“IMCI” originally stood for "Integrated Management of Childhood Illness”, which has since been changed to "Integrated Management of Childhood Health". It refers to a broad WHO/UNICEF initiative that was launched globally in 1995 with the objective of reducing under-5 mortality, morbidity and disability, and improving child growth and development.

The initiative challenges the traditional disease-specific approach to illness by adopting a more integrated approach in line with the philosophy of primary health care.

IMCI: from clinical guidelines to a conceptual framework

IMCI (Integrated Management of Childhood Illness) strategy first focused on the development of clinical guidelines and a conceptual framework.

Integrated clinical guidelines

Conceptual framework and tools

Integrated clinical guidelines

Initially, developmental work of the IMCI strategy focused on the development of integrated clinical guidelines for the outpatient management of priority conditions in sick children below 5 years of age and a training package. The training package was meant to enable health providers at primary health care level to acquire or strengthen the clinical and communication skills needed to use the guidelines.

The guidelines represented a major step ahead compared with single-condition guidelines. They provided the means of detecting more than one problem in a child during the same consultation and managing those problems through an integrated approach. This is particularly important, as many children present with more than one condition at the same time and the management of the child at first-level health facilities is eventually the responsibility of the same health provider, who should deal with the child rather than one illness at a time.

Much emphasis was also given to assessing feeding practices in children during their most vulnerable years—the first two years of life— and in those found not to be thriving well—even before obvious clinical signs of malnutrition would be visible— and to counsel their mothers accordingly. A link with maternal care was also established.

The clinical approach therefore included dealing not only with ill conditions but also with risks, and promoting health (e.g., good feeding practices, including breastfeeding). Opportunities for immunization were increased, by including in the IMCI protocol routine screening for immunization status of all sick children seen. This represents one of the added values of IMCI to existing immunization programme (EPI) activities.

The advantage of delivering all this content packaged in just one course was also substantial, since the target health provider offering those services at primary health care level was the same person.

Much attention was given to the quality of clinical training, setting a number of key quality indicators and emphasizing adequate, supervised clinical practice. Intrinsic to capacity-building was a mechanism of follow-up visits to reinforce the acquired skills and at the same time improve health system support, to enable health providers trained in IMCI to deliver quality care in their own facilities according to the IMCI guidelines.

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Conceptual framework and tools

Next, the conceptual framework of IMCI was conceived. It expanded the concept and proposed a new vision for public child health, within the spirit of primary child health care. It encompassed both the health system and the community, and included curative, preventive and promotion elements.

Gradually, WHO developed other instruments, in addition to the training package, to assist countries in translating the “concept” into implementation. These included, among others:

a planning guide for the introduction and initial implementation of IMCI in a country;an adaptation guide
to guide the clinical adaptation process in detail;
a drug supply management training course
;
an
IMCI health facility survey manual
to evaluate the quality of outpatient child care services at primary health care facilities implementing IMCI;
guidelines for
referral care
to improve care at the referral point.

A rich IMCI reference library of selected materials was also made available to provide detailed background to the IMCI clinical guidelines for country adaptations and for use by medical and paramedical teaching institutions and interested professionals.

However, many countries kept their focus on clinical training and mortality reduction, calling for WHO to assist them in:

strengthening health systems to deliver quality services according to the IMCI quality standards;
establishing a stronger partnership with the community; and
developing effective links between the health systems and the community.
As part of its efforts to respond to country needs, the Regional Office developed a guide to planning at district level, a planning tool for the community component, a set of training materials on caring for the sick child in the community for community health workers, a comprehensive package on pre-service education for paediatrics and community departments of medical schools and a guide to the situation analysis for the development of national child health policies.

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A dynamic framework

IMCI (Integrated Management of Childhood Illness) was also seen as a dynamic framework,

meant to respond to new challenges and priorities as they emerged, and include more interventions as they became available. As such, IMCI was not meant to be restrictive and limited to its original “presentation”: it was a public health umbrella for primary child health care, bound to evolve over the years to respond to needs.

For more information on the rationale for IMCI and other aspects, an “ IMCI information package ” developed by HQ is available. The Region is committed to using a quality assurance approach to improve the performance of health providers, the quality of health services delivered to children through the health system and child care provided in the community.

IMCI has been promoted in the Region also as a key strategy to contribute to achieving the child health related Millennium Development Goals .

