



## **TECHNICAL ADVISORY GROUP ON IMCI (IMCI-TAG):**

Integrated Management in the Context of the  
Maternal-Newborn-Child Health Continuum

Report of the Eighth Meeting

Department of Health and Environment  
City of Córdoba, Province of Córdoba, Argentine Republic  
13–14 October 2010



**Pan American  
Health  
Organization**



Regional Office of the  
World Health Organization



**Texas Children's Hospital<sup>®</sup>**



Integrated Management of Childhood Illness (IMCI)  
Healthy Lifecourse Project (HL)  
Family and Community Health (FCH)

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Edición original en español  
"Grupo Asesor Técnico AIEPI (GATA): Informe de la 8ª Reunión"  
© Organización Panamericana de la Salud 2011

ISBN: 978-92-75-33179-8

### **PAHO HQ Library Cataloguing-in-Publication**

Pan American Health Organization  
Technical Advisory Group on IMCI (IMCI-TAG): Report on the Eighth Meeting  
Washington, D.C.: PAHO, © 2011

ISBN: 978-92-75-11650-0

#### I. Title

1. CHILD WELFARE
2. COMPREHENSIVE HEALTH CARE
3. CHILD HEALTH SERVICES
4. CHILD CARE
5. INFANT MORTALITY - trends
6. AMERICAS

NLM WA 320.DA1

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**This document contains a summary report of the Eighth Meeting of the Technical Advisory Group on IMCI (IMCI-TAG), as well as the conclusions and recommendations prepared by the group in light of the current status of the problems addressed by the IMCI strategy and the progress made in its implementation in the Region of the Americas.**

**The Eighth Meeting of IMCI-TAG was held at the Department of Health and Environment of the City of Córdoba, Province of Córdoba, Argentine Republic, on 13 and 14 October 2010. Dr. Manuel Katz, who is one of the members of IMCI-TAG, coordinated the meeting.**



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# 1 FOREWORD

## **Dra. Mirta Roses Periago**

Director  
Pan American Health Organization (PAHO)



**Dra. Mirta Roses Periago**

The Region of the Americas has shown great progress in improving child health, which has resulted in the majority of countries showing a marked decline in their infant mortality rates. The advances made are noteworthy not only because they improve the lives of thousands of boys and girls and their families, but also because they prevent the occurrence of diseases and health problems that threaten their survival. Furthermore, the capacity of the countries of the Region to work efficiently to improve population health has been made manifest. This has brought about concrete results in terms of lower mortality and a continuous decline in disease incidence.

The progress made, however, has not shown a similar distribution among countries, with an increase in existing disparities and gaps. In this scenario coexist the countries of the Americas, some whose relevant achievements will guarantee their reaching the goal to reduce infant mortality by two-thirds in 2015—as established in the United Nations Millennium Development Goals (MDGs)—and others that, despite having shown a downward trend in mortality, have not reached a speed of reduction compatible with reaching that goal.

With respect to the burden of post-neonatal illnesses in early childhood, the countries showing brighter prospects of reaching the goal of reduced infant mortality currently face a greater preponderance of deadly perinatal and neonatal disorders. The countries with smaller downward mortality trends continue to show the burden of post-neonatal diseases as an important threat for child well-being and survival. Even in the countries with lower mortality, the diseases that affect children from the first month of life take on greater importance in certain geographical areas or population groups that are more vulnerable—due to their social, economic, gender, or ethnic status—to perinatal and neonatal mortality. In these areas and population groups, perinatal and neonatal diseases also represent a key factor for a child's well-being, resulting from an epidemiological profile in transition characterized by health problems in countries with low infant mortality combined with the typical health problems in areas where infant mortality still remains high.

In this context, Regional progress in reaching the Millennium Development Goals will require integrated and innovative approaches enabling access to all available knowledge and technology—which have already demonstrated their impact on improving health—to the entire population. In particular, this will require special efforts to guarantee that the most vulnerable population groups be provided access to basic prevention measures, early diagnosis and treatment, as well as to information that will enable them to gain the necessary knowledge to adopt healthy behaviors and modify risk behaviors.

The achievements of the countries of the Americas represent a fundamental basis on which they can be expanded and adapted to the cultural diversity of the different countries—including the diversity that exists within a single country, considering its different regions and population groups. This progress includes the use of strategies that combine activities implemented for both prevention and treatment—not only by health services but also by families and communities—thus strengthening universal access to health information. It also includes a more comprehensive vision of health activities, focusing not only on care for health conditions but also on identifying the social and environmental determinants that affect health—both positively and negatively—in order to guide actions aimed at prevention, health promotion, and identification of health hazards.

During these first few years of our entry into the 21st century, the global framework has offered us new horizons for information flow. This has helped democratize knowledge by making it accessible to all countries through increasingly *broad communications media*. *Ensuring that the entire population benefits from this knowledge is an objective to which we all should contribute, especially those of us whose daily work is dedicated to population health.*

Continuous work will be essential during the coming years to ensure ongoing access to both health initiatives and health information, to guarantee that the progress already made in some countries be extended to the rest of the Region. Continually monitoring the health situation at the regional, national, and local levels will be fundamental for documenting progress and rapidly identifying those areas or population groups that still have not been reached by health benefits. Integrated activities and participation on the part of all sectors—in particular, of the population itself—will be indispensable tools in the move towards healthier families and communities who can enjoy all the benefits that knowledge and technology can provide.

The contribution of the Technical Advisory Group on IMCI (IMCI-TAG) is extremely relevant. Through its analysis, recommendations, and systematic monitoring of activities implemented in the Region, it calls for targeted efforts aimed at the most high-priority countries and areas as well as at the most vulnerable population groups. We wish to particularly thank the Ministry of Health of the Nation of the Argentine Republic, as well as the City of Córdoba—through its Department of Health and Environment—for their support and co-sponsorship of the successful Eighth Meeting of IMCI-TAG, held in Córdoba, Argentina, on 13–14 October 2010.



## 2

## WELCOMING REMARKS

**Dr. Humberto Jure**

Under Secretary of Health  
 Department of Health and Environment  
 City of Córdoba, Province of Córdoba, Argentina

**Dr. Humberto Jure**

The government of the City of Córdoba, Argentina, is especially honored to greet the members of the *Technical Advisory Group on Integrated Management of Childhood Illness* (IMCI-TAG) of the Pan American Health Organization, who have come our fair city to prepare their annual child health situation analysis for the Region of the Americas and make recommendations aimed at strengthening the process of improving child health—thus contributing not only to survival but also to healthy growth and development.

The Department of Health and Environment of the City of Córdoba considers every action aimed at achieving these objectives a priority. Continuous improvement in child health—using a comprehensive approach that allows for the development of preventive activities, early detection, timely treatment, and health promotion, as well as empowering families and communities to play a role as key actors in efforts to create better health conditions for their children—constitute the main objectives of the activities that this department is carrying out.

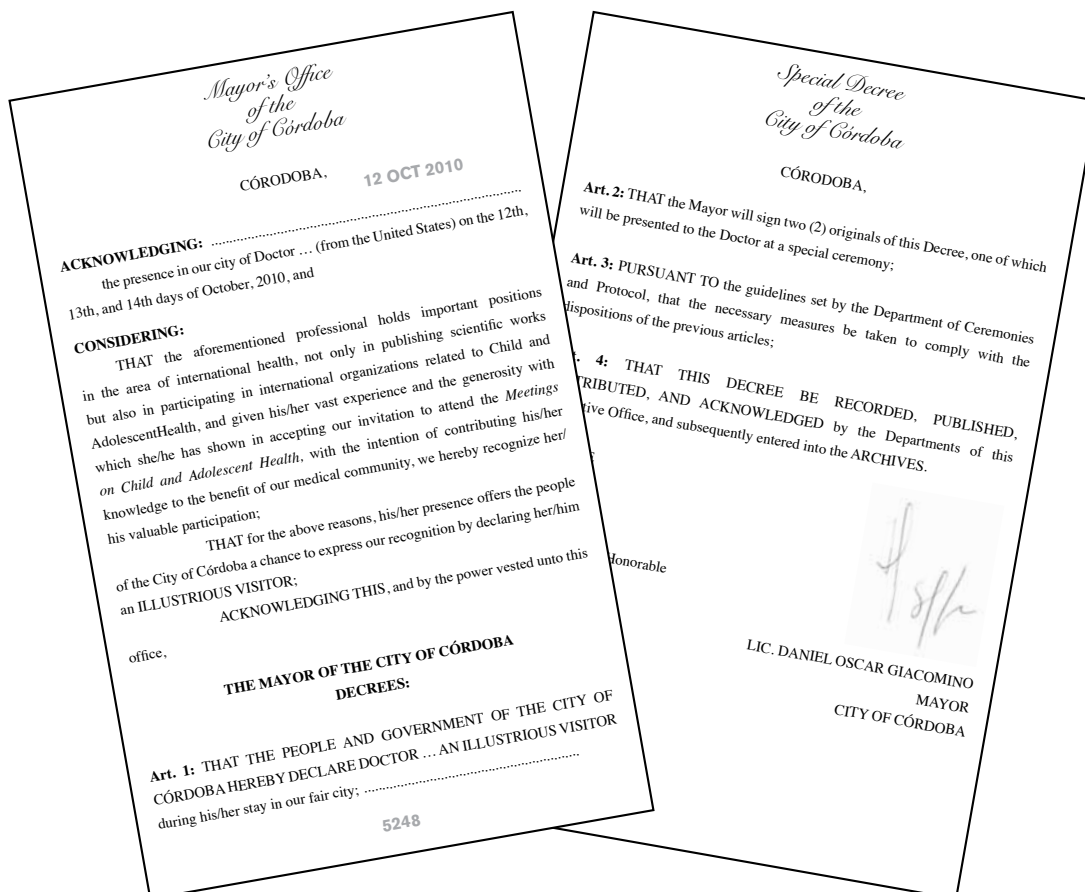
The commitment to reach by 2015 an under-5 mortality rate equal to one-third of that reported in 1990 requires a coordinated effort among all areas working to improve child, family, and community health. In the City of Córdoba, the Department of Health and Environment and the Department for Social Development have collaborated to design and implement plans and activities in a joint effort—also involving the Department of Education, the Department for Urban Development, and the Department of Governance, thus putting together the so-called ‘Social Cabinet’ of the City of Córdoba. Its priority objective is to develop collaborative activities that contribute to improvements in child health. This requires not only guaranteeing a child’s survival but also implementing activities to promote healthy child growth and development; guaranteeing every boy, girl, and family a solid education; and improving conditions for community development.

