acute respiratory infections, nutrition, and breastfeeding.

3. Control of acute respiratory infections (ARI)

Acute respiratory infections (ARI) cause 25%-30% of all deaths in children under the age of 5. They are the leading reason for health service visits and account for between 30% and 50% of hospital admissions. The actions proposed here could help to reduce mortality from this cause by up to 80% (11).

With a view to ensuring achievement of the goals established at the Summit, intermediate goals for the end of 1995 were established. For ARI, the mid-decade goal is to reduce ARI mortality by 20% with respect to the figures for 1990. Control of ARI through standard case management will continue to be the priority strategy for the next period. Implementing it will require intensive effort by each country and, in particular, by health personnel involved in ARI control at the local level.

Among other activities, support should be provided for the development of training units to guide the process. Theoretical and practical training should be monitored; its scope and impact should be assessed; its monitoring and evaluation should be promoted; and operations research should be carried out in order to identify problems and make the necessary adjustments (12).

4. Expanded Program on Immunization (EPI)

The impact of the Expanded Program on Immunization (EPI) on vaccine-preventable diseases has been enormous. Since September 1991 no cases of polio have been reported in the Region. The incidence of neonatal tetanus has fallen 70% in risk areas, and efforts to eliminate measles are under way in several countries. Nevertheless, 50,000 deaths that could have been prevented by vaccination continue to occur each year (11).

While the trend in the major financial sectors is currently toward sectoral reform, the EPI has succeeded in establishing itself and achieving self-sustainability in almost all the countries of the Region. Although policies remain to be defined, the Program is now seeking to incorporate vaccines against other important diseases such as those caused by *Haemophilus influenzae* type b and hepatitis B in risk areas, as well as diseases such as mumps, rubella, syphilis, dengue, and malar-

ia, where the incorporation of these new vaccines is necessary and feasible, but without affecting the acquisition and availability of established vaccines.

Moreover, the EPI has served as a vehicle for the mobilization of resources and support from other political sectors in the countries and for the integration of PHC activities. One example is in the area of reproductive health, where traditional birth attendants collaborate in the administration of tetanus vaccine. Advantage is also taken of national campaigns, miniconcentrations, and longitudinal administration of vaccines to offer education and promotion of components such as oral rehydration and breastfeeding.

5. Integrated Management of Childhood Illness (IMCI)

Since 1990, some 60 million children have died before reaching the age of 5 years. Forty-two million were victims of diarrhea, pneumonia, malnutrition, measles, or malaria. If action is not taken immediately, the number of deaths by the year 2000 could be higher still.

At least three out of every four children who seek medical attention each day do so for one of these five illnesses. According to the World Development Report 1993, published by the World Bank, treatment of prevalent childhood illnesses is one of the most cost-effective health interventions in low- and middle-income countries.

It has been determined that this is the intervention that will probably have the greatest success in reducing the global burden of disease. The new guidelines developed for this method encompass training of health personnel to manage the five principal diseases that may lead to death during childhood.

The strategy focuses on the child, not on a specific disease. It makes it possible to identify the disease more accurately and avoid duplication of efforts. Most important, it includes prevention and health promotion as part of case management. The most urgent need is to ensure that children who are taken to a health care provider are correctly assessed and receive appropriate care based on risk criteria (13).

6. Health of adolescents

Policies and legislation for promoting the health of adolescents and young people have been examined recently at several levels, as have the characteristics of programs aimed at this population and the way in which they are perceived and used by young people. Recent studies sponsored by WHO, for example, have identified the following areas in which attention is needed:

- General development;
- Psychosocial development;
- Reproductive and sexual health;
- Specific behavioral problems; and
- Critical disadvantages.

The success of some programs that have been based on the foregoing areas has been attributed to the comprehensiveness of their activities, to the commitment of their organizers and of the com-

munities in which they have been carried out, and to the involvement of young people themselves in both their organization and implementation (14).

Drawing on these experiences and incorporating the main issues that affect adolescent health—tobacco, alcohol, drugs, reproductive health, nutrition, accidents, sexually transmitted diseases and AIDS—it should be perfectly feasible to design an integrated approach to management of the health of this important group in the Region.

7. Reproductive Health

As far as reproductive health is concerned, although the needs of women have occupied an increasingly prominent place on political agendas in the Region, in 1994 and 1995 some 21,000 women continued to die each year due to complications of pregnancy, childbirth, and illegal abortions.

Conservative estimates indicate that between 40% and 70% of deaths associated with maternity are not reported as such. Only six countries⁵ account for 70% of these deaths, and at least 95% of them could be avoided (15). The population exposed to reproductive health risks is growing at such a rapid annual rate in the Region that, even with a reduction in the birth rate, this population will have increased 26% by the year 2000 (11).

In the face of these trends, it will be essential in the future to integrate a whole series of activities and interventions aimed at increasing recognition of the important role of women in the community. This should be done in conjunction with the transfer of decision-making power, so that programs that include strategies to improve women's level of education can have a real impact on the well-being of their children, their spouses, and their communities.

8. Breastfeeding

Although there is no doubt about the value of breastfeeding, just emphasizing the promotion, protection, and support of the practice will probably not improve the results of child survival programs. It suffices to note that the developing countries of the Region in which breastfeeding is most prevalent still have high rates of infant mortality and serious nutritional problems (4).

Much more than breastfeeding is needed to ensure that children realize their potential in life. One approach would be to integrate breastfeeding activities into food and nutrition programs in order to promote appropriate weaning. Promotion of breastfeeding should also be incorporated into the education of women on other issues relating to their rights and prerogatives. Indeed, breastfeeding could be integrated with any of the components described in this publication.

However, it will be difficult to make much solid progress until there is genuine political will to enact legislation in all the countries—but especially in those in which it is most needed—with regard to the following:

- The rights of working mothers;
- Regulation of the unrestricted promotion of commercial infant formulas;

5 Brazil, Bolivia, Colombia, Mexico, Peru and Venezuela.

- Government programs for the distribution of powdered milk; and
- Hospital policies that do not facilitate early contact of mothers with their infants.

9. Maternal and child nutrition

The cycle of proper child feeding and nutrition—which helps to ensure the good health of future mothers, in the case of the girls, and the nutrition of mothers, which in turn conditions the nutrition of infants—is of fundamental importance for the long-term solution of malnutrition. The nutritional status of children also influences their educability and intellectual development to a considerable degree.

The vicious cycle of intergenerational malnutrition requires interventions at several stages. The first would be prevention of low birthweight, followed by education and literacy training for women, which are also determinants of better nutrition for girls. However, in the past decade progress toward the goals of the Summit in these areas has been limited.

Placing emphasis on the nutrition of mothers and children as the central element in their current policies, entities such as the Nutrition Subcommittee of the United Nations, as well as other international and regional agencies, are channeling their resources toward research on all aspects of this cycle—in other words, toward the integration of nutrition activities with those of reproductive and adolescent health, child development, and breastfeeding (16).

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VII. Annexes

Table 1
**The seven major goals for child survival, development,
and protection by the year 2000**

1. Between 1990 and the year 2000, reduction of infant and under-5 child mortality rate by one third, or to 50 and 70 per 1,000 live births, respectively, whichever is less;
2. Between 1990 and the year 2000, reduction of maternal mortality rate by half;
3. Between 1990 and the year 2000, reduction of severe and moderate malnutrition among under-5 children by half;
4. Universal access to safe drinking water and to sanitary means of excreta disposal;
5. By the year 2000, universal access to basic education and completion of primary education by at least 80% of primary school-age children;
6. Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level, with emphasis on female literacy;
7. Improved protection of children in especially difficult circumstances.

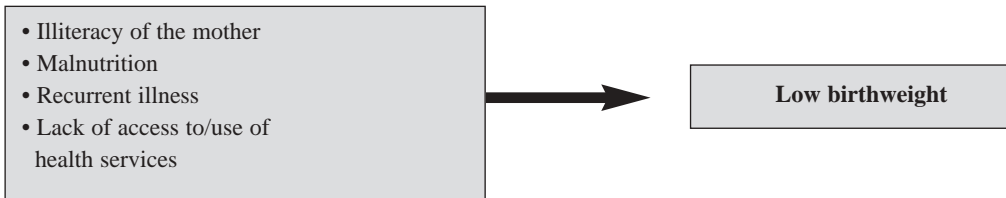
The six specific goals for child health:

1. Global eradication of poliomyelitis by the year 2000;
2. Elimination of neonatal tetanus by 1995;
3. Reduction by 95% in measles deaths and reduction by 90% of measles cases compared to pre-immunization levels by 1995, as a major step to the global eradication of measles in the longer run;
4. Maintenance of a high level of immunization coverage (at least 90% of children under 1 year of age by the year 2000) against diphtheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis and against tetanus for women of child-bearing age;
5. Reduction by 50% in the deaths due to diarrhea in children under 5 years and 25% reduction in the diarrhea incidence rate;
6. Reduction by one third in the deaths due to acute respiratory infections in children under 5 years.

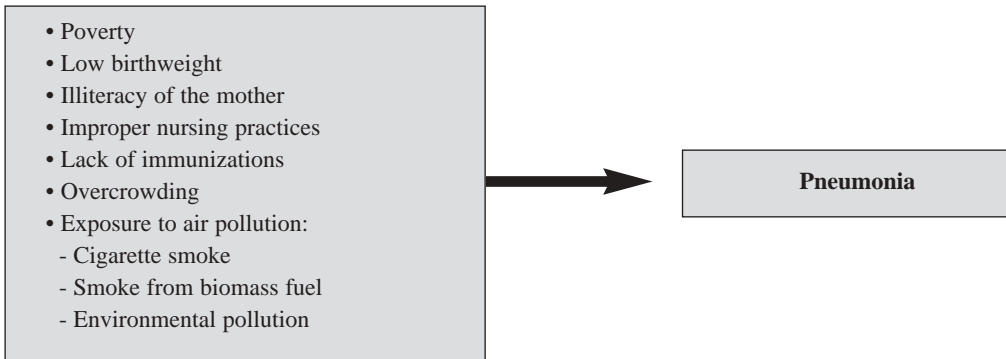
SOURCE: United Nations. **World Declaration on the Survival, Protection and Development of Children and Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s**. World Summit for Children. New York; 30 September 1990.

Table 2
Risk factors and associated health impairments
(model)

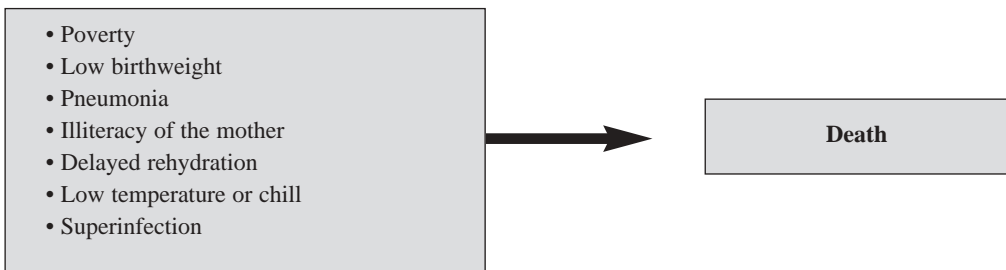
THE FETUS BECOMES A LOW BIRTHWEIGHT INFANT



THE CHILD DEVELOPS PNEUMONIA



THE SICK CHILD DIES



SOURCE: Adaptation of WHO figures for 1993. Adapted by Serrano, C. in Manual PALTEX de Enfoque de Riesgo en la Atención Maternoinfantil. Washington, DC: Organización Panamericana de la Salud; 1986.