An Analysis of the IMCI Implementation Process in Four Countries of Latin America

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Abstract: This report is a synthesis of lessons learned about the early implementation phase of Integrated Management of Childhood Illness in four countries (Bolivia, El Salvador, Honduras, and Nicaragua). It is not an evaluation of the impact of the strategy on child health indicators, but rather a documentation of the processes and feedback from front-line staff in health facilities about their experiences. The specific objectives of this review were to identify the main achievements and difficulties and to summarize the lessons learned from the process of implementing IMCI in order to facilitate future implementation.

Citation: Cordero, D., R. Salgado & C. Drasbeck. 2004. *An Analysis of IMCI Implementation Process in Four Countries in Latin America*. Edited by Tina G. Sanghvi and Mireille Mather. Arlington, Virgnia: BASICS II for the United States Agency for International Development and the Pan American Health Organization.

BASICS II is a global child survival project funded by the Office of Health and Nutrition of the Bureau for Global Health of the U.S. Agency for International Development (USAID). BASICS II is conducted by the Partnership for Child Health Care, Inc., under contract no. HRN-C-00-99-00007-00. Partners are the Academy for Educational Development, John Snow, Inc., and Management Sciences for Health. Subcontractors include Emory University, The Johns Hopkins University, The Manoff Group, Inc., the Program for Appropriate Technology in Health, Save the Children Federation, Inc., and TSL.

BASICS II

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ACRONYMS

ADD	Acute diarrheal disease
AIEPI	*Atención Integrada a las Enfermedades Prevalentes de la Infancia*
AIN-C	*Atención Integral a la Niñez-Comunidad*
ARI	Acute respiratory infection
BASICS	Basic Support for Institutionalizing Child Survival
CRS	Catholic Relief Services
DfID	Department for International Development
EPI	Expanded Program on Immunization
IMCI	Integrated Management of Childhood Illness
MOH	Ministry of Health
NGO	Non-governmental organization
PAHO	Pan American Health Organization
WHO	World Health Organization
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Every year in the Latin America and Caribbean region (LAC), over half a million children under five years of age die due to preventable causes for which simple and low-cost preventive and curative interventions are available. The Integrated Management of Childhood Illness (IMCI) strategy, developed by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in the early 1990's, was introduced in the Americas in 1996. In the nearly eight years that have passed, practically all LAC countries have adopted the strategy.

This report is a synthesis of lessons learned about the early implementation phase of IMCI in four countries (Bolivia, El Salvador, Honduras, and Nicaragua). It is not an evaluation of the impact of the strategy on child health indicators, but rather a documentation of the processes and feedback from front-line staff in health facilities about their experiences. The specific objectives of this review were to identify the main achievements and difficulties and to summarize the lessons learned from the process of implementing IMCI. The general methodology of the documentation was:

- Organization of a central team comprising four to six representatives from the Ministry of Health (MOH), technicians of cooperating agencies, and others invited by the MOH.
- Local review and adaptation of information collection instruments.
- Identification of key informants and locations to be visited.
- Selection and training of interviewers in three-day workshops.
- Collection of information during a two- to four-week period.
- Preparation of a draft document summarizing the information obtained.
- Conducting a national workshop on analysis of IMCI implementation. The workshop allowed for a complete review of the draft document and development of an action plan for overcoming the identified gaps.
- Review the final documents of "Analysis of Implementation of IMCI" from the four countries.
- Review of other related documents.
- Drafting of the synthesis document.

In Bolivia, the IMCI program started in 1997 and was implemented initially for one year in three districts. The expansion phase was based on a specific plan and began in 1998, supported mainly by the Pan American Health Organization (PAHO), BASICS (Basic Support for Institutionalizing Child Survival)/United States Agency for International Development (USAID), the World Bank, and other bilateral and national organizations. In El Salvador, the IMCI program started in 1997 and was implemented initially for two years in four SIBASIs (health districts). Expansion began in January 2001, after the earthquake. An IMCI strengthening plan for 2001–2002 was developed with resources of USAID, UNICEF, Catholic Relief Services (CRS), and PAHO, and an intense national training was initiated.

For Honduras, the IMCI program began in 1998 and was implemented initially for one year in three areas. Expansion started approximately in 1999, and in 2001 90% or more of the staff had been trained nationwide. In Nicaragua, the IMCI program commenced in 1997 and was implemented initially for 10 months in four SILAIS (health districts). Expansion started at the end of 1998 with the support of PAHO, UNICEF, PROSILAIS, USAID, and others. In 1991, a national survey was made to evaluate the application of IMCI in health services, but this survey was not widely circulated.

The major findings of this analysis of the process of IMCI implementation in these four countries are summarized below.

- **Strengthening of the Health System**

- *Timing*. The IMCI strategy arrived in the LAC region, after the MOHs already had initiated, in greater or lesser degree, a process of integrating programs for child health. In Bolivia, the acute diarrheal disease (ADD) and acute respiratory infections (ARI) programs had merged. In Honduras, a Comprehensive Child Care program had existed since the early 1990s, as in Nicaragua and El Salvador.

- *Political commitment*. The IMCI strategy is a priority for the MOHs of the four countries, and is part of the strategic and operational plans, both at a central level as at a sub-central level. The initial political commitment (Manifesto of Santa Cruz) was followed in 2000 by the "Healthy Children, Goal 2002" initiative promoted intensively by PAHO through a series of national and sub-national launchings in almost the entire LAC region. This initiative proposed to prevent the deaths of 100,000 children under five years in the region through the application of IMCI.

- *Coordination.* Within the organizational structure of the MOH, IMCI is placed in the child health area or unit, and generally the staff in charge of the unit is also in charge of IMCI. At the time of this analysis, the four countries had national program leaders of IMCI, even though IMCI was not their only responsibility. The general functions of this focal person are: programming and organizing the IMCI training course; follow-up and monitoring; ensuring the production and distribution of materials; locating financial sources; and several other logistical tasks. The IMCI focal person has a support team from the same child health unit, but they are not always well structured and comprise staff who also have several other responsibilities. Therefore, the support of the Interagency Committee or of some of its members is critical to ensure that IMCI activities are carried out.

