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IMCI information

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI)

DEPARTMENT OF CHILD AND ADOLESCENT HEALTH AND DEVELOPMENT (CAH)

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Management of childhood illness in developing countries: Rationale for an integrated strategy

Introduction

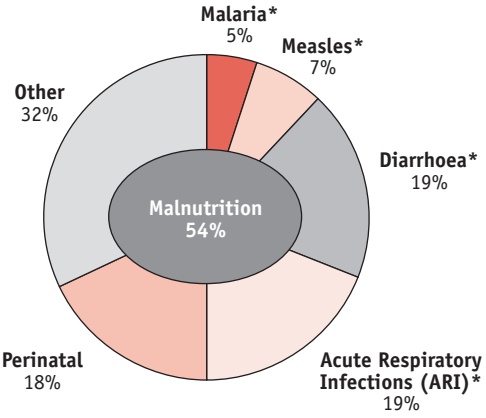
Every year some 12 million children in developing countries die before they reach their fifth birthday, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria or malnutrition – or a combination of these conditions (see Figure 1). Projections based on the 1996 analysis *The global burden of disease* indicate that these conditions will continue to be major contributors to child deaths in the year 2020, unless significantly greater efforts are made to control them. In addition, three in four episodes of childhood illness are caused by one of these five conditions. Every day, millions of parents seek health care for sick children, taking them to hospitals, health centres, pharmacists, community health care providers and traditional healers.

The extent of childhood morbidity and mortality in the developing world caused by these five conditions is not in itself a rationale for an integrated approach to the management of childhood illness. However, most sick children present with signs and symptoms related to more than one of these conditions. This overlap means that a single diagnosis may not be possible or appropriate (see Figure 2), and treatment may be complicated by the need to combine therapy for several conditions. An integrated approach to managing sick children is, therefore, indicated as is the need for child health programmes to go beyond single diseases and address the overall health of a child.

Much has been learned from disease-specific control programmes in the past 15 years. The current challenge is to apply the lessons from these programmes to strategies that promote coordination and, where appropriate, greater integration of activities in order to improve the prevention and management of childhood illness. The WHO Department of Child and Adolescent Health and Development (CAH), in collaboration with eleven other WHO programmes and UNICEF, has responded to this challenge by developing the Integrated Management of Childhood Illness (IMCI) strategy.

FIGURE 1

Distribution of 11.6 million deaths among children less than 5 years old in all developing countries, 1995



* Approximately 70% of all childhood deaths are associated with one or more of these 5 conditions.

Based on data taken from *The Global Burden of Disease 1996*, edited by Murray CJL and Lopez AD, and *Epidemiologic evidence for a potentiating effect of malnutrition on child mortality*, Pelletier DL, Frongillo EA and Habicht JP, *AMJ Public Health* 1993;83:1130–1133.

FIGURE 2

For many sick children a single diagnosis may not be apparent or appropriate

Presenting complaint	Possible cause or associated conditon
Cough and/or fast breathing	Pneumonia Severe anaemia *P. falciparum* malaria
Lethargy or unconsciousness	Cerebral malaria Meningitis Severe dehydration Very severe pneumonia
Measles rash	Pneumonia Diarrhoea Ear infection
"Very sick" young infant	Pneumonia Meningitis Sepsis

While many agencies, institutions and individuals are contributing to the initiative, WHO/CAH and UNICEF are taking the lead in the development of IMCI materials and activities as well as in working with countries to implement the strategy.

Both agencies are also working to ensure children's fundamental rights to health and health care. These rights are clearly spelled out in the Convention on the Rights of the Child.

The IMCI strategy

The IMCI strategy combines improved management of childhood illness with aspects of nutrition, immunization, and other important factors influencing child health, including maternal health (see Figure 3). The objectives of the strategy are to reduce death and the frequency and severity of illness and disability, and to contribute to improved growth and development.

IMCI interventions and components

The core IMCI intervention is integrated case management of the five most important causes of childhood deaths – acute respiratory infections (ARI), diarrhoea, measles, malaria and malnutrition. The strategy includes a range of other preventive and curative interventions, which aim to improve practices both in the health facilities and at home (see Figure 4). In addition to the leading causes of childhood mortality, the generic WHO/UNICEF guidelines and the IMCI Adaptation Guide also address other common associated conditions (see Figure 5).

The combination of interventions that makes up IMCI may be modified to include conditions that are important in individual countries and for which effective treatment and/or preventive practices have been identified. The main interventions of the global IMCI strategy may evolve, as new findings from analysis of the global burden of childhood disease and from child health research become available.