What "I", "M", "C", "I" mean in I.M.C.I.

I. "Integrated" refers to a number of characteristics of the strategy, in addition to the proposed management approach.

The ultimate aim of this “integration” is for children under-5 to receive holistic care, whether at home, in the community or at the health facility. It is “integrated” because:

It is meant to bring together curative, preventive and development aspects of child care into one strategy;

It is supposed to be managed and coordinated by a committee that draws on managers and experts from different, key public health areas;

It enables the clinical management of priority public child health problems through a standardized, fully integrated approach based on clinical guidelines presented in just one training course package; and

It aims at creating a continuum of care between health system services and the care provided in the community.

M. "Management" here should be seen as having both a clinical and public health meaning.

The IMCI clinical management adopts a syndromic approach, where signs and symptoms are the entry point: cases are “classified” into defined categories of severity based on the presence or absence of a few key signs and symptoms.

The main emphasis is on the resulting action. The classifications have the purpose of enabling the primary health care provider to select a management plan rather than make a precise diagnosis, which would often be impossible at that level based only on clinical grounds and the assessment of a few signs.

Thus, a sick child is "classified" into one of three main categories, highlighted with a colour code:
"red", indicating severe conditions which need urgent referral to an inpatient facility; "yellow", indicating situations that can be managed at the health centre—often with drugs—but that require definite follow-up; and
"green", indicating mild conditions which require simple home care.

Apart from the clinical management of sick children, many things have to be in place to deliver child care, both in the health system and in the community. These aspects of health care represent the public health meaning of management.

C. "Childhood" here refers to children below 5 years of age, which is the child age group most vulnerable to illness and death.

Investing in this age group gives also great rewards for their future development and the society as a whole. They are the current targets of IMCI. It is the same age group that was originally

targeted by such programmes as the control of diarrhoeal diseases and acute respiratory infections.

At the beginning, the global IMCI clinical guidelines did not cover the first week of life, but several countries in the Region decided to include this period also in their adapted guidelines. Much work is currently being undertaken to address the issue of neonatal health.

I. "Illness" is used in public health terms, to address conditions that are first of all a major cause of death, severe illness or disability in children under-5.

These conditions include:

acute respiratory infections—including pneumonia;diarrhoeal diseases, including dehydrating diarrhoea, dysentery and persistent diarrhoea;
meningitis and sepsis;
malaria;
HIV/AIDS;
measles;
ear infections;
malnutrition; and
anaemia.

IMCI therefore is not comprehensive paediatrics but focuses on public child health priorities in under-fives.

In the Eastern Mediterranean Region, the acronym "IMCI" has remained but "illness" has been replaced with the more holistic concept of "health".

Management structure

IMCI (Integrated Management of Childhood Illness) brought about many significant changes

compared with the vertical programmes from which it evolved. It was meant to be managed by a committee or working group, rather than a programme manager, cutting across key child health-related and health system programmes.

The committee was to be chaired by a senior official of the ministry of health with decision-making authority, and to be supported in its work by a focal point acting as its secretariat.

The committee also oversaw and coordinated a technical process of adaptation of the IMCI guidelines to the country, bringing in the best expertise available in the country to build a consensus in the scientific and public health community. Although time consuming as a process, this created a strong foundation for partnerships within the ministry of health and with academia in many countries in the Region.

A potential constraint of the management approach proposed was the lack of visibility of a specific management structure such as that developed for vertical programmes that could be allocated also a budget line for its operations. Some countries therefore appointed a 'programme manager' also for IMCI (e.g. Egypt, Sudan, Syrian Arab Republic and Tunisia), while establishing their IMCI steering committees and working groups.

In countries in the Region, IMCI was usually placed in the Primary Health Care department.

Adaptation of IMCI guidelines

Another important aspect of the IMCI (Integrated Management of Childhood Illness) strategy is the guided process for adaptation of its guidelines to the local epidemiological, policy, health system and community context.

Through this process, IMCI has proved to be a flexible strategy, able to adapt itself to the diversity of such contexts as those of both the low-income and middle-income countries in the Region.

By the end of 2004, IMCI had been introduced in 17 countries in the Region (see implementation).