IMCI constitutes a key strategy to facilitate this integrative process, bearing in mind its growth in recent years. IMCI has expanded its approach to include complementary activities designed not only to address care for preventing the leading causes of morbidity and mortality in children under 5, but also to promote adequate prenatal care and safe childbirth. This will result in healthier children during their first 5 years of life—which in turn will guarantee a productive childhood, adolescence, and adulthood.

Holding firm this conviction, the Department of Health and Environment of the City of Córdoba has worked to increase our human-resource training in the IMCI strategy and has promoted its application throughout the entire health services network. It has worked jointly with the Social Cabinet to improve social

conditions, integrating disease prevention and health promotion activities—including IMCI—into social assistance plans aimed at the most vulnerable groups. For all these tasks, the guidelines and recommendations resulting from IMCI-TAG meetings have proved to be fundamental, for they have enabled us to select from the available alternatives those that scientific evidence has shown to have the greatest impact on improving child health.

The presence of the IMCI Technical Advisory Group in the City of Córdoba not only honors our city but also helps strengthen the work that is being carried out to improve child health and reach the Millennium Development Goals by 2015. The great capacity for integration that IMCI has demonstrated from its inception lays the groundwork for moving forward towards a comprehensive view of child health, not only within a context of family and community health but also within a framework of sustainable, equitable social development. With this commitment, the efforts of the City of Córdoba are focused on ensuring that all its children be able to reach their full potential during youth and adulthood, thus contributing to continuous community development. The main objective of consolidating this quest to build an ever-multiplying network of agents for change is to make it possible for us to live in a more human, above all a more neighborly, and—in short—a healthier world.



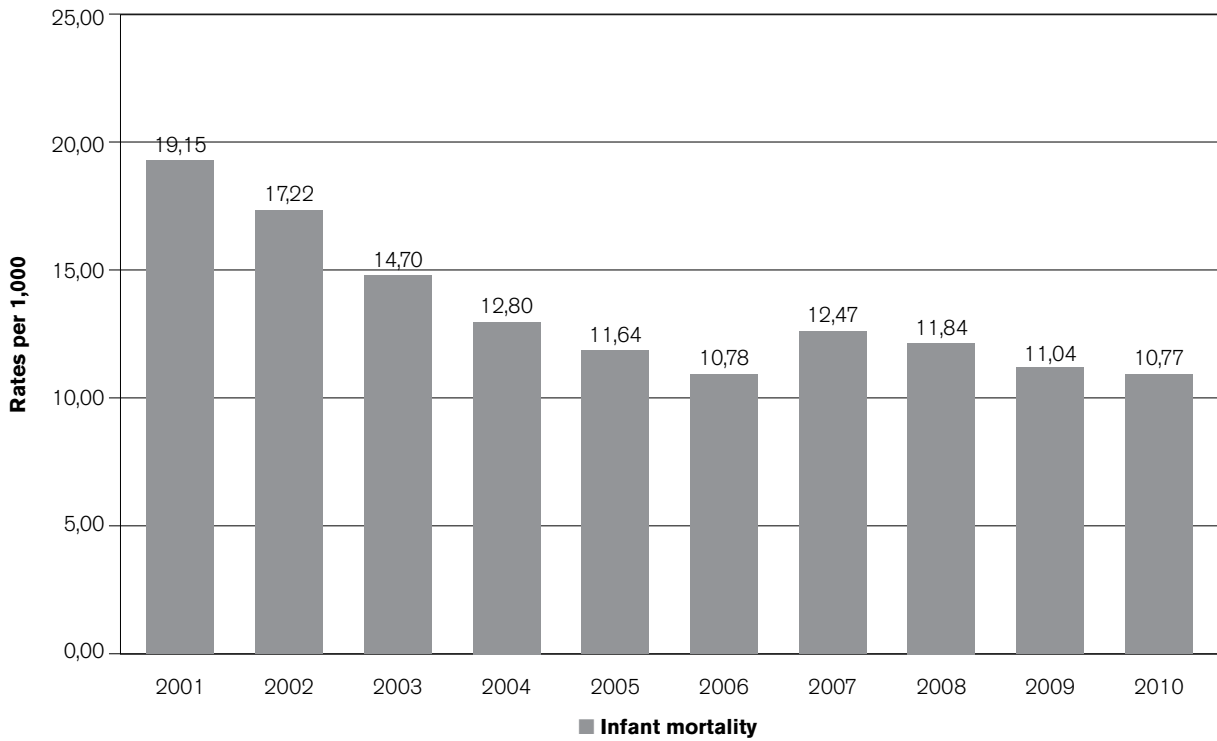
**Table 1: Evolution of the Infant Mortality Rate (City of Córdoba, Argentina, 2001–2010)**

Year	Births	Deaths			Rates (% <sub>100</sub> )			Difference			Variation Rate						
		Early	Late	Post-neonatal	Total	Early	Late	Post-neonatal	Total	Early	Late	Post-neonatal	Total				
2001	20,517	203	69	121	393	9,89	3,36	5,90	19,15	-1,26	0,05	-0,73	-1,94	-12,76%	1,59%	-12,34%	-10,11%
2002	22,244	192	76	115	383	8,63	3,42	5,17	17,22	-1,34	-0,30	-0,87	-2,52	-15,55%	-8,91%	-16,83%	-14,62%
2003	24,419	178	76	105	359	7,29	3,11	4,30	14,70	-1,62	0,12	-0,41	-1,91	-22,18%	3,77%	-9,48%	-12,97%
2004	24,150	137	78	94	309	5,67	3,23	3,89	12,80	-0,09	-0,82	-0,25	-1,16	-1,51%	-25,30%	-6,48%	-9,03%
2005	23,626	132	57	86	275	5,59	2,41	3,64	11,64	-0,66	0,34	-0,50	-0,86	-11,73%	13,96%	-13,68%	-7,39%
2006	22,914	113	63	72	247	4,93	2,75	3,14	10,78	-0,07	0,55	1,17	1,69	-1,45%	19,89%	37,18%	15,65%
2007	23,663	115	78	102	295	4,86	3,30	4,31	12,47	0,10	-0,52	-0,21	-0,63	2,07%	-15,87%	-4,86%	-5,07%
2008	25,602	127	71	105	303	4,96	2,77	4,10	11,84	-0,22	-0,10	-0,48	-0,80	-4,42%	-3,74%	-11,60%	-6,75%
2009	25,099	119	67	91	277	4,74	2,67	3,63	11,04	0,76	-0,81	-0,22	-0,27	16,05%	-30,31%	-6,11%	-2,44%
2010*	25,263	139	47	86	272	5,50	1,86	3,40	10,77								

\*Preliminary data.

Source: Department of Vital Statistics, Department of Health and Environment, City of Córdoba, Province of Córdoba, Argentina.

**Figure 1:** Evolution of the Infant Mortality Rate (City of Córdoba, Argentina, 2001–2010)



Source: Department of Vital Statistics, Department of Health and Environment, City of Córdoba, Province of Córdoba, Argentina.

## 3

INTRODUCTORY  
REMARKS**Dr. Gina Tambini**

Area Manager  
Family & Community Health  
Pan American Health Organization (PAHO)

**Dr. Gina Tambini**

**H**ealth for all children has long been a priority for the international community, and important efforts have been made and will continue to be made to give them the protection, care, and treatment that best contribute to their healthy growth and development. Prioritizing infant and child health has made it possible to guarantee survival to millions of boys and girls throughout the world. In the Americas, these have resulted in continuous marked reductions in infant mortality. The success achieved by the countries has been due to multiple factors. Among these, it is important to point out their continual adaptation of prevention and control interventions tailored to the changing epidemiological profile of infant mortality and morbidity, as well as the innovative approaches that they have designed to ensure that the entire population—particularly the most vulnerable groups—have access to these strategies to prevent and control disease and promote health.

Recent decades have revealed changes in the epidemiological profile of diseases and health problems affecting infancy and childhood, with those associated with the perinatal and neonatal periods taking on an ever-increasing importance. Just as noteworthy is the need to integrate the different interventions available to strengthen the focus on comprehensive healthcare for children, over and above the diseases or problems that circumstantially endanger their health. Complementing this need to integrate strategies, there has been an increasing acknowledgement of the multitude of determinants associated with a child's health status, particularly given the emphasis over the past few years on the role played by family and community as key actors working to ensure healthy growth and development during infancy and childhood.

The focus on girls' and boys' overall health state of health—considered within a framework of their families and the communities in which they live, play, grow, and learn—has helped highlight the role played by the family as a principal determinant not only of survival, but also of healthy growth and development. In turn, it has helped strengthen the need to contribute to family health as an indispensable step towards building healthy communities.

The *Integrated Management of Childhood Illness* (IMCI) strategy has made an important contribution in the process of adapting interventions to a changing epidemiological profile both in and within the countries, integrating such strategies to change the focus from care for childhood illnesses to comprehensive care for the whole child, and forging ties between children's health and the health of their families.

During the process of its adaptation and implementation in the countries, the IMCI strategy has progressively incorporated care components linked to women's health, safe pregnancies, promotion of child development within the family, and support for nurturing households in an effort to prevent child neglect, abandonment, and abuse. It has also reinforced the importance of the family as a key determinant for infant and child health. Not only has IMCI promoted best practices that contribute to protecting the child from any threats to his or her health and promoting the child's healthy growth and development during the first years of life. It has also contributed to improving the health status of family members, thus promoting healthy behaviors and lifestyles.

In addition, IMCI has carried out the adaptation and implementation process—taking into account, on the one hand, inequity in the distribution of access to available knowledge and technologies to improve health; and on the other, existing cultural and ethnic differences among population groups. This was done in such a way as to make the necessary changes so that families and communities can take ownership of knowledge and behaviors that benefit overall population health.