- *Health staff perspectives*. The most frequent strengths of the IMCI strategy reported by health staff were that it:

  - Improves the quality of care/provides comprehensive care (frequency +++)
  - Increases coverage of care (frequency ++)
  - Improves the commitment of staff (frequency ++)
  - Improves communication with mothers (frequency ++)
  - Improves referral (frequency +)
  - Promotes the rational use of drugs (frequency +)

  On the other hand, the weaknesses of the strategy were perceived by health staff to be:

  - Lack of supplies/stationery, registering forms (frequency +++)
  - Insufficient follow-up and monitoring (frequency +++)
  - Lack of supplies and drugs (frequency ++)
  - Resistance or lack of conviction of some doctors and specialists (frequency ++)
  - Problems with referral and counter-referral (frequency ++)
  - High rotation of trained health staff (frequency +)
  - Deficient nutritional approach (frequency +)

- *Drugs supplies*. The availability of IMCI drugs in health units was a weakness most exemplified in El Salvador, where none of the health centers visited had 100% of "IMCI drugs" (compared to Nicaragua–9.5% and Bolivia–54%; there is no information on Honduras). The perception on the availability of IMCI drugs was quite different depending on the level consulted; while some authorities of the central level thought that there were no problems, the actual situation at peripheral

levels was different. The drugs with the least availability in the four countries were antibiotics (including cotrimoxazole), vitamin A, and antipyretics. The lack of drugs in health units has led to a search for logistical support from other organizations. Many intermediate management levels (sub-national) have established agreements with non-governmental organizations (NGOs) to obtain donations of drugs. Some health centers manage rotating funds for the purchase and sale of drugs.

- *Referral and counter-referral.* In Bolivia, Nicaragua, and Honduras, referral and counter-referral were serious problems. In El Salvador, counter-referral is considered a more serious problem than referral. The most frequent challenges to referral and counter-referral were reported as: lack of health center networks, lack of coordination between levels, mistreatment of referral hospitals, distances, and cultural barriers. There is a sense that even though these problems exist, there are few actions to resolve them, except for a few coordination meetings. Many people interviewed at the health unit level said that NGOs fulfill an important role in the support of referral of children with severe illnesses.

- *Information systems.* In the four countries at the time of the analysis, IMCI did not provide input into the Health Information Systems. Classifications, although entered into registers, were not used by the central or sub-central level. There are some attempts to align the Health Information Systems with IMCI (Nicaragua), but no concrete example could be seen. Several health center workers noted that the application of IMCI demanded filling in many instruments and recording a lot of information, which ultimately led to the instruments not being used. The information collected by the Health Information Systems is based on a pre-IMCI programmatic model.

- **Strengthening Health Staff Skills**

- *IMCI training*. By the time of the analysis, the four countries were carrying out shortened training courses on IMCI. The ordinary course suggested by PAHO/WHO envisioned an 11-day theoretical-practical (approximately 60% theory) training schedule with abundant reading. Since 1999, Bolivia has offered a five-day course with a modified methodology (using adult training techniques developed for the IMCI course for nursing assistants), and El Salvador's IMCI training has lasted six days and includes counseling. In Nicaragua, the training is five days in length, and some alternative training methodologies were developed, such as self-training. Honduras has offered seven-day IMCI training since 1999, and includes the subject of reorganization of health services. The reasons most often mentioned for the shortened courses were the cost and to reduce the length of time health staff are away from their services. According to several facilitators interviewed, these courses are quite intense—some courses even extend to 12 hours per day. Despite this, several people interviewed said that these courses were too short for the content, and that the content on the clinical practices is inadequate.

- *Health staff perspectives*. Health staff rated the benefits and limitations of the training as follows:

    - Benefits: Improves counseling, mothers leave visit more satisfied, better quality of care
    - Problems: Lack of stationery, no feedback (counter-referral) from hospital, lack of drugs, high staff rotation

- *Pre-service education/training.* All four countries initiated activities to incorporate IMCI training in pre-service medical and nursing schools, and in technical schools for nursing assistants, with the major focus on public institutions. The pre-service courses are generally given during the last years (in Pediatrics, Public Health, or other similar subjects). These courses have different durations, and the quality of IMCI teaching has not been evaluated. Most of the people interviewed mentioned that the availability of IMCI materials as the greatest problem.

- **Improvement of Family and Community Practices**

NOTE: There was no clarity on what or how to implement this component, and the information obtained in this analysis is quite scant.

- In Honduras, AIN-C (Atención Integral a la Niñez-Comunidad) has been the main community strategy since before the arrival of IMCI. AIN-C incorporated the component of illnesses at the end of 1999, based on the reference of Community-IMCI (C-IMCI) materials. In the other countries, the C-IMCI program consisted of training community voluntary health staff (except in El Salvador, where the community staff are salaried) on the care and treatment of predominant illnesses, prevention of illnesses, and promotion of health, using adapted versions developed by PAHO.

- It is apparent, especially in Central American countries (El Salvador and Nicaragua), that there was confusion at several levels regarding the relationship between the approaches of C-IMCI and AIN-C.

- An important characteristic of C-IMCI is the strong support by NGOs and other agencies, such as the American Red Cross. This support is provided in the form of financing and training of community human resources, reproduction of materials, documentation of experiences, development of coordination committees, etc. The support of NGOs is also focused on health centers and staff, and therefore facilitates the implementation of IMCI at both the community and health center levels.

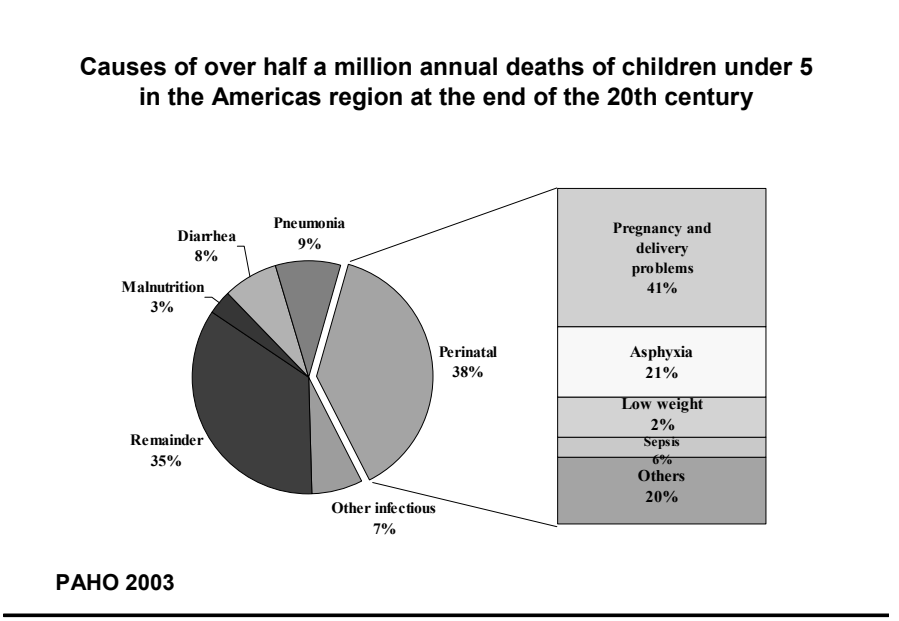
In summary, the IMCI strategy has become the central element of child health interventions in the four countries of the analysis, mainly at the health center level. There is political support to implement IMCI, but the implementation of IMCI is not perfect and has several weaknesses, especially related to problems of the health system. These problems that are structural and chronic, and perhaps first improving the functionality of health systems in the countries would have enabled a better and more complete implementation of the IMCI strategy. The components were not operationalized in a coordinated way in the four countries. Training (without follow-up) was the main activity, and C-IMCI was just starting to expand, focusing on training human resources in the community. An important gap in the programs was the unavailability of routine data to manage the program and also to conduct periodic reviews, such as this analysis.