The three components of IMCI

IMCI (Integrated Management of Childhood Illness) is meant to move along the two tracks of the health system and community, respectively, while promoting the establishment of strong links between the two. Much emphasis is given to capacity-building. Traditionally, then, IMCI is presented as a strategy which has three components, aiming to:

improve health workers' skills ;

improve health systems ; and

improve family and community practices .

Improving health providers' skills

Improving health providers' skills mostly refers to clinical and communication skills and covers both pre-service education and in-service training, public and private sector.

Improving health systems

Improving health systems to deliver IMCI concerns policy, planning and management, financing, organization of work and distribution of tasks at health facilities, human resources, availability of drugs and supplies, referral, monitoring and health information system, supervision, evaluation and research. Health sector reform efforts, although being an umbrella which covers also human resources and their capacity, are usually listed under this component.

Improving family and community practices

Improving family and community practices currently refers to 12 key family and community practices related to child health and development that, if properly promoted and adopted by the targeted communities,

would potentially contribute to improving child survival, growth and development.

The three phases of IMCI implementation

The introduction of IMCI (Integrated Management of Childhood Illness) in a country follows three phases:

Introduction ;

Early implementation ; and

Expansion

Introduction

The “Introduction phase” is mainly about enabling the ministry of health and its partners to make an informed decision about IMCI as a suitable strategy in the country context.

It is characterized by country assessment and orientation meetings on IMCI of senior officers of the ministry of health, representatives of academia, international and bilateral organizations, civil society and nongovernmental organizations.

This phase results in the formal endorsement of IMCI as a national strategy by the concerned ministry of health authorities.

An IMCI management and coordination structure is then officially set up.

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Early implementation

The “Early implementation phase” is a major undertaking to gain experience in implementing the adapted IMCI in limited areas in the country.

It is often a lengthy process, because it aims at reaching a consensus among the main stakeholders. However, it plays a key role in establishing the foundations for IMCI in the country and for active partnerships with the scientific community.

This phase includes:

the participation of selected staff in IMCI activities in other countries, to build capacity for adaptation and training; the adaptation of the IMCI guidelines and training materials to the local setting by ad hoc IMCI committees and resource persons—bringing together leading public health and clinical professionals; and building district capacity for planning and implementation.

This work is followed by the selection of a few districts according to agreed upon criteria, preparation of district plans, preparation of these districts and health facilities (health system component) before training starts, capacity-building and implementation with close monitoring.

This phase is thoroughly documented and ends with a major review to identify lessons learnt and plan for wider implementation in the country.

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Expansion

The “Expansion phase" marks the beginning of large-scale implementation in the country, broadens the range of activities and includes also expansion in scope of the strategy, while maintaining quality.

Compared with the previous phases, the pace of progress is usually much faster, depending on the human and financial resources available at central and district level.

This phase relies very much on the work done in the earlier phases, and on the interest and support that these have generated.

Thanks to the IMCI decentralized implementation approach, implementation may move in parallel in several areas of the country at the same time.

This phase should be reviewed periodically.

Competing priorities for funding and human resources have in recent years contributed to diverting resources to areas other than child health, hampering efforts to increase IMCI coverage in some countries.

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Evolution of IMCI in the Eastern Mediterranean Region: from sick to healthy child approach

In the Eastern Mediterranean Region, the IMCI (Integrated Management of Childhood Illness) strategy was introduced in 1996 to reduce under-five mortality and has since evolved to encompass both the sick and the healthy child.

The evolution of IMCI in the Region reflects the characteristics of its countries. In fact, the Region is characterized by a distinct socioeconomic, cultural, and epidemiological diversity.

In the Region, more than one million children under the age of 5 still die every year, one death

every 30 seconds. Most of these deaths are preventable through existing, effective interventions included in IMCI.

While in some countries under-5 mortality reduction is a priority, in others where downward mortality trends have been substantial in the past decades, child health care needs to go beyond survival and take up the challenge of addressing newly emerging issues, e.g. injuries , and child development .

This challenge has brought about a change in the way of thinking at regional level. The foundation of “child health”—as opposed to only “child survival”— is seen as a requisite for a child care strategy in any country, whether the priority is to reduce deaths, reduce child vulnerability to illness or promote healthy growth and development. Interventions need to improve the quality of children’s life.

The new concept wants to address the child as a whole and emphasize the importance of a more holistic approach contributing to building stronger children rather than just waiting for them to get sick in order to treat them.

Much attention has been given in the Region to the health system , to support the delivery of quality child health services. Many medical and some paramedical schools in the Region have started a process to incorporate IMCI elements into their teaching (see pre-service education).

Both approaches, i.e. addressing the healthy and sick child, have to go hand in hand, if sustainable and persisting achievements over time are to be made.

With this understanding, IMCI has since evolved gradually in the Region to encompass both illness and healthy growth and development of children, especially in most recent years.

It has therefore been re-named “Integrated Management of Child Health” in the Eastern Mediterranean Region, to better reflect its original objectives, which go beyond illness, and underline its emphasis also on prevention and health promotion. The acronym “IMCI” has to date been retained as this is how it has been widely known worldwide.

The past and future of IMCI

An analytic review of IMCI, which took place a few years ago, has generated a dynamic debate, which has helped clarify some issues about perceptions and realities related to IMCI. The child survival series by leading public health specialists published in The Lancet in 2003 brought more impetus to the debate of child health, including IMCI.

The gloomy view

Looking forward: optimism from evidence

Conclusions

The main challenges

The gloomy view

The radical move from a “vertical”, “programme-oriented” approach towards a “horizontal”, “strategy-oriented” approach was very challenging to countries and many had some difficulty in translating the concept into action.

A question commonly asked concerned IMCI placement, visibility and funding: “Where is IMCI in the structure of the ministry of health?”, “Is there a budget line for it?” After the child survival revolution of the 1980s, funding for child health programmes and initiatives such as IMCI lost specificity in the 1990s. Funding mechanisms for broad social and health sector reforms, wide sector approaches and poverty alleviation strategies were promoted. Government budgets for child health-related programmes ‘shrank’. New “vertical” funding initiatives were also launched

in other areas globally, increasing the competition for resources.

Introduction of IMCI in a country was often a lengthy process, which disappointed partners' expectations. A major global WHO-supported multi-country evaluation to document the effectiveness, cost and impact of IMCI when implemented under routine circumstances required years before it could start answering the question on whether IMCI worked in the field. So, while many valid assumptions were made in support of IMCI, also by the World Bank, and country pre- and post-intervention assessments documented a clear improvement in the performance of health providers trained in IMCI, the much wanted cost and impact data were not ready initially to the scientific and donor community.

Initially, the focus on process rather than intermediate outcomes and the lack of IMCI outcome-oriented indicators and targets in planning made it difficult to relate interventions to outcomes.

Furthermore, some countries implemented IMCI as a 'training programme' rather than an integrated strategy, failing to strengthen those key health system elements necessary to deliver quality care and establish links with partners and the community. This helped generate confusion about what IMCI was and what it was achieving.

The serious constraints of decreased financial resources for child health in the Region prevented countries from embarking on the type of communication interventions that had characterized diarrhoeal disease control programmes in the past, and contributed to delays in implementation of the community component.

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Looking forward: optimism from evidence

However, a more careful and updated review of the situation after a few years into advanced IMCI implementation provides an encouraging and promising insight, which fully supports the adoption of IMCI as a framework and its important role in primary child care in the future. It also helps highlight the main challenges, which often go "beyond IMCI".

Evidence has been growing slowly but consistently showing that IMCI works and makes a difference.

Initially, information came from pre- and post-intervention studies and repeat IMCI follow-up visits. These showed:

an improvement in IMCI-trained health providers' clinical and communication performance;a more rationale use of drugs—especially antibiotics;
an improvement in the quality of child care services provided in "IMCI facilities"; and
a good level of caretakers' satisfaction with these services.

Selected health systems support elements were also strengthened in countries in the Region.

These findings were then confirmed by more structured surveys on the quality of outpatient child health services in facilities implementing IMCI (see Surveys and follow-up). Further evidence came from the results of the global IMCI multi-country evaluation , showing that IMCI introduction can be associated with sustained improvement of health providers' clinical and communication skills, and of the quality of outpatient child health services, at a cost similar to or lower than non-IMCI case management. This has been accompanied by an increased utilization of facility-based outpatient child health services. A recent analysis of data from implementation of IMCI in Egypt also suggests a plausible effect of IMCI on under-five mortality.

Enhancing the teaching of child health elements in medical and paramedical pre-service education , an initiative spearheaded by the Region, is a promising approach toward sustainability and to address in part the issue of turnover of trained staff.