Faced with reaching the Millennium Development Goals by 2015, particularly the one concerning child health, it will be crucial to continue the efforts carried out to date and accelerate the decline in infant mortality that the countries have achieved thus far. To do so, it will be essential to take into account the different social determinants of health, within the intercultural framework of the Americas. Strengthening the approach to family health by integrating strategies and interventions involving the participation of all sectors, as well as the community, will be essential.

This process calls for identifying the more vulnerable geographical areas and population groups, in order to reach the goals set for 2015 in a framework of greater equity by bridging gaps both among and within countries. Strategies to address the different epidemiological profiles for morbidity and mortality during the neonatal period and throughout childhood will need to fall within the framework of a lifecourse approach based on activities to promote family health. This will make it possible to link strategies aimed at improving neonatal and infant health, with those aimed at child, adolescent, youth, and adult health. Implementing these strategies using a family health approach will improve the health of all family members, thus promoting the health of the entire community.

Recent decades have highlighted the ever-growing need to target activities for improving health towards strengthening the function of families and communities, through a community and intercultural approach to family health. The commitment of all countries and all sectors to promoting this approach, with broader community participation, can guarantee that progress already made with regard to child health be projected towards the entire population, to the benefit of future generations. To achieve this, once strategies such as IMCI have been implemented to improve prevention and control of the main problems jeopardizing child health—monitoring and follow-up will need to be strengthened as well.

The Technical Advisory Group on IMCI (IMCI-TAG) has played a key role in continually adapting the IMCI strategy to fit the different situations in the countries. It has pointed out the need to document each country's achievements and share their success stories. The countries are currently only a third of the way through the term of their commitment to meet the child health targets established in the Millennium Development Goals. The 2010 meeting of IMCI-TAG held in the City of Córdoba, Argentina, has provided a key opportunity to review the strategic priorities that allow for continued progress towards improving child health within the framework of a healthy lifecourse and family and community health.





## 4

REMARKS BY  
PAHO-ARGENTINA**Dr. Salvador García**

Consultant

PAHO/WHO Representative Office in Argentina

Buenos Aires, Argentina



The Representative Office of the Pan American Health Organization (PAHO) in Argentina salutes the visit of the members of the Technical Advisory Group on IMCI (IMCI-TAG). It acknowledges the importance that the *Integrated Management of Childhood Illness* (IMCI) strategy has had throughout the Americas in boosting the countries' efforts to improve child health.

In support of the Argentine health authorities, the PAHO Representative Office has been working to adapt available strategies and interventions to fit the country's epidemiological profile, by providing assistance not only at the national level but also at the level of all the jurisdictions into which the country is divided. As a group, all of these—with reinforcement from the national level—have worked actively to reach the targets for reducing infant mortality that were set for 2000 and have strengthened activities to move towards reaching the Millennium Development Goals by 2015.

The recommendations made by IMCI-TAG have played an important role in guiding the actions that the PAHO Representative Office in Argentina has been promoting, in support of the health authorities, to improve child survival—especially in high-risk geographical areas and population groups—and to promote healthy growth and development during the first years of life.

It is in this framework that the deliberations of the Eighth Meeting of IMCI-TAG will help support the process of improving child health. They will help identify links to be strengthened between child health interventions and others aimed at improving maternal and women's health. They will also contribute by promoting healthy practices in family and community settings.

In the coming years, the countries will pass through the last five-year period of the deadline established in the Millennium Development Goals for meeting the 2015 targets to reduce mortality. During this period, they should scale up the implementation of their successful experiences that have already contributed to reducing infant mortality. Countries will need to expand their activities to attain adequate coverage to guarantee that children receive the full benefit of any set of available measures of proven effectiveness in improving health.



Photo: © Brand X Pictures

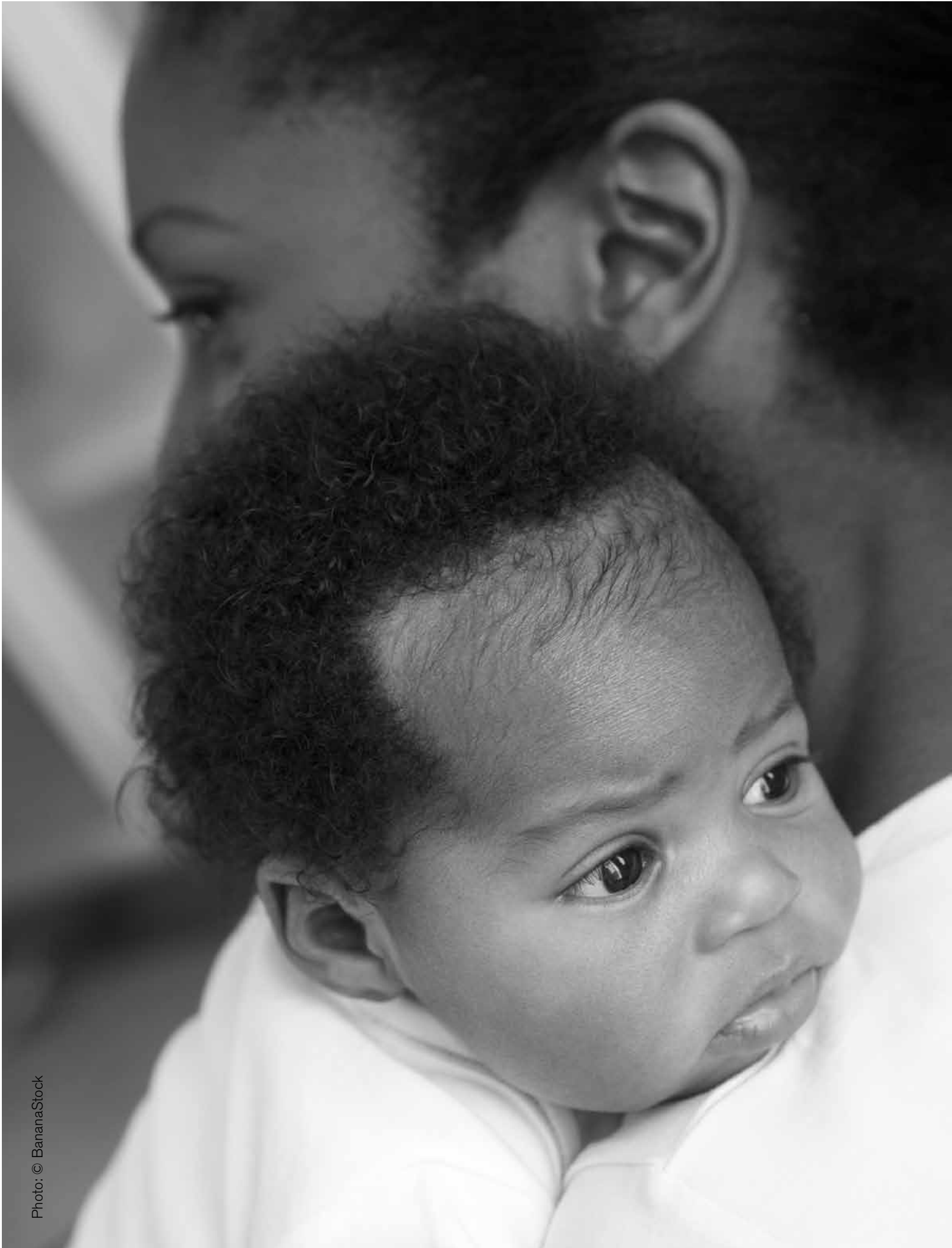
# 5

## MEETING OBJECTIVES

1. Analyze the new approaches based on the Care Continuum for a Healthy Lifecourse and Family and Community Health, in a context of regional and local epidemiological changes and with a view to reaching Millennium Development Goal 4 and proposing lines of action for its fulfillment in 2015.
2. Identify new and innovative training methodologies to use with the different components of the IMCI strategy.
3. Identify strategies for monitoring and follow-up that enable verification of health workers' abilities to deal with critical situations as well as the conditions imposed by their work environment.
4. Submit and discuss a proposal for a current health situation analysis of the under-5 population in priority and high-impact countries, to serve as a reference for local and national authorities, as well as for organizations providing technical cooperation and for decision-making to prevent and control prevalent diseases.

Analyze and propose content areas for the basic topics to be included in the Comprehensive Child Health Strategy that will be presented to the Directing Council of the Pan American Health Organization in 2011.





## 6

# NEW APPROACHES BASED ON THE CARE CONTINUUM IN A HEALTHY LIFECOURSE, WITH A VIEW TO REACHING MDG 4

## Dr. Yehuda Benguigui

*Senior Advisor on Neonatal and Child Health*

Healthy Lifecourse Project

Family and Community Health (FCH/HL)

Pan American Health Organization



## FAMILY AND COMMUNITY HEALTH

The Americas have made great progress over the last few decades in improving the overall health status of infants and children. The traditional epidemiological profile that existed in the majority of the countries during the 1980s—characterized by the preponderance of infectious and respiratory diseases and malnutrition as the leading causes of morbidity and mortality—has yielded nearly everywhere in the Americas to diseases of the peri-neonatal period, which have emerged in all the countries as the current leading cause of infant deaths. The need to stimulate young children and the important role it plays in their development have also become increasingly apparent, to girls' and boys' chances to become healthy and productive adolescents, young people, and adults.

However, the progress reported in the Americas has been unequal. To a certain extent, this has deepened gaps both among countries and within them, i.e., between different geographical areas and population groups.

Estimates show that in the countries of Latin America and the Caribbean, there are 230 million people who have no access to health insurance, accounting for 46% of its total estimated population. More than half this figure (125 million people) does not have permanent access to basic health services. This lack of access to care on the part of vast sectors of the population puts people's health at risk—particularly those living in more vulnerable conditions, such as children, women, and the elderly.

Available estimates currently indicate that in Latin America and the Caribbean, 17% of all annual births occur in situations where there is no care from qualified healthcare personnel, which increases the risk of complications for both the woman and her newborn. Under such conditions, peri-neonatal problems take on great importance, not only in the most developed countries of the Region but also in those with a lesser degree of development. In the latter, this is due to the greater risk incurred by those births that do not receive the proper care from trained health workers that is needed during delivery and the first few hours of life.