FIGURE 3

Integrated management of childhood illness (IMCI) as a key strategy for improving child health

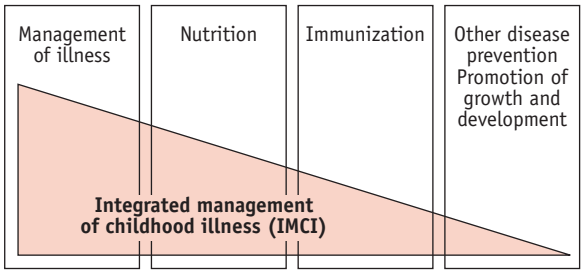


FIGURE 4

Interventions currently included in the IMCI strategy

	Promotion of growth Prevention of disease	Response to sickness ("curative care")
Home	■ Community/home-based interventions to improve nutrition ■ Insecticide-impregnated bednets	■ Early case management ■ Appropriate careseeking ■ Compliance with treatment
Health services	■ Vaccinations ■ Complementary feeding and breastfeeding counselling ■ Micronutrient supplementation	■ Case management of: ARI, diarrhoea, measles, malaria, malnutrition, other serious infection ■ Complementary feeding and breastfeeding counselling ■ Iron treatment ■ Antihelminthic treatment

FIGURE 5

Interventions included in the IMCI guidelines for first-level health workers

	Conditions covered by case management	Preventive interventions
Generic version	Acute respiratory infections Diarrhoea Dehydration Persistent diarrhoea Dysentery Meningitis, sepsis Malaria Measles Malnutrition Anaemia Ear infection	Immunization Nutrition counselling Breastfeeding support Vitamin A supplementation
Using the *IMCI Adaptation Guide*	HIV/AIDS Dengue haemorrhagic fever Wheeze Sore throat	Periodic deworming

Implementation of the IMCI strategy in countries involves the following three components:

- Improvements in the case management skills of health staff through the provision of locally adapted guidelines on integrated management of childhood illness and activities to promote their use.
- Improvements in the health system required for effective management of childhood illness.
- Improvements in family and community practices.

These components are supported by programme planning, including the selection of indicators and the setting of targets, and by evaluation.

Benefits of the IMCI strategy

In health facilities, the IMCI strategy promotes the accurate identification of childhood illnesses in outpatient settings, ensures appropriate combined treatment of all major illnesses, strengthens the counselling of caretakers and the provision of preventive services, and speeds up the referral of severely ill children. The strategy also aims to improve the quality of care of sick children at the referral level. In the home setting, it promotes appropriate careseeking behaviours, improved nutrition and preventive care, and the correct implementation of prescribed care. The benefits of the IMCI strategy are summarised in Box 1.

The relationship of IMCI with other technical programmes

The IMCI strategy promotes a number of interventions and areas of activity, such as immunization, vitamin A supplementation and drug supply management (see Figure 6). IMCI management in countries will not involve taking on full responsibility for these interventions and activities, which are usually managed by existing programmes, but will seek to ensure that they are well coordinated and effectively implemented. In all countries, the collaboration of all relevant programmes is essential for the development and endorsement of the IMCI clinical guidelines and for their promotion and use.

BOX 1

Benefits of Integrated Management of Childhood Illness (IMCI)

The IMCI strategy:

Addresses major child health problems – The strategy systematically addresses the most important causes of childhood death and illness.

Responds to demand – Every day millions of parents take their sick children to hospitals and health centres, pharmacists and community health care providers. At least three out of four of these children are suffering from one of the five conditions that are the focus of IMCI.

Is likely to have a major impact on health status – The 1993 World Bank World Development Report, *Investing in Health*, estimated IMCI to be the group of interventions with the potential for the greatest impact on the global burden of disease.

Promotes prevention as well as cure – In addition to its focus on treatment, IMCI also provides the opportunity for, and emphasizes, important preventive interventions such as immunization and improved infant and child nutrition, including breastfeeding.