Alternative in-service training approaches to the standard 11-day IMCI course have been adopted by some countries in the Region where doctors are assigned at primary health care facilities. These approaches, need to be evaluated. The findings from IMCI follow-up visits are encouraging.

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Conclusions

Some positive conclusions can be drawn at this stage:

The IMCI framework, with its emphasis on curative and preventive care and health promotion remains a valid framework and can continue to serve as a guide for primary child health care in the Region.

IMCI can improve health providers’ case management skills, rationalize the use of drugs—especially antibiotics, improve the quality of outpatient child health services— without an increase in child care costs, and increase caretaker satisfaction.

IMCI can increase the utilization of health services, also by those who most need them.

The pace of IMCI implementation is much faster during expansion, provided that adequate resources are made available within a supportive political environment.

IMCI can contribute to strengthening planning capacity at district level and selected health system support elements, as experience in the Region has indicated in countries with functional health systems.

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The main challenges

From an implementation perspective, the three main challenges today are:

1. How to deliver existing, effective interventions which are part of IMCI to those who need them most in the community, especially the most vulnerable;
2. How to accelerate implementation to reach maximum coverage while sustaining the achievements made and keeping the quality of interventions; and
3. How to maintain political support and make resources available to support implementation.

This applies particularly to countries with less developed health systems, although disparities in health care exist in most countries.

More needs to be done to monitor outcomes and achieve behavioural changes in the community.

Creating a supportive environment through clear child health policies is critical and the Regional Office has been supporting countries in this domain. Such policies should also commit adequate financial and human resources. The global community should take advantage of this momentum to assist in providing the resources needed to translate commitment into action.

Some other technical and operational issues also need to be addressed, such as:

adopting a problem-solving approach at district level for IMCI to be responsive to the local needs during implementation; managing children with severe conditions at primary health care level if they can not be referred; making pre-referral and other essential drugs—needed for IMCI—regularly available at health facilities and accessible to the patients; implementing the community component with a supporting health system; reporting more on outcome indicators to monitor progress.

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IMCI and Primary Health Care

The conceptual framework of IMCI (Integrated Management of Childhood Illness) is very close to the ideology of primary health care, as defined in the Alma-Ata Declaration on Primary Health Care, to the extent that in many countries in which it has been introduced IMCI has been seen as “primary child health care”. It is currently promoted in the Region as such.

IMCI is public child health: it is “essential health care” in that it aims to address the “main health problems” of under-five children in a country, based on epidemiological evidence.

While leading causes of under-five mortality have been targeted as a priority and reduction of under-five morbidity and disability have remained key objectives of the strategy, attention has increasingly been placed also on child development.

IMCI is based on “scientifically sound methods”, following a thorough process which relies on expert opinion and research.

It promotes a technology that is affordable and does not require sophisticated laboratory facilities, equipment and supplies.

It proposes an “integrated” approach, to bring together the main elements of child care instead of vertical programmes.

The IMCI community component advocates for community participation, in line with the PHC principles, as a means of achieving sustainability.

IMCI focuses on “the first level of contact of the community with the national health system”.

It promotes a close-to-client approach to provide access to quality child health care, especially for those who need it most—the poor and most disadvantaged.

The child health interventions that are promoted under the IMCI umbrella include those that have widely been recognized as most effective by the international scientific community. These interventions aim not only at curing illness, but also at preventing it and promoting health.

In the same way as PHC has developed differently in different countries, IMCI experiences have differed in different countries and evolved according to country capacity and needs in our Region (e.g. going beyond illness to promote healthy growth and development in children in countries in which under-5 deaths have been decreasing steadily over the years).

The critical role played by policies has been recognized and an initiative has been launched in the Region to support countries in developing national child health policies.

IMCI strives to promote a public health response that provides cost-effective and evidence-based child health care services.

“Child health care” is one of the core activities included in the Alma-Ata definition of primary health care.

Many challenges remain, including the achievement of universal access and coverage, financing and closer collaboration with partners and the private sector.

IMCI and the Millennium Development Goals

Because of the characteristics described earlier, IMCI (Integrated Management of Childhood Illness) is considered a key strategy to achieve the child health-related Millennium Development Goals (MDGs) in the Region. More information is provided in the section on MDGs .

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