At the same time, actions that have achieved broad coverage in the Americas, such as vaccination, still do not reach many population groups. Estimates for the Americas show that 680,000 boys and girls have not completed the basic three-dose series with the triple antibacterial vaccine that protects them against diphtheria, whooping cough (pertussis), and tetanus (DPT3).

When compared with other parts of the world, Latin America and the Caribbean has been described as the most inequitable on the planet, with more than 220 million people living in poverty. At the same time, this situation coincides with growing urbanization, generating areas of great demographic density where an important percentage of the area's population lives in overcrowded conditions with inadequate access or none at all to basic sanitation.

Offering the most basic healthcare services to this entire population poses a challenge for the majority of the countries of the Americas. Considering that Primary Health Care (PHC) is the essential strategy to cope with the situation, there are at least four dimensions of this challenge that must be taken into account.

First, the ethical dimension: This means achieving greater equity in access to PHC, which necessarily calls for solidarity among the different population groups. It means redistributing resources in such a way as to guarantee that all people have access to them, primarily those who currently still do not manage to meet their basic health requirements.

Second, the political dimension: PHC faces policy-related challenges, taking into account both the international commitments made by the countries—especially to reach the Millennium Development Goals (MDGs) by 2015—and governments' need to guarantee the right to health within a framework of numerous unalienable rights. In the case of childhood, these are laid down in the United Nations Declaration on the Rights of the Child and the Convention on the Rights of the Child. An intersectoral approach is needed to guide the design, implementation, and monitoring of public policies related to childhood, taking into account the interrelationship between health, education, living conditions, and the rights of girls, boys, and their families.

Third, the dimension involving access to primary health care: Providing the entire population with access to PHC also faces a social challenge characterized by the need to coordinate existing resources at all levels in the countries (national, subnational, and local) to optimize their utilization in favor of the most vulnerable population groups. This coordination should include participation by those very people—the most vulnerable—and all of civil society, in order to achieve broader citizen participation at all stages of the care transformation processes.

Fourth and final, the technical dimension of primary health care: This involves technical challenges regarding how access to basic measures to improve people's health is currently being offered to the population. It means guaranteeing universal coverage for PHC. This in turn implies making adaptations tailored to the specific characteristics of each particular geographical area and population group. Current care models require redirection. While they should continue to focus on health conditions, they should no longer focus solely on the individual person being seen. They also need to focus on the family and the community, by adopting a more comprehensive approach that recognizes the importance of family and environment as key determinants affecting everybody's health. In addition, there is the ongoing challenge of guaranteeing that

PHC offers the entire population coordinated activities covering diagnosis and treatment of diseases and health problems. At the same time, these interventions should be complemented by measures to ensure prevention, promotion, and comprehensive healthcare for both individuals and families. Facing these technical challenges will require reviewing and redesigning the profiles and competencies of health workers, in order to endow them with the basic knowledge and fundamental practices to ensure quality PHC. It will also require a multisectoral approach incorporating all healthcare providers into PHC, so as to complement the population's different points of access to care, with a guarantee that all of them will provide people with the basic requirements of PHC.

In this context, the Pan American Health Organization has worked together in an integrated way to develop an *Approach to Family and Community Health* that synthesizes the response that all the countries will be capable of making when faced with this challenge. This focus is based on one sole premise, i.e., the dimension of health as an essential human right for all inhabitants of the Americas, with no distinctions of any nature. It includes two basic values: equity and solidarity. These constitute the basis for redesigning a new scheme that makes more efficient use of all the resources that the population has generated to benefit the health of all its members.

The *Approach to Family and Community Health* contains six basic principles:

5. Participation by the entire population
6. Collaboration among all sectors of the population
7. Integration of resources and promotion of initiatives to benefit everyone
8. A chance to identify needs to be served and how to cover them
9. A spirit of interculturalism that guarantees the wealth of perspectives and visions existing in the Americas
10. Comprehensiveness in all actions taken

We propose putting this *Approach to Family and Community Health* into practice through four lines of action:

1. *Health promotion*: This will guarantee access to knowledge and best practices to the entire population, empowering each person to make proper decisions on individual and family health, in terms of both care and protection.
2. *Risk prevention and disease prevention*: This will reduce the occurrence of avoidable episodes of health problems and their spread throughout the population.
3. *Intersectoral action in health*: This will allow for collaborative work among sectors in epidemiological surveillance, disease detection, and both individual and collective interventions for prevention, treatment, and health promotion.
4. *Equitable access to quality health services*: This will achieve the longed-for universal access for all people to the benefits that knowledge and current technology can give them in terms of protecting their health and promoting their healthy growth and development.

The *Approach to Family and Community Health* has been adopted by the Pan American Health Organization to guide its actions during the coming years. The 49<sup>th</sup> PAHO Directing Council urged the countries to adopt an integrated and intercultural approach to family and community health; to redouble their efforts to guarantee universal access to services and health programs; to strengthen the development, governance, management, and performance of integrated population-centered health service networks; and to invest in training the human resources necessary for carrying out this task.

## HEALTHY LIFECOURSE

In order to put this Approach to Family and Community Health into practice, a new project has been proposed within the Pan American Health Organization: the Healthy Lifecourse Project. It takes into account the growing evidence of a continuous interrelationship among the different stages of life in terms of good health, which every individual and all of society should be able to enjoy.

Over the last few decades, there has been wide debate on the benefits resulting from implementing specific programs designed to address diseases or health problems, as well as on the way in which these benefits could multiply through greater integration. This integration is perceived as a way to improve people's access to the benefits of each program, by offering them a greater number of points of entry—and not simply through visits made to deal with diseases or health problems specifically affecting the person at the time of the consultation. In this way, it is expected that case capture could be expanded; and the timeliness of detection, improved. This would result in better prospects for treatment and control, not only in terms of the individual but also of his or her family and the people who live with her or him.

Despite these efforts, polarized visions continue to persist. In many cases, so do top-down approaches to applying integrated actions, which limit not only any sort of broad participation but also the adaptation of these strategies—especially at the local level. PAHO has proposed a new conceptual framework to promote integration, which primarily includes PHC, creating and strengthening integrated care networks at different levels, partnership-building for nutrition and development, and strengthening approaches based on family and community care.

The Healthy Lifecourse Project integrates a group of topics and professionals ranging from women's health, sexual and reproductive health, and maternal health, to neonatal health, child and adolescent health, health education, and nutrition. All these various axes involve interventions and produce direct results during each life stage; but additionally, they determine possibilities and risks for the following stages. This means that their integration is essential for obtaining better health outcomes throughout the lifecourse.

The implementation of this project is leading to organizational change aimed at results-based management. This will improve the continuous interaction between planning and progress made, both matrix-wise and horizontally, which in turn will facilitate its implementation at different structural levels. It will also require adapting products and services to planning needs at each level, and verifying progress in terms of the results achieved. A coordination structure has been created for this, providing leadership over the entire process and facilitating implementation at each and every level. This then makes more efficient use of staff time in terms of the available human resources, partially utilizing them based on progress and needs. In this way, the



proposal envisages a process that has been observed in recent years, one involving a decrease in external resources aimed at international cooperation—thus making more efficient use of them.

The Healthy Lifecourse Project is based on integrated approaches that encompass health during each stage of life and links among them as a pivotal axis for all activities. It is based on a conceptualization of health as a basic human right and takes into account the different degrees of inequality in access to this right. It addresses health and access problems from both a gender and ethnic perspective, which helps guarantee equity in the distribution of health benefits by giving special consideration to the most vulnerable groups. The project is incorporated into health systems, strengthening the renewal of PHC as a key policy for greater equity and universal access to quality health measures. It promotes interprogrammatic work to take advantage of lessons and experiences from a multitude of specific programs, exchanging and adapting these experiences so that they can help stimulate processes to achieve universal access to PHC. It includes an intersectoral approach to actions and plans, so as to optimize the use of all available resources and promote active social participation in the entire process. This facilitates its practical application, **generating** enabling environments that promote true social protection in health.

The Healthy Lifecourse Project is based on four pillars:

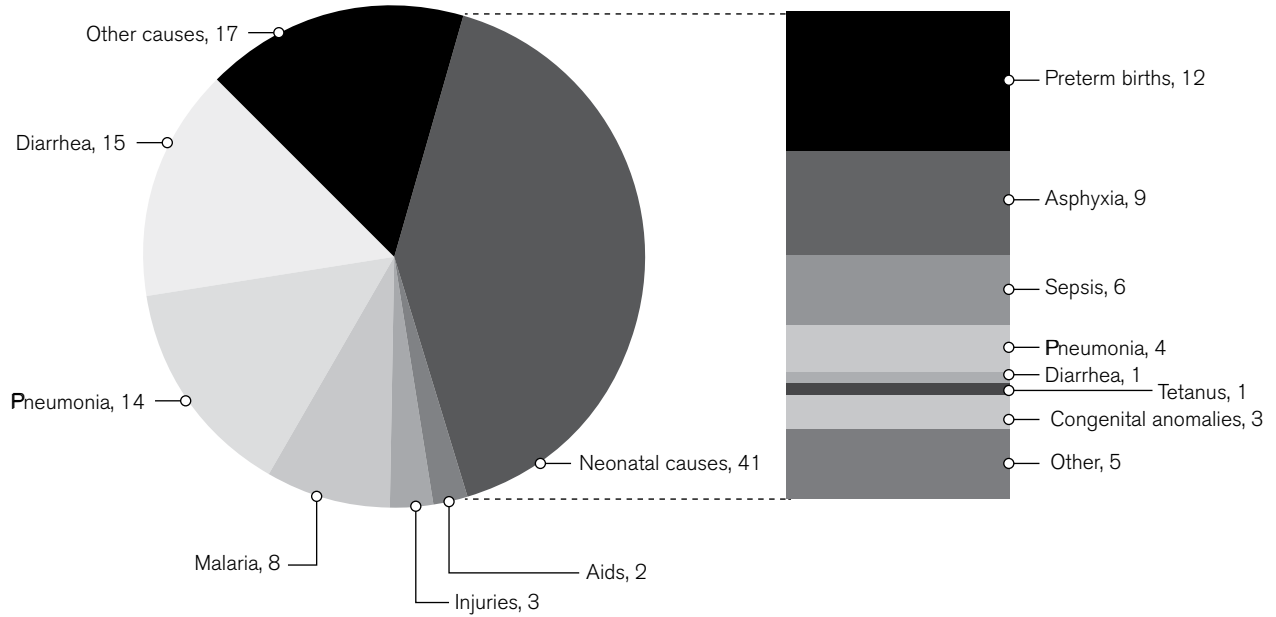
5. Information and scientific evidence
6. A lifecourse approach
7. Determinants of health and health systems
8. An intersectoral approach

In terms of the information and scientific evidence at hand, we currently know that at the global level, the greatest burden of infant morbidity and mortality is represented by diseases affecting the peri-neonatal period. We also know that a significant proportion of them can be avoided through effective prevention and treatment measures (Figure 2).