1. INTRODUCTION

Every year in the Latin America and Caribbean region (LAC) over half a million children under five years of age die due to preventable causes (Figure 1) for which simple and low-cost preventive and curative interventions are available.

The IMCI strategy, developed by WHO and UNICEF in the early 1990's, was introduced in the LAC region in 1996. In the eight years that have passed, practically all LAC countries—and over 70 worldwide—have adopted the strategy.[1] There are a considerable number of publications on IMCI, but many questions remain, both regarding results (in reference to impact, costs, added value, etc.) as well as processes. This analysis intends to answer two questions: 1) What has been the IMCI implementation process? and 2) How can it be improved? For this document, we have used the "IMCI Implementation Analyses"[2] performed in Honduras, Bolivia, Nicaragua, and El Salvador as the main sources.

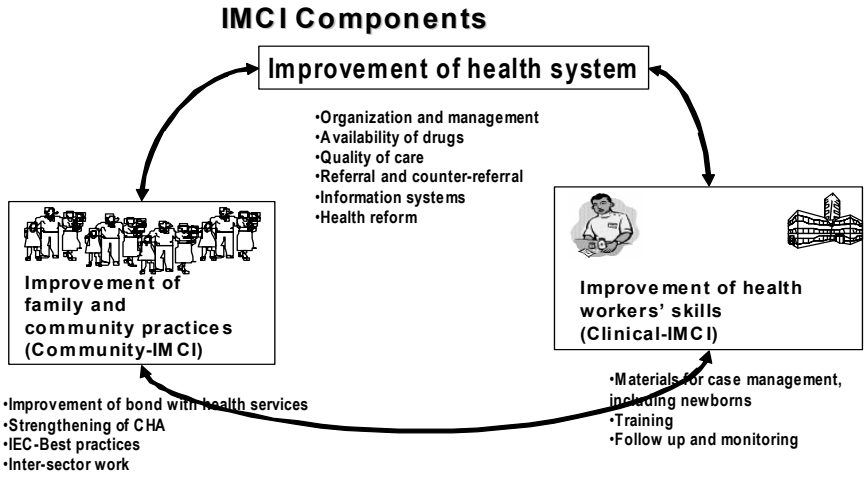
Figure 1: Causes of Death in Children Under 5 in the Americas



Since its original design, IMCI was conceived as a strategy with three interrelated and eventually synergistic components whose harmonious development should enable the achievement of goals and impact on child mortality and morbidity. These components are shown in Figure 2.

[1] WHO/CAH: *Implementation of IMCI. Components 1 and 2 of the strategy* (December 2002)
[2] Henceforward, the document will use the term "analysis" or "analyses" when referring to these reports.

Figure 2: IMCI Components



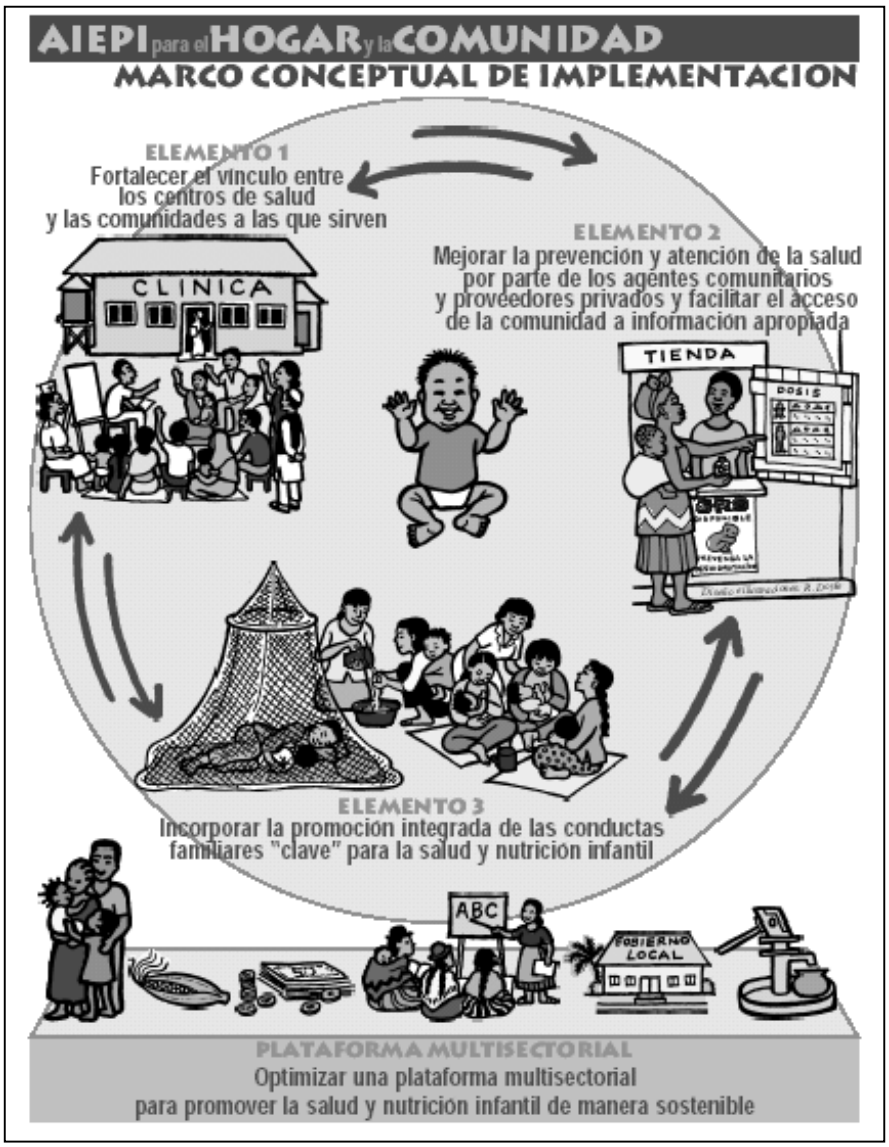
Improvement of the health system. This component entails the creation or strengthening of adequate conditions from the viewpoint of the health system so that the *Atención Integrada a las Enfermedades Prevalentes de la Infancia* (AIEPI – IMCI in Spanish) strategy may be implemented. This includes the development and improvement of management skills (planning, direction, organization, coordination, control) at all levels and the coordination and integration among existing programs (e.g. control of diarrheal diseases, ARI, Expanded Program on Immunization (EPI), drugs, epidemiological surveillance, etc.) with other initiatives (e.g. heath reform) and other strategies (e.g. safe motherhood). The improvement of the health system should create a functional and structured network of services, especially regarding referral and counter-referral; the availability of supplies, basic drugs, vaccines, etc. in health centers; adequate information systems, etc.

Improvement of the skills of health staff. This component takes into account training in Clinical IMCI - how to assess the health of a child, classify the child's health condition, assess feeding status, identify treatment when needed, treat, counsel and give follow-up care according to the IMCI guidelines- of health staff, both in pre-service and in postgraduate education. This staff will be directly responsible for caring for children under five (including newborns) in health centers, mainly at a basic level.

Improvement of family and community practices for child health care. This component represents Community-IMCI whose conceptualization and implementation, unlike the other two components, started two years later. There is a conceptual framework that facilitates the understanding of the aspects included in this component and that visualizes the type of strategies necessary for its implementation (Figure 3)[3].

[3] Several projects based on the community component of IMCI are currently in in their implementation phase.

Figure 3: IMCI for the Home and the Community: Conceptual Framework for Implementation



Element 1
Strengthen the bond between health centers and the communities they serve (Clinic)

Element 2
Improve health prevention and care by community agents and private providers and facilitate the access of the community to appropriate information (Store)

Element 3
Incorporate integrated promotion to "key" family behaviors for child health and nutrition

Multisectoral Platform
Optimize a multisectoral platform for promoting child health and nutrition in a sustainable manner

This conceptual framework defines Community-IMCI as "a methodology that optimizes a multisectoral platform for child health and nutrition that includes three essential, interconnected elements and attempts to apply key practices for the care of the child by the caregiver, family, and community."[4]

[4] The CORE Group and BASICS II. 2001. *Reaching communities for child health and nutrition. A proposed implementation framework for HH/C-IMCI.*

2. ANALYSIS OF IMCI IMPLEMENTATION

In 1999, WHO published the *IMCI Planning Guide,* which contains an annex (Annex G, "Review of the IMCI early implementation phase") that describes a methodology to identify the elements that make it possible to strengthen and achieve sustainability of IMCI, beginning with a review of the experience from the initial implementation phase as a step prior to the expansion phase.[5]

The goal of this *Analysis of IMCI Implementation* is to inform implementers of IMCI, mainly managers in Ministries of Health and organizations that have carried out support activities for the strategy, as to how to perform an analysis of the different components of IMCI. The analysis is aimed at strengthening the implementation of IMCI at the national level, thus recapturing the intention of "Annex G," even though the strategy already may be in the expansion phase (a common situation in LAC countries). During the analysis of the four countries, the methodology suggested by WHO was adapted, and a series of instruments were developed to conduct in-depth interviews and collect additional information. The *Analysis of IMCI Implementation* is part of the activities of the IMCI/LAC regional initiative, financed by USAID and coordinated between WHO and BASICS II, and is known as *IMCI Short Program Review*. The objectives of the analysis of the four countries are to:

- Identify the main achievements and difficulties of the process of implementing IMCI in four countries
- Summarize the lessons learned from the process of implementing IMCI

The main features of this *Analysis of IMCI Implementation* are:

- It compiles qualitative information (using in-depth interviews with key informants) and quantitative information of the process.
- It is participative.
- It considers the analysis of the three IMCI components.

It is necessary to stress that the analysis is not an evaluation aimed at measuring the impact of the strategy on health indicators, since its design is not suited to this objective.

The methodological sequence to carry out the analyses in the four countries was:

- Organization of the central guiding team made up of four to six representatives of the central level of the Ministry of Health, technicians of cooperating agencies, and other people invited by the Ministry of Health.
- Local review and adaptation of information collection instruments. The set of instruments comprises 11 forms applied to different levels and different types of informants.
- Identification of key informants and locations to be visited (departments/SILAIS/SIBASI, districts/municipalities/areas, and health centers), using criteria for concentrating human resources trained in strategy and accessibility.
- Selection and training of pollsters in three-day workshops.
- Collection of information during a two- to four-week period.
- Preparation of work document summarizing the information obtained.
- Conducting a national workshop. This is the most important step of the *Analysis of IMCI Implementation*, in which managers and technicians of the Ministry of Health, agencies, NGOs, universities, etc., linked to care of children under five participate. The workshop has a sequential methodology that enables a complete review of a work document (the main input) and a step-by-step approach to arrive at an agreed action plan focused towards overcoming difficulties and hurdles.

[5] The implementation phases of IMCI are: Introduction, national implementation, and expansion phase.

- Completion of the report. This is a responsibility of the guiding team. In some countries, the final report suffered a considerable delay.
  Table 1 shows the number of interviews carried out in the different analyses.

Table 1: Interviews Conducted in IMCI Implementation Analysis

	Central	Regional	Sub-region	Health Units	NGOs	Schools Training in Human Resources for Health
Honduras (2001)	5	8 (in 8 regions)	59 (in 32 areas)	20	1	9 (7 schools)
Bolivia (2002)	9	81 (in 7 SEDES*)	27 (in 26 districts)	79	10	16 (9 schools)
Nicaragua (2002)	6	32 (in 17 SILAIS**)	21 (in 21 municipalities)	78	23	11 (5 schools)
El Salvador (2002)	3	31 (in 5 technical teams and 18 SIBASI***)	---	121	8	4 (2 schools)

*SEDES: Servicio Departamental de Salud (Health Department Service)
**SILAIS: Sistema Local de Salud–Atención Integral en Salud (Local Health System–Comprehensive Health Care)
***SIBASI: Sistema Básico de Salud (Basic Health System)

Results

Table 2 shows general information providing a demographic context of the four countries where the analyses were conducted.