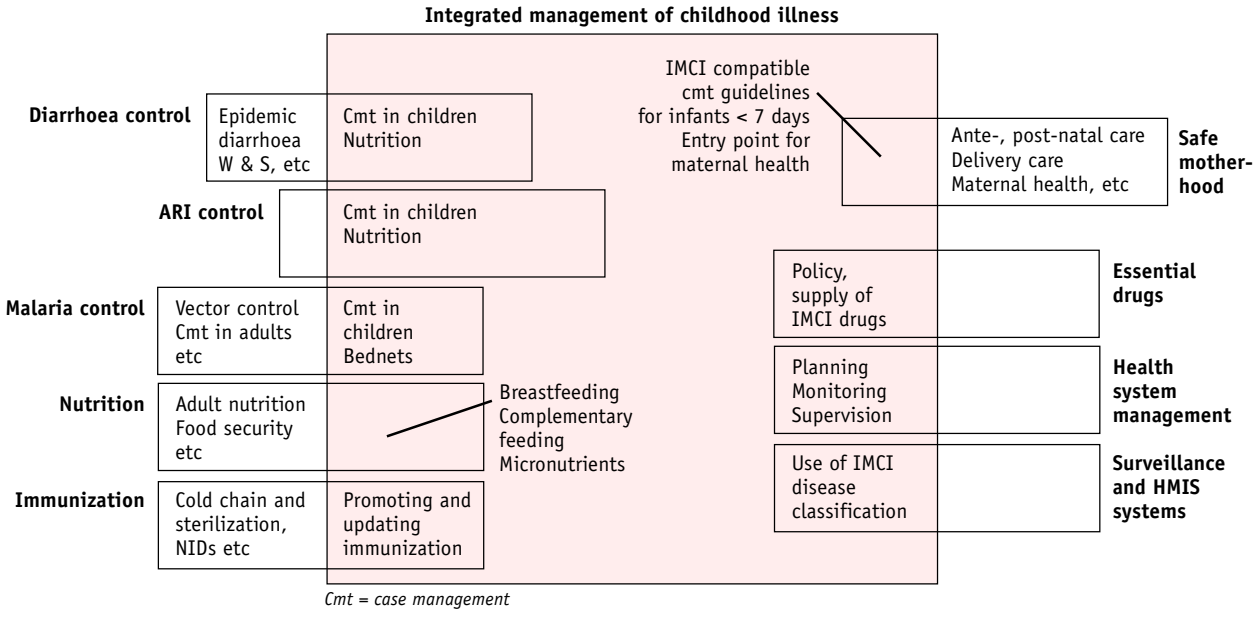
Is cost-effective – *Investing in Health* ranked IMCI among the 10 most cost-effective interventions in both low- and middle-income countries.

Promotes cost saving – Inappropriate management of childhood illness wastes scarce resources. Although increased investment will be needed initially for training and reorganization, the IMCI strategy will result in cost savings.

Improves equity – Nearly all children in the developed world have ready access to simple and affordable preventive and curative care which protects them from death due to ARI, diarrhoea, measles, malaria and malnutrition. Millions of children in the developing world, however, do not have access to this same life-saving care. The IMCI strategy addresses this inequity in global health care.

FIGURE 6

Areas of overlap of IMCI with other programme activities



IMCI and health system reform

In many developing countries some type of reform of the health system is underway, often involving decentralization of management. The stated objectives of health sector reform usually include improvements in equity, efficiency, quality of care, effectiveness and sustainability. IMCI can contribute in all of these areas. The emphasis in IMCI implementation on capacity building at district level is compatible with, and can contribute to, decentralization of health service management. Another aspect of health system reform being promoted in some countries is "essential services" or a minimum package of activities and there is a strong rationale for including IMCI in such an approach. By providing clear standards and effective training, adapted to each country's needs, IMCI can also contribute to improving quality of care and cost-effectiveness. Drug costs can be reduced by more rational use of drugs.

Regardless of the approach taken by a country to health system reform, it is important that IMCI be explicitly discussed early in the process and included in the plans.

FIGURE 7

The rights of a child: to enjoy the highest attainable standard of health, and to have access to health services

The 191 States that have ratified the ***Convention on the Rights of the Child*** agree in Article 24 to take appropriate measures to pursue the full implementation of these rights, including:

- To diminish infant and child mortality;
- To ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care;
- To combat disease and malnutrition;
- To ensure that parents and children have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breastfeeding, hygiene and environmental sanitation, and the prevention of accidents.

For more information, see the ***Convention on the Rights of the Child***, Article 24.

Promoting child health through the *Convention on the Rights of the Child*

The ***Convention on the Rights of the Child*** and its monitoring body, the United Nations Committee on the Rights of the Child, provide a valuable framework for the development of strategies to deal with issues affecting child health.

While many of the Articles of the Convention have a bearing on health as broadly defined by WHO, Article 24 specifically defines the rights of the child to health and health care (Figure 7). IMCI strategies address directly the requirements of Article 24 for countries to