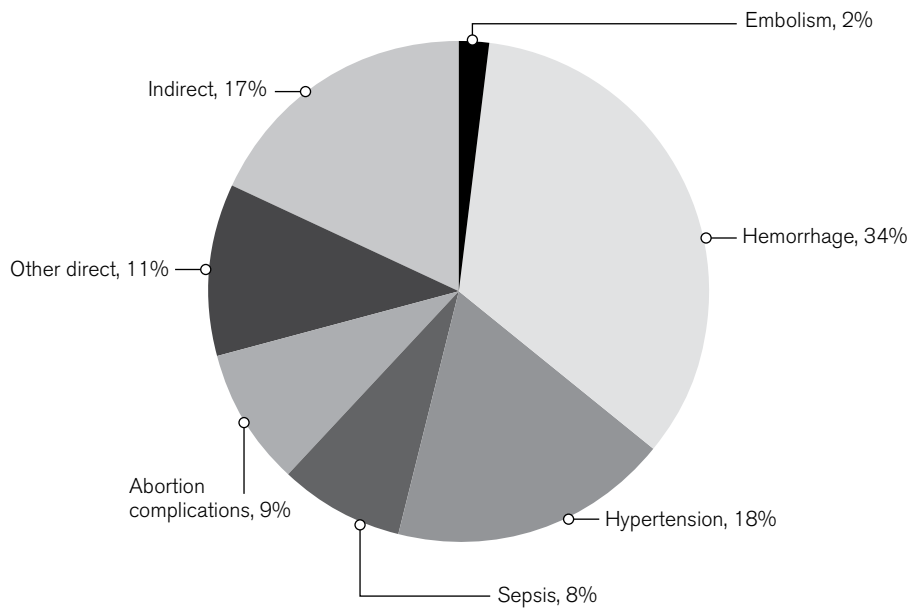
The change in the global epidemiological mortality profile has led to diarrheal diseases and pneumonia accounting for around 1 out of every 3 deaths in infants under 1 year old (under-1 deaths), while 4 out of every 10 under-1 deaths are due to neonatal causes. These differences are even more marked in the Americas, with diarrhea and pneumonia carrying a smaller weight in infant mortality when compared to neonatal causes. Among the latter, prematurity is responsible for the majority of these deaths at the global level, followed by asphyxiation at birth, septicemia, and neonatal pneumonia.

However, in addition to the impact of mortality during their first year of life, it is important to bear in mind the impact of maternal morbidity and mortality, not only in terms of inherent harm but also because of its impact on the newborn's chances of survival. At the global level, hemorrhaging, hypertension, and septicemia continue to be the three leading causes of maternal mortality (Figure 3).

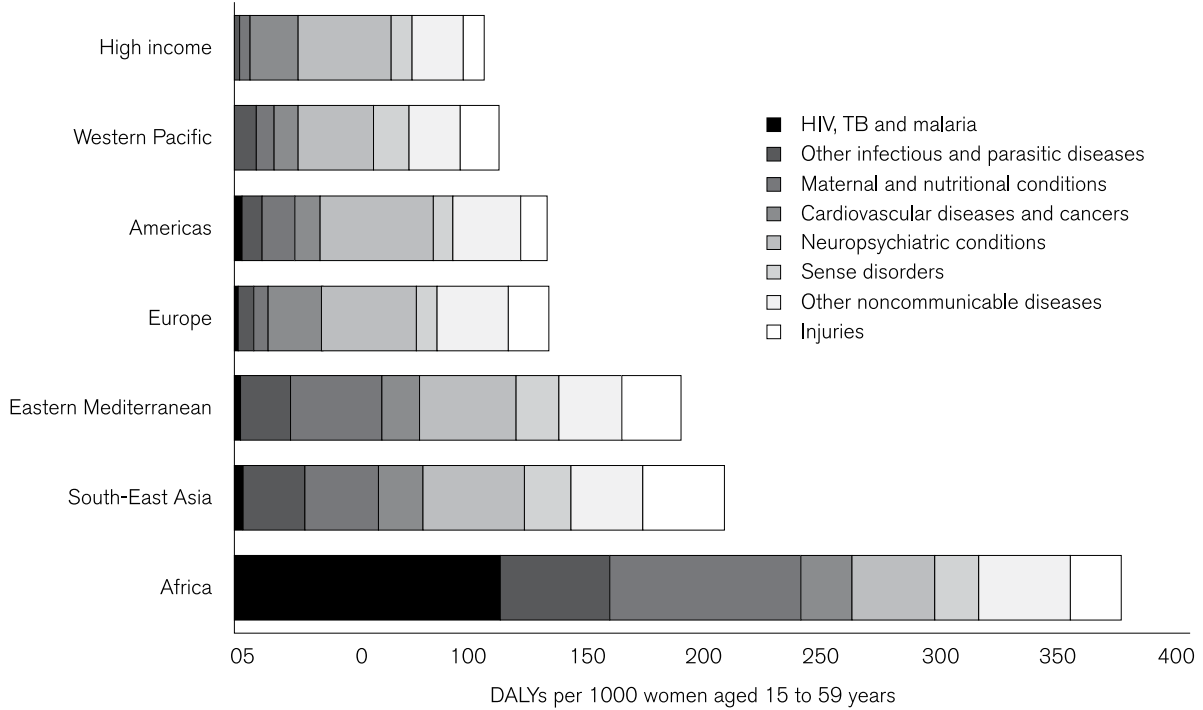
**Figure 2:** Causes of Death in Children and Newborns, 2008



**Figure 3.** Causes of Maternal Death, 2008



**Figure 4:** Burden of Disease in Women Ages 15–49 at the Global Level, by Region



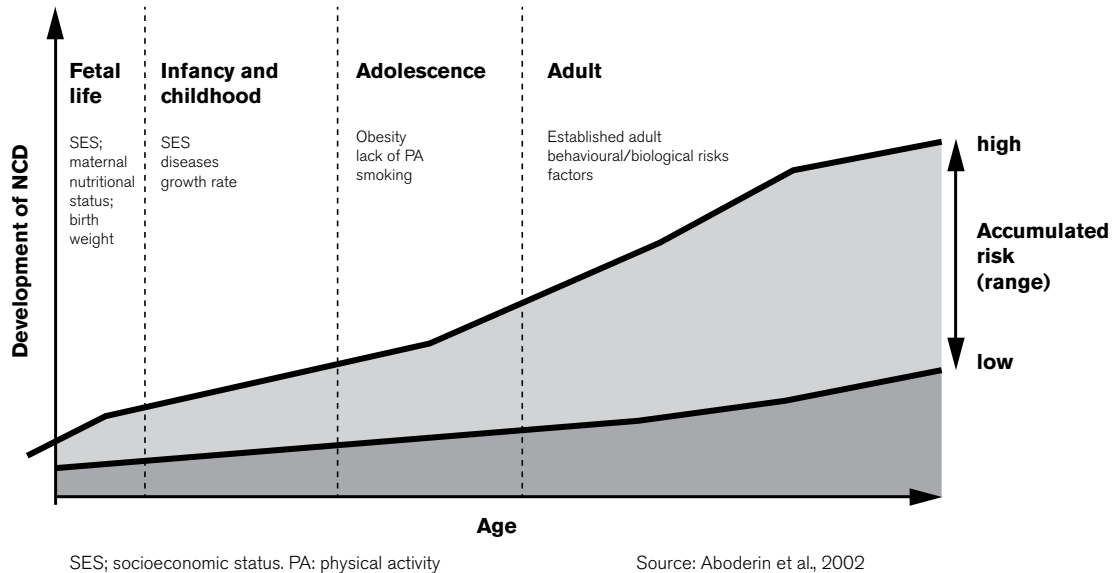
Three out of every 10 maternal deaths are due to hemorrhaging and, together with hypertension and sepsis, account for 60% of all maternal deaths occurring annually throughout the world.

The greatest risk of perinatal morbidity and mortality is not only associated with problems that can occur during pregnancy, delivery, and birth. Women’s health status before pregnancy takes on great importance and can cause health problems, both for the woman during her pregnancy and for her newborn. In some regions of the world, infectious diseases—including malaria, tuberculosis, and HIV (human immunodeficiency virus), together with poor nutritional status—account for more than 60% of the burden of disease in women of childbearing age (Figure 4).

In the Americas, these causes account for approximately 20% of the burden of disease in this group, with neuropsychiatric conditions taking first place.

The causes of the majority of the diseases and conditions that jeopardize health are related not only to a variety of biological and behavioral determinants, but also to social, economic, demographic, and environmental determinants. These determinants have an impact on people’s health throughout their entire life cycle; and in many cases, the risk of developing diseases can manifest itself in later stages of life. Besides the fact that risks accumulate as a person passes through the different life stages, the chances of threats occurring increase with age, as has been demonstrated in the case of noncommunicable diseases (Figure 5).