Table 2: General Demographic Information

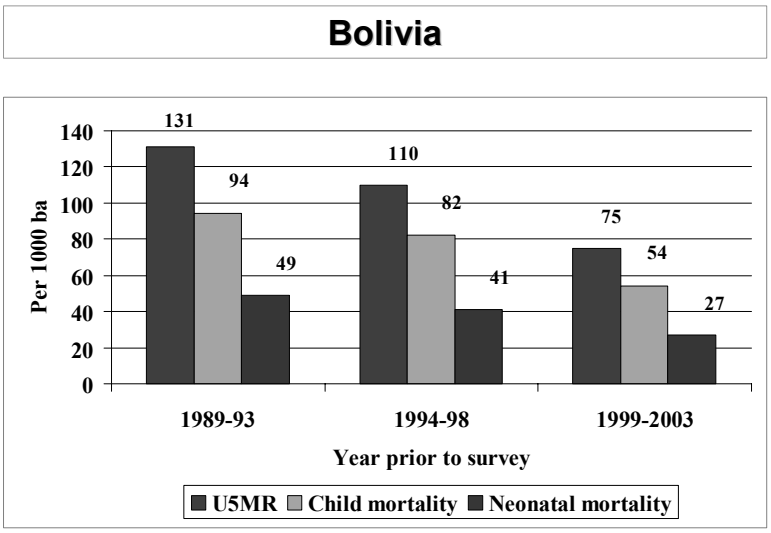
	Honduras	El Salvador	Nicaragua	Bolivia
Population[1]	6,535,344	6,600,000	5,205,023	8,274,325
Area (km^2)	112,090	21,040	129,494	1,098,580
Illiteracy rate (age 15 or older)[2]	76.2%	79.7%	67.1%	86.6%
Poverty rate (population living on less than 1 US$ a day)[3]	23.8%	21.4%	82.3%	14.4%
Gross annual income per capita (Atlas method)[3]	$920.00	$2,080.00	$370.00 (2001)	$900.00
Proportion of urban population[1]	50%	59%	57%	62%
Life expectancy[1]	70.7 years	73.7 years	69.5 years	62 years
Annual health expenditure per capita (2003, in US$)[4]	$66.50	$176.00	$45.40	$66.30

[1] *Honduras*: Instituto Nacional de Estadísticas, Censo 2001. Encuesta Nacional de Epidemiología y Salud Familiar (ENESF) 2001. OPS, Área de Sistemas de Información y Análisis de Salud, Banco Mundial 2002
El Salvador: Encuesta Nacional de Salud Familiar (FESAL) 2002/03 (Informe resumido). Dirección de General de Estadística y Censos. OPS, Área de Sistemas de Información y Análisis de Salud. Banco Mundial 2002
Nicaragua: Encuesta Nicaragüense de Demografía y Salud (ENDESA), 2001. Instituto Nicaragüense de Estadísticas y Censos. OPS, Área de Sistemas de Información y Análisis de Salud. Banco Mundial 2002
Bolivia: Encuesta Nacional de Demografía y Salud 1998 y 2003 (Informe resumido). Instituto Nacional de Estadística. OPS, Área de Sistemas de Información y Análisis de Salud. Banco Mundial 2002

[2]UNESCO, 2002
[3]World Bank, 2002
[4]World Bank

In February 1996, representatives of 18 countries of the region committed to implement the IMCI strategy by signing the "Manifesto of Santa Cruz" in Santa Cruz de la Sierra, Bolivia. This event, convened by PAHO, initiated the implementation of IMCI in the LAC region. The representatives of the four countries where the analyses were carried out were present.

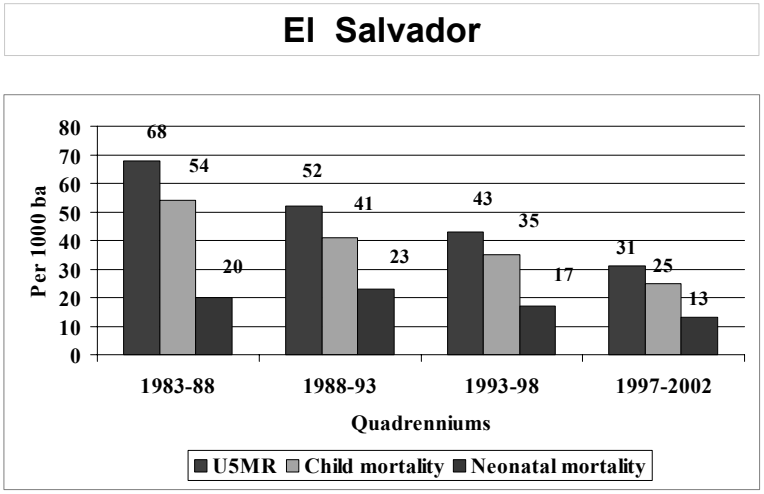
Summary reports from 2003, published recently by the National Demographic and Health Survey of Bolivia and the National Family Health Survey (FESAL) of El Salvador, show a reduction of mortality in children under five, especially in the newborn. Figures 4–8 show the child mortality trends in the four countries where the analysis was conducted.



Source: ENDSA 2003

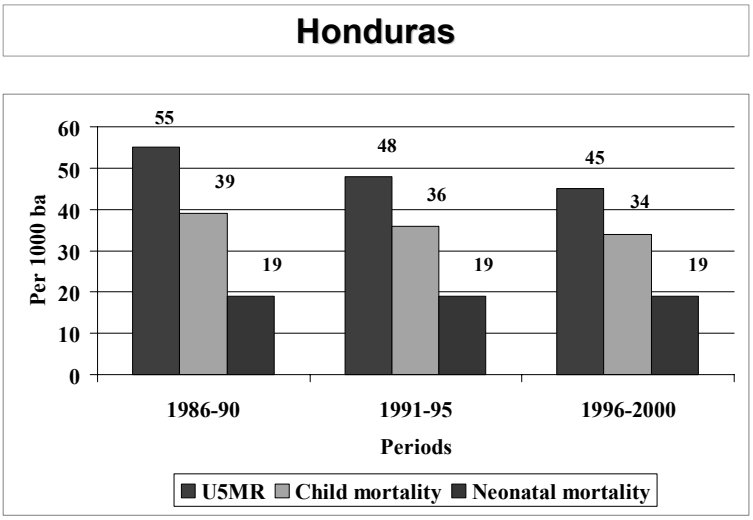
Figure 4: Mortality Trends in Bolivia

Figure 5: Mortality Trends in El Salvador



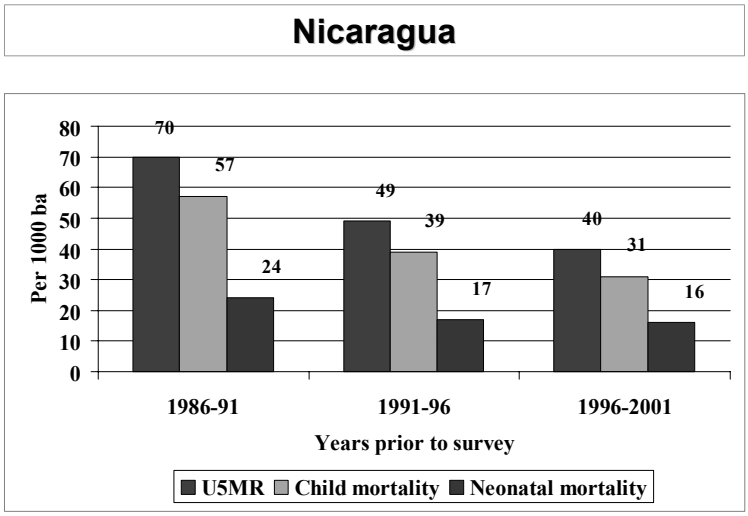
Source: FESAL 2002/2003

Figure 6: Mortality Trends in Honduras



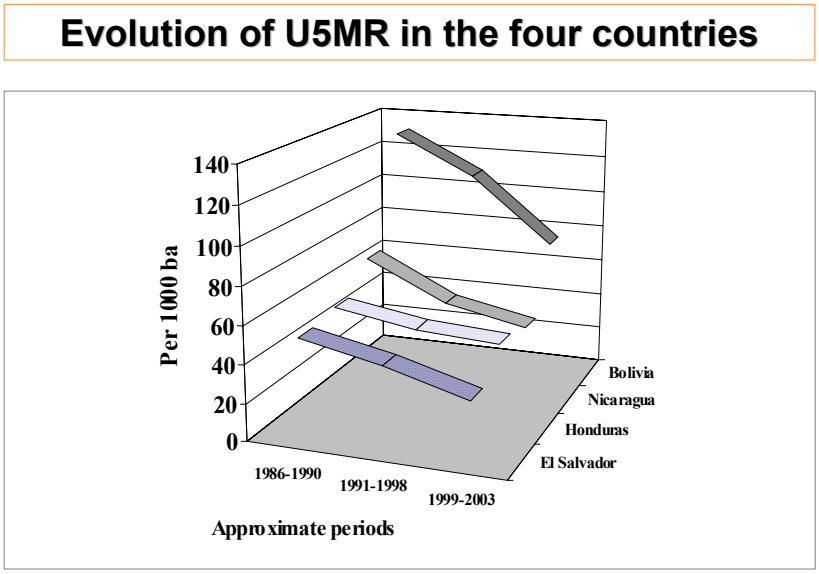
Source: ENESF 2001

Figure 7: Mortality Trends in Nicaragua



Source: ENDESA 2001

Figure 8: Evolution of Under-Five Mortality Rate



*Approximate time periods were used since the ENDSA, ENDESA, FESAL, and ENESF surveys were conducted at different periods

Adaptation of Materials

The first IMCI implementation activity (without considering the previous negotiation phase between managers of ministries and international organizations, such as PAHO and BASICS) was the adaptation of generic materials to national needs. The following table shows the commencing dates and duration of completing the adaptation.

Table 3: Initial Adaptation of Training Materials of Clinical IMCI

	Bolivia	El Salvador	Honduras	Nicaragua
Start of adaptation	May 1996	1997	1997	August 1997
Duration	4 months	10 months (approx.)	4 months	4 months

In each of the four countries, the adaptation was completed by a national committee composed of staff of the Ministry of Health (generally from ARI, ADD, nutrition programs), hospital doctors, technicians from support agencies (mainly PAHO and BASICS II) and from scientific societies (in Bolivia, the Pediatrics Society played a key role in the implementation of IMCI, even beyond the adaptation of materials). In some cases, these committees evolved into Interagency Committees supporting the strategy. In Bolivia and El Salvador, the role of these committees is quite important, as they accompany and guide the IMCI implementation process.

The adapted materials maintained—in general and at the beginning—characteristics that were quite similar to the original generic materials. The greatest modifications of these adapted materials were done in Bolivia, where in 1998 the training methodology and the material formats were adapted for the training of non-professional staff with a lower level of formal education (nursing assistants). This adaptation led to the development of complementary materials to train facilitators in teaching techniques for adults.

Initial Implementation

Table 4 shows the period of initial implementation of the IMCI strategy in each of the four countries.

Table 4: Initial Implementation of IMCI

	Bolivia	El Salvador	Honduras	Nicaragua
Start date	1997	1997	1998	1997
Duration	1 year	2 years	1 year	10 months
Number of locations	3 districts	4 SIBASIs	3 areas	4 SILAIS
Selection criteria	Accessibility, commitment of local health managers, availability of financial resources	___	Availability of financial resources	High child mortality rates, availability of financial resources
Comments	1999 evaluation of the application of IMCI in health services (WHO/PAHO/BASICS II)	This phase was irregular; in 1998-2000 there were practically no training activities	___	___

The conclusion of initial implementation phase does not have a precise date in most countries, as the expansion overlapped and merged out of the initial implementation. Intense training and national expansion occurred in 1999–2001, using in all cases shortened training courses and financial resources from PAHO, BASICS II/USAID and the World Bank. In Bolivia, the initial phase ended with an evaluation of the application of IMCI in the initial districts; this evaluation demonstrated the advantages of IMCI (improvement of clinical skills of staff, identification of problems that are recognized by mothers, reduction of inappropriate use of antibiotics for diarrhea and ARI, etc.). The initial areas were smaller in size in Honduras and Bolivia, which made it possible to achieve high coverage of training in a short time.

Expansion Phase

In Bolivia, the expansion phase was based on a specific plan and began in 1998, supported mainly by PAHO, BASICS II/USAID, the World Bank, and other bilateral and national organizations.

In El Salvador, starting in January 2001 after the earthquake that affected this country, the IMCI strengthening plan for 2001–2002 was developed with resources of USAID, UNICEF, CRS, and PAHO. An intense national training also was initiated at this time.

In Nicaragua, expansion started at the end of 1998 with the support of PAHO, UNICEF, PROSILAIS, USAID, and others. In 1991, a national survey evaluated the application of IMCI in health services, but this survey was not widely disseminated due to changes at the government level.

In Honduras, expansion started approximately in 1999; in 2001, according to the central level, 90% or more of the staff had been trained on a national level.

During the expansion phase in the three Central American countries, the development of follow-up and monitoring instruments began. A regional workshop in Santa Cruz, Bolivia in 2000 catalyzed the development of these instruments, and provided the opportunity for representatives of several countries to share the Bolivian experience in this area.

3. STRENGTHENING THE HEALTH SYSTEM

The IMCI strategy arrived in the LAC region when the Ministries of Health had already initiated, in greater or lesser degree, a process of integration of the programs for child health care. In Bolivia, the ADD and ARI programs had merged. In Honduras, the Comprehensive Child Care program had been established since the early 1990s, as in Nicaragua and El Salvador. The IMCI strategy provided concrete elements (e.g. comprehensive training) to strengthen this integration. However, the initial acceptance of the strategy in some countries was not easy, mainly due to the difficulty in explaining that IMCI is a "strategy" and not a vertical program.

Political Commitment

For the MOHs of the four countries, the IMCI strategy is a priority and is part of the strategic and operational plans, both at a central level as at the sub-central levels. The initial political commitment (Manifesto of Santa Cruz) was followed by the "Healthy children, Goal 2002" initiative in 2000, which was promoted intensely by PAHO through a series of national and even sub-national launchings throughout the LAC region. This initiative proposed to prevent the deaths of 100,000 children under five years in the region through the application of IMCI.

In Bolivia, IMCI was, and continues to be, the central axis of the model of national public insurance and has succeeded in outlasting three consecutive governments. Initially, the strategy was incorporated into the Mother-Child Insurance scheme and continues to be the model of child health care in the Basic Health Insurance and later in the Mother-Child Universal Insurance (SUMI by its acronym in Spanish) schemes.

The IMCI Focal Person and Interagency Committees

Within the organizational structure of the MOH, IMCI is placed in the child area or unit, and generally the staff in charge of the unit is also in charge of IMCI. At the time of this analysis, the four countries had national IMCI program heads, although IMCI was not their only responsibility. The general functions of this focal person are: programming and organizing the IMCI training course; follow-up and monitoring; ensuring the production and distribution of materials; locating financial sources; and several other logistical tasks. The IMCI focal person has a support team from the same child area or unit, but the team is not always well structured and comprises staff who also have several other responsibilities. Therefore, the ongoing support of the Interagency Committee or of some of its members is critical to ensure that IMCI activities are carried out.

The IMCI focal person also coordinates with different levels of staff who are in charge of the other programs, some very specific for child health but not integrated structurally into the IMCI strategy, such as the Expanded Program on Immunization (EPI), Nutrition, Malaria, Tuberculosis, etc. Coordination with Information Systems staff is generally slight, as happens with epidemiology and drugs programs. In reality, the greatest IMCI integration has been with ADD and ARI programs. In none of the countries exists an intra-ministry committee to facilitate coordination among the different areas of the MOH.

Some IMCI focal persons also assumed the responsibility of implementing C-IMCI, except in El Salvador, where there is a person in charge of this activity. In Honduras, the person in charge of IMCI is also in charge of AIN-C. The "IMCI focal person" model is replicated similarly at the sub-national level.

Opinions on the Strategy

Individuals who work in different levels of the health care system were interviewed in the four analyses and shared their opinions on several strengths of IMCI. The most frequently cited were:

- Improves the quality of care/provides comprehensive care (frequency +++)
- Increases coverage of care (frequency ++)
- Improves the resolution capacity of staff (frequency ++)
- Improves communication with mothers (frequency ++)
- Improves referral (frequency +)
- Promotes the rational use of drugs (frequency +)

On the other hand, the expressed weaknesses were:

- Lack of stationery, register forms (frequency +++)
- Insufficient follow-up and monitoring (frequency +++)
- Lack of supplies and drugs (frequency ++)
- Resistance or lack of conviction of some doctors and specialists (frequency ++)
- Problems with referral and counter-referral (frequency ++)
- High rotation of trained health staff (frequency +)
- Deficient nutritional approach (frequency +)

Drugs

The drugs necessary for applying IMCI in health units differ by country (e.g. antibiotics for treatment of dysentery, the use of bronchodilators, etc.), as each country has its own approved list of "IMCI drugs," and these are consistent with the treatments of procedures schemes. At the time of the analysis, in El Salvador only some "IMCI drugs" were included in the Basic Drugs Scheme; similarly, in Bolivia several IMCI drugs were not part of the National Therapeutic Formulary. In Honduras and Nicaragua, however, all IMCI drugs were part of the basic list of drugs or essential drugs.

By being on the essential drug list, the IMCI drugs are entered into the supply system or sub-system that ensures (at least in theory) their purchase at reduced prices (since they are generic and bought in bulk), their proper storage, and their distribution.

The availability of IMCI drugs in health units was a weakness most exemplified in El Salvador, where none of the health centers visited had 100% of IMCI drugs (compared to Nicaragua – 9.5% and Bolivia – 54%; there is no information on Honduras). The perception on the availability of IMCI drugs was quite different depending on the level consulted; while some authorities of the central level thought that there were no problems, the actual situation at peripheral levels was different.

The drugs with the least availability in the four countries were antibiotics (including cotrimoxazole), vitamin A, and antipyretics. The lack of drugs in health units has led to a search for logistical support from other organizations. Many intermediate management levels (sub-national) have established agreements with NGOs to obtain donations of drugs. Some health centers manage rotating funds for the purchase and sale of drugs.

Vaccines

The information on vaccines from the analysis is limited. In Bolivia, only 35% of the centers visited were inoculating every day, while in Nicaragua the figure was 56% and in El Salvador 100%. There is no information on Honduras.

Referral and Counter-Referral

In Bolivia, Nicaragua, and Honduras, the key informants interviewed stated that referral and counter-referral were serious problems. In El Salvador, counter-referral is considered a more serious problem than referral. There are several causes, according to opinions gathered, the most frequently cited being: lack of health center networks, lack of coordination between levels, mistreatment of referral hospitals, distance to health facilities, and cultural barriers.

There is a sense that even though these problems are recognized, there are few actions being taken to address them (generally limited to coordination meetings). Many people interviewed at the health unit level said that NGOs fulfill an important role in the support of referral of children with severe illnesses.

Information Systems

In the four countries at the time of the analysis, IMCI did not provide input to the Health Information Systems. Classifications, although registered, were not used by the central or sub-central level.

There are some attempts to make the Health Information System and IMCI compatible (Nicaragua), but no concrete example could be seen. Several health center workers noted that the application of IMCI demanded filling in a lot of instruments and writing a lot of information that it was finally not used.

The information collected by the Health Information Systems maintains the pre-IMCI programmatic model.

4. STRENGTHENING HEALTH STAFF SKILLS

By the time of the analysis, all four countries were carrying out shortened training courses on IMCI. The ordinary course suggested by PAHO/WHO, envisioned an 11-day theoretical-practical (approximately 60% theory) training schedule with abundant reading. Since 1999, Bolivia has offered a five-day course with a modified methodology (using adult training techniques developed for the IMCI course for nursing assistants), and El Salvador's IMCI training has lasted six days and includes counseling. In Nicaragua, the training is five days in length, and some alternative training methodologies were developed, such as self-training. Honduras has offered seven-day IMCI training since 1999, and includes the subject of reorganization of health services.

The reasons most often mentioned for the shortened courses were the cost and to reduce the length of time health staff are away from their services. According to several facilitators interviewed, these courses are quite intense—some courses even extend to 12 hours per day. Despite this, several people interviewed said that these courses were too short for the content, and that the content on the clinical practices is inadequate.

Table 5 shows information on training, IMCI application, and follow-up visits. It is important to note that there were differences among the information sources, and these percentages correspond to the years in which the analyses were made.

Table 5: Training, Application, and Follow-Up of IMCI

	Bolivia 2002	El Salvador 2002	Nicaragua 2002	Honduras 2001
% trained staff*	69%	74%	77%	90%
% staff applying IMCI**	55%	74%	75%	45%
% staff that has received follow-up visits***	59%	20%	50%	N/A

*Source: Sub-national levels (SEDES, SIBASI, SILAIS); for Honduras, central level information.
**Source: Review of records of health units selected for Analysis of IMCI Implementation. "Applying" is defined as: trained staff recording IMCI classifications and accessing tables of procedures. The units visited are not representative samples.
*** Only includes health staff visited; not a representative sample.

Reasons for not applying IMCI mentioned by the health staff visited were:

- Lack of stationery, registry forms (frequency +++)
- Mistrust (frequency +)
- Lack of time (frequency +)
- Only applied to children below one year of age (frequency +)
- There are no clear instructions to do it (frequency +)

Health unit staff interviewed expressed several opinions regarding the strategy. Table 6 summarizes the most frequent opinions.

Table 6: Health Unit Staff Opinions on Benefits and Problems of IMCI Strategy

Benefits	Problems
Improves counseling Mothers leave visit more satisfied Better quality of care	Lack of stationery No feedback (counter-referral) from hospital Lack of drugs High staff rotation

Pre-Service Education/Training

All four countries initiated activities to incorporate IMCI training in pre-service medical and nursing schools, and in technical schools for nursing assistants, with the major focus on public institutions. The pre-service courses are generally given during the last years (in Pediatrics, Public Health, or other similar subjects). These courses have different duration, and the quality of IMCI teaching has not been evaluated. Most of the people interviewed mentioned that the availability of IMCI materials as the greatest problem.

5. IMPROVEMENT OF FAMILY AND COMMUNITY PRACTICES

There was not enough clarity on this component in the analysis, and the information that was obtained is quite scant.

In Honduras, AIN-C has been the main community strategy, since before the arrival of IMCI. AIN-C is primarily community-based child growth promotion, but AIN-C incorporated the component of illnesses towards the end of 1999, based on the generic C-IMCI materials.

In the other countries, C-IMCI was mainly composed of training community health volunteers (except in El Salvador, where the community staff is salaried) on attending predominant illnesses, prevention of illnesses, and promotion of health, using adapted versions developed by PAHO. One can see, especially in Central American countries (El Salvador, Nicaragua), that there was confusion in several levels regarding the relationship between the two approaches of C-IMCI and AIN-C. However, community IMCI has evolved into the integration and involvement of social networks and local actors who work together for the improvement of child health.

An important aspect regarding C-IMCI is the strong support of NGOs and other agencies, such as the American Red Cross. The support is provided in the form of financing and training community human resources, reproduction of materials, documentation of experiences, development of coordination committees, etc. As indicated, the community component has turned into a process of articulation of health facility services and community-based activities to facilitate involvement of families, communities, governments, and NGOs to promote key practices for healthy growth and development of children. This support is also focused on health centers and staff, thus facilitating the implementation of IMCI at both the community and health center levels.

6. CONCLUSION

The "Analysis of the IMCI Implementation Process" provides a reflection on the weaknesses and strengths of the IMCI strategy. The process of implementing IMCI must be the subject of continuous reviews, improvements, and adaptations. The analyses have enabled health managers in the Ministries of Health as well as in NGOs and support agencies to examine clear examples of the advantages and the problems faced by an initiative of this magnitude. The analysis workshops have provided an open forum for the exchange of ideas and, maybe most importantly, have resulted in the acknowledgement that the efforts to improve child health must be coordinated and focused towards a goal. The IMCI strategy is a means, not an end.

The IMCI strategy has become the central element of child health interventions in the four countries of the analysis, mainly at the health center level. There is political support to implement IMCI, but the implementation of IMCI is not perfect and has weaknesses, especially related to problems of the health system. These problems are structural and chronic. Perhaps improving the functionality of health systems in the countries first would have enabled a better and more complete implementation of the IMCI strategy.

The analysis allowed an asymmetric development of the different components, which were not operationalized in a coordinated way in the four countries. Training (with limited follow-up) was the main activity, and C-IMCI was just starting to expand, focusing on training human resources in the community.

Another important aspect was the difficulty in obtaining reliable and accessible information. A critical gap in the programs was the unavailability of routine data to manage the program and also to conduct periodic reviews, such as this analysis.

Analysis of the process is as important as the evaluation of results; the *Analytical Review* carried out by WHO, the Department for International Development (UK – DfID), USAID, World Bank, and UNICEF, is another effort to examine the process with greater methodological rigor, and the *Multi Country Evaluation (MCE)*, led by WHO to evaluate the effectiveness, impact cost, and cost-effectiveness of the strategy, is a long-awaited publication[6]. The products of the different IMCI analyses, the operational plans, and the recommendations have served as a valuable input for countries and have been incorporated into the operational and strategic national plans of Bolivia, El Salvador, and Nicaragua, and to a lesser extent in Honduras.

The data trends, especially Bolivia and El Salvador, enable us to conclude that the IMCI strategy has contributed to achieving a reduction of child mortality and mortality of children under five years of age. These results confirm the need to improve the interventions toward newborns both at an institutional as well as community level, which will be an enormous challenge. The improvements must strengthen IMCI especially at the health system level and not consist only of the inclusion of the neonatal matter in the schemes of procedures or other training materials. In order for the neonatal component to be developed appropriately, the lessons learned so far must be applied.

Finally, the IMCI strategy should be a central aspect for the achievement of the Millennium Development Goals. It is evident that the region is suffering a profound social and economic crisis, and it should be noted that a progressive or sudden reduction of resources from international partners would undoubtedly affect the development of IMCI activities. If the MDG 4, related to the reduction of child mortality, is to be achieved, greater efforts by different partners –governmental, non-governmental, private, etc.-, will be needed over the next years.

[6] Full copies of these reports are available at WHO's website (www.who.int/child-adolescent-health/integr.htm)

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