**Figure 5:** Opportunities to Prevent the Impact of Noncommunicable Diseases over the Lifecourse

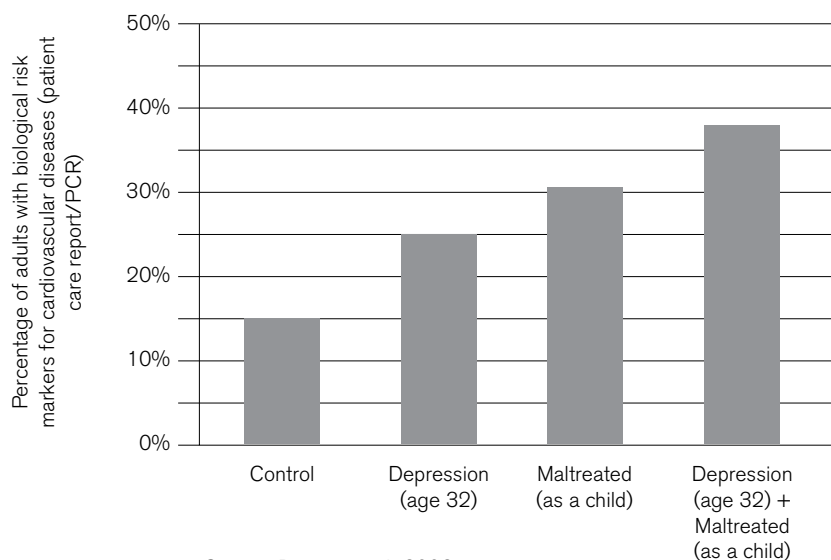


The lifecourse approach recognizes the existence of an interactive and cumulative effect of biological and social determinants on people’s health throughout the different life stages. This approach places great importance on predisposing factors and determinants that affect the individual during the first moments of life, which will change their future predisposition to suffer from noncommunicable diseases at later stages.

The family’s socioeconomic status, the mother’s nutritional status before and during pregnancy, and the newborn’s birthweight are all determinants associated with developing noncommunicable diseases down the line. As children grow, other characteristics that will determine their health at later stages of life—such as early childhood diseases, obesity, lack of physical activity during adolescence, and behaviors acquired for adulthood—all increase the cumulative risk of developing noncommunicable diseases. Conversely, determinants for later stages of life are strongly affected by those from earlier stages. For example, low levels of physical activity in adolescence are associated with a sedentary lifestyle in adulthood, just as overweight in childhood or adolescence is associated with obesity in adulthood.

New evidence has also demonstrated the relationship between factors that, up to a few years ago, were not regarded as relevant to diseases of adulthood: e.g., cardiovascular disease (Figure 6). In one study, the percentage of adults with markers for heart disease was greater among those who had a background of suffering child abuse and those who suffered from depression in early years, than it was for the control group. The combination of both histories more than doubled the findings for these markers when compared to the control group.

**Figure 6:** Evidence of the Relationship between a Background of Child Abuse and Youthful Depression, and Markers for Heart Disease



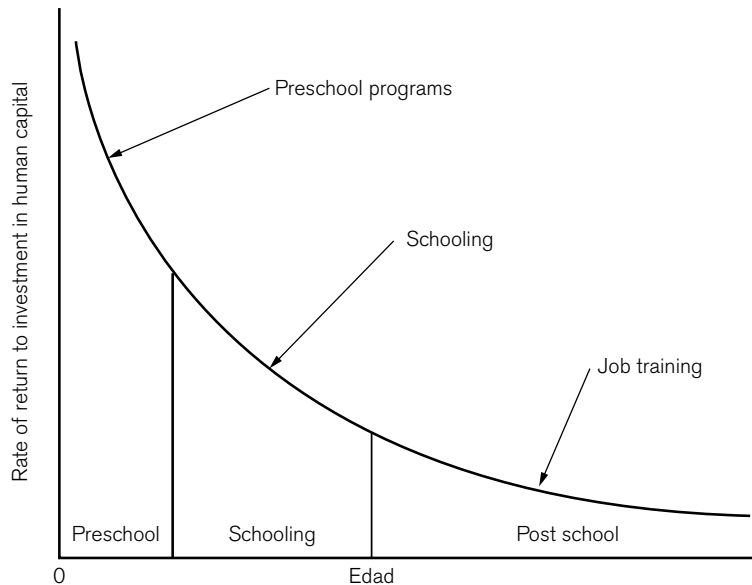
The impact that determinants from an early age have on adult life strengthens the importance of identifying windows of opportunity for implementing prevention and control measures. Following the previous example, implementing care modalities that allow for identifying abuse or abandonment during childhood—as included within the specific IMCI component—would be aimed at taking more timely action to provide care to families with these problems. In this way, not only would it help remedy a problem at the time of detection, but it would also make a contribution towards reducing the risk of future disease currently associated with the presence of these determinants during childhood.

James J. Heckman and Dimitriy V. Masterov, in their article entitled “The Productivity Argument for Investing in Young Children<sup>1</sup>,” point out that investments made in early childhood programs aimed at girls and boys in vulnerable, high-risk social conditions subsequently improves the returns of these investments in later programs applying to older age groups (Figure 7). The argument is that any improvement in children’s abilities and life skills serves as a basis for better learning later in life, which makes the returns far exceed the original investment made in early childhood programs when compared to the cost of programs for older children, youth, or adults which are designed to remedy the consequences of a disadvantaged childhood.

The most vulnerable groups who are the most socially marginalized require additional investments to improve their growth and development. As stated above, this investment produces greater returns when started at a younger age.

<sup>1</sup> Heckman JJ & Masterov DV, The Productivity Argument for Investing in Young Children. *Review of Agricultural Economics*. 2007;29 (3):446–493.

**Figura 7:** Rate of Return of Human Capital Investments in Children Living in Disadvantaged Conditions



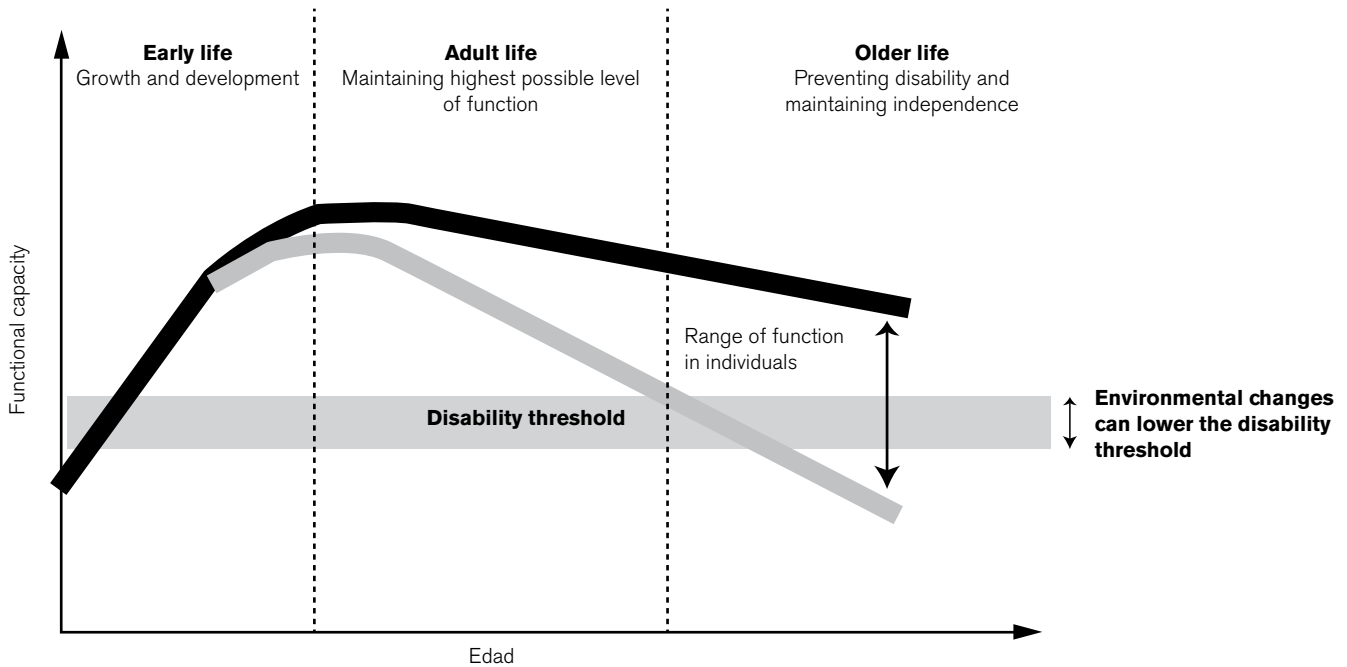
Source: James J. Heckman and Dimitriy V. Masterov. *The Productivity Argument for Investing in Young Children. Review of Agricultural Economics—Volume 29, Number 3—Pages 446–493. 2007.*

Thus, taking advantage of opportunities for intervention during each stage of life could optimize resource utilization by achieving the maximum effect on improving each individual's capacity to live a healthy and productive life during youth and adulthood.

Functional capacity, for example—which includes muscle strength and cardiovascular health—improves during childhood and adolescence. It reaches its peak during youth and young adulthood, before progressively declining with increased age (Figure 8).

The speed at which functional capacity declines is not uniform; and it can do so more or less quickly, depending on various factors. Behavior and lifestyle modifications can help maintain greater functional capacity during a more prolonged period, resulting in a healthier old age. Among the behavior changes that boost a person's current and future functional capacity, one with the greatest impact is smoking cessation: if this is done by age 60, 50, 40, or 30, it can add on 3, 6, 9, and 10 years of life, respectively. Thus, actions implemented for younger age groups during the first years of life that instill healthy habits that are maintained later during adolescence and youth, improve a person's chances to live longer with good functional capacity.

**Figura 8:** Variations in Functional Capacity throughout Life



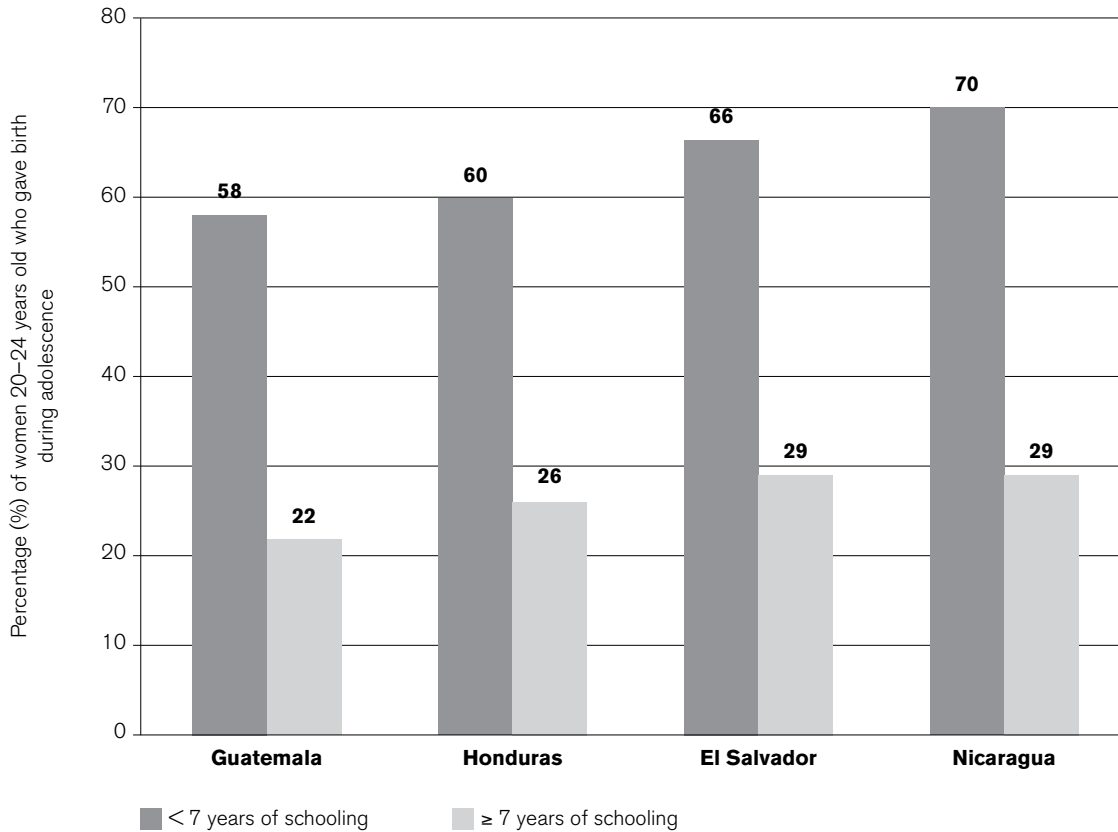
Source: WHO/HPS, Geneva 2000. Kalache and Kickbusch, 1997

## SOCIAL DETERMINANTS OF HEALTH

Scientific evidence has also been growing with regard to the importance that social determinants have on children's and families' state of health. Family income and social status have an influence on care dynamics, thus affecting any family member's chances to gain access to and utilize basic health services—not to mention basic sanitation services. A low educational level, especially for mothers, is associated with greater morbidity and mortality during childhood. Likewise, a father's lack of schooling also affects the family's overall state of health in that it affects his ability to earn a living and improve his family's living conditions. In this way, education, employment, and income act as social determinants that not only have a direct effect on child and family health, but also have the dynamics of a vicious circle, with one leading to and reinforcing the other.

Low levels of schooling among mothers have also been associated with a greater risk of early pregnancy and childbirth before age 20 (Figure 9).

**Figure 9:** Relationship between Level of Education and Adolescent Births in Selected Central American Countries

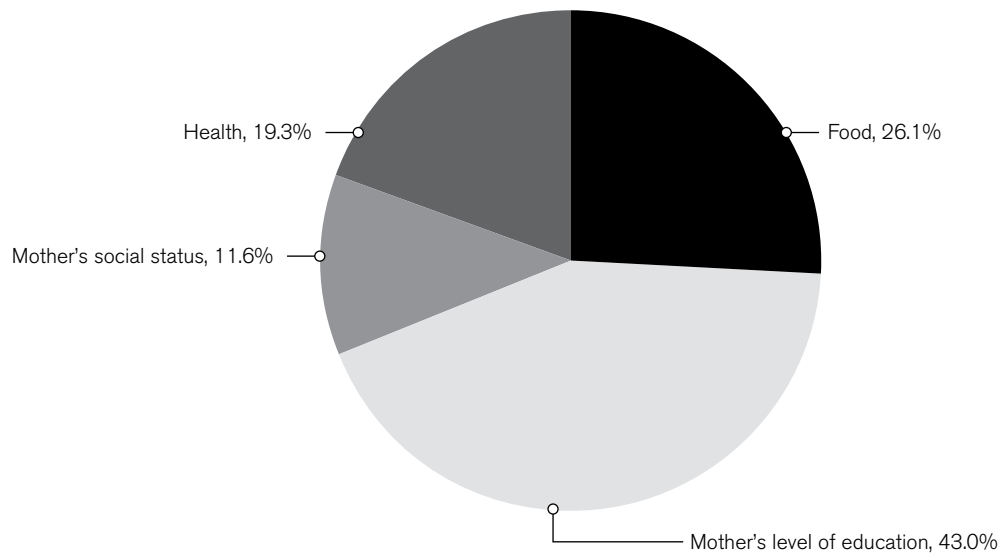


Women with fewer years of schooling have a greater probability of giving birth before age 20 than do their more highly educated counterparts.

During the period from 1970 to 1995, the importance of maternal education also emerged as the leading determinant in helping reduce child malnutrition (Figure 10). Education actually contributed more to this than did the food itself, more than doubling the contribution associated with health services.



**Figure 10:** Estimated Contribution of Various Determinants in Reducing Child Malnutrition, 1970–1995



The working conditions of family members not only affect the health of each family member through income but also in a direct way, especially when the work includes exposure to biological or chemical agents that endanger not only the worker but also others who live with him or her. In highly marginalized conditions, unsafe working conditions constitute another determinant of family health associated with biological and chemical contaminants, such as heavy metals found among the residue in construction sites and landfills.

Marginalization is also associated with having less access to health services, be it for geographical, cultural, or economic reasons. In the latter case, obstacles to access can include direct expenses incurred for transportation to and from the health facility and for care received while there, indirect costs due to hours of paid labor lost, and complementary costs for caring for the rest of the family during visits to the doctor. Under these conditions, it is crucial to identify social and family support networks that allow families to improve their chances of gaining access to care, as well as their adhering to the treatment prescribed.

Finally, there is the ever-growing impact that the lack of safety and security has on family health and living conditions in practically all neighborhoods located in major metropolitan areas with urban sprawl. The existence of an unsafe environment has become an important social determinant that affects the very dynamics of families' lives—including that of their younger members.

Within this diversified framework of social determinants that affect child and family health, the response of the health system should complement services of a more personal nature. This includes providing care at different levels, with health services aimed at preventing disease and promoting health in the various population groups, as well as implementing plans for early diagnosis and treatment of the leading causes of

deterioration of health among the population. However, at the same time, efforts need to be made that take into account the greater interrelationship between the health system and other sectors—e.g., education, urban planning, creating jobs, and the economy—given the importance of determinants associated with where a person lives, what a person does, how much she or he earns, and the health status of his or her children and family.

## **CHALLENGES FACED BY THE HEALTHY LIFECOURSE PROJECT**

Maternal, neonatal, and child mortality continue to be the three main challenges that all countries face when it comes to guaranteeing the survival and healthy growth and development of future generations. It is also essential to systematically incorporate activities to promote early childhood development, so that each and every boy and girl manages to express her or his maximum biological potential, by guaranteeing each child adequate nutrition and stimulation from the first stages of life onwards. This implies making an intense effort to reduce and prevent acute and chronic malnutrition, which represent not only biological risk factors for diseases during childhood, adolescence, and adulthood, but also limit individuals' chances for development, growth, and productivity in their future life.

Some infectious diseases still continue to jeopardize the health of children and their families: among them, sexually transmitted diseases such as syphilis and the current risk of mother-child HIV transmission. Eliminating congenital syphilis—which nevertheless persists in some countries—as well as preventing maternal HIV transmission are challenges that all countries will have to deal with in coming years.

Promoting healthy sexuality and preventing pregnancy among adolescents, as well as preventing sexually transmitted infections (STIs) and HIV transmission, also constitute challenges that need to be faced. Only by doing so can the burden of these diseases among the population be reduced and responsible and healthy exercise of one's sexuality from adolescence onwards be promoted.

Finally, it is essential to safeguard what has already been achieved with regard to vaccinating children and vulnerable groups. At the same time, coverage should be expanded for new vaccines that can contribute to preventing disease.

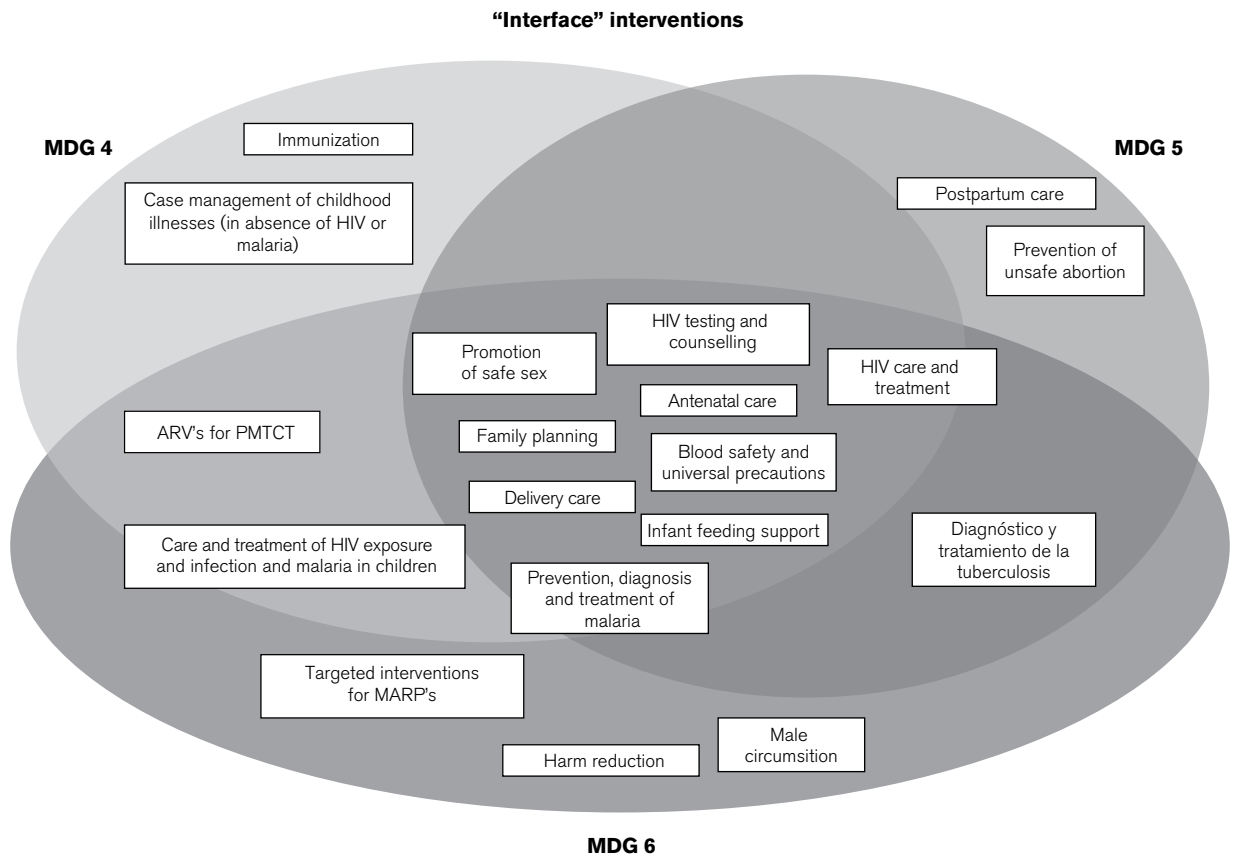
Over the past decade, the push to reach the Millennium Development Goals (MDGs) has acted as a catalyst to guide actions and plans at the regional, national, and local levels. The three goals most specifically linked to concrete improvements in population health—including reducing infant mortality (MDG 4), improving maternal health (MDG 5), and controlling HIV, malaria, and other diseases (MDG 6)—all require the implementation of complementary and interrelated activities that, at the same time, can contribute to their achievement (Figure 11).

Certain interventions that are crucial for reaching these three goals are related to guaranteeing access to HIV testing and patient and family support, providing care and treatment for the affected by the disease, and safe blood and protective measures to reduce the risk of transmission. All these measures will help diminish the burden of HIV infection among the population, with subsequent impact in terms of improving women's and maternal health and preventing transmission to newborns.

Certain other activities will also result in improving maternal and child health. These include promotion of safe sex and responsible sexuality, family planning, access to and utilization of prenatal care, and delivery by adequately trained personnel.

Other actions include ensuring an adequate diet and supplementary feeding for newborns. Yet others include malaria prevention, diagnosis, and treatment, which will prevent the occurrence of disease in the infant and maternal population and thus help reduce the burden of disease among the population.

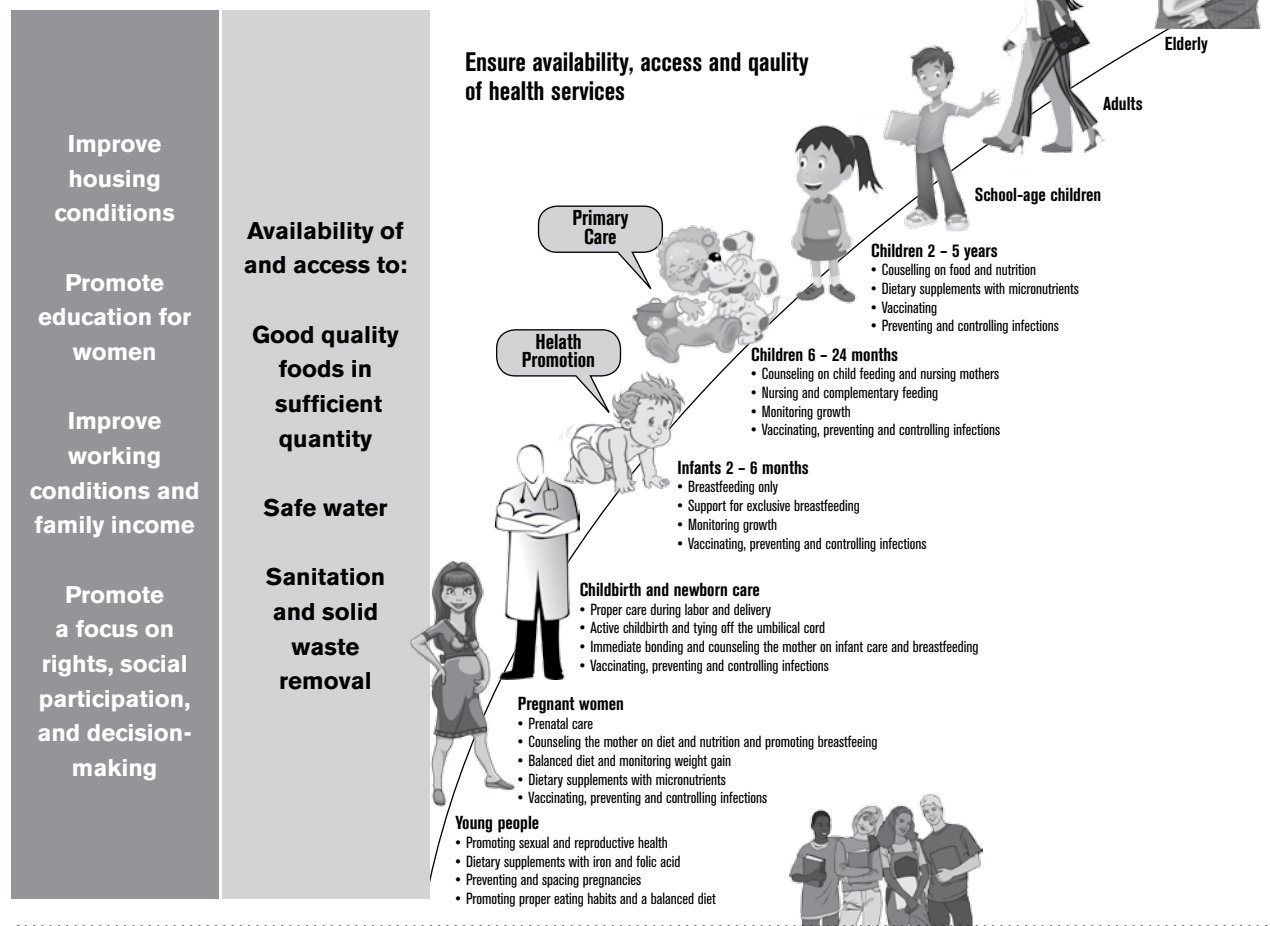
**Figura 11:** Interrelationship among Direct Interventions Aimed at Reaching MDGs 4, 5, and 6



Actions that contribute individually and collectively to reaching the three MDGs specifically related to population health are complemented by others that either contribute directly to reaching any one of these three goals, or that could have an impact on reaching more than one of them.

The set of specific health interventions—be they from the health sector or involving other sectors as well—can help improve child, family, and community health by creating better conditions for growth and development throughout the lifecourse (Figure 12).

**Figure 12:** Intersectoral Interventions and Basic Interventions over the Lifecourse to Help Reach MDGs 4, 5, and 6



Interventions targeted at improving families' habitats are essential for guaranteeing family members adequate hygiene conditions and access to basic sanitation measures—including the availability of safe water, sewage systems, and trash removal. Other intersectoral interventions, such as improving access to education, particularly for women and mothers, accompanied by improvements in income level and working conditions—will help refine the patterns adults follow in caring for and treating their children. Finally, it is essential to guarantee people the full exercise of their rights—particularly those who are the most vulnerable: e.g., children, women, and the elderly.

These interventions, which will require participation and coordination from different sectors, will strengthen the effect of the specific activities towards which they are targeted at each stage of the life cycle. They can be aimed at disease prevention, promotion of healthy growth and development, and early detection and proper treatment of diseases and health problems that boys and girls could face in the course of their life.

The challenges to be faced in coming years in implementing the lifecourse approach will primarily revolve around changing the healthcare paradigm to ensure that its focus remains on a person's state of health before disease occurs. Doing so will incorporate diseases and health problems into a family and community context, linked at each stage of life with possible future consequences. This will allow for work that is centered not only on achieving child and adolescent survival but also on emphasizing human development, so that every individual—together with her or his family—can reach his or her maximum potential.

As for the social determinants of health, the practical application of the lifecourse approach will also pose a challenge. It will call for designing and applying instruments and implementing practical strategies that facilitate the task of both health workers and communities in identifying key determinants and working to control their detrimental effects in terms of any potential threat to health and development.

All the efforts outlined above will require interdisciplinary teams who can add to existing knowledge and visions of the different health determinants. The use of their combined expertise will enable advancement towards coordinated intersectoral actions carried out through cross-disciplinary work, to guarantee better utilization of all health workers' capacities at all levels of care.

By implementing the family approach, integrated policies can be developed to address the health problems of family members, following the lifecourse approach and continually promoting community participation. This can bring about change in the care model, updating it with current knowledge of health and its determinants, to the benefit of population health and development.

# 7

## REGIONAL EPIDEMIOLOGICAL CHANGES WITH A VIEW TO REACHING MDG 4

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### INTRODUCTION

The *World Summit for Children*, held at United Nations (UN) headquarters in New York on 29–30 September 1990, constituted a historical milestone in terms of governments' commitment to improve the health and nutrition status of boys and girls throughout the world. The event involved the participation of 71 heads of state, the most numerous group of world leaders ever brought together by the UN up to that time. The outcome was the approval of the *World Declaration on the Survival, Protection and Development of Children*, accompanied by a *Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s*. The representatives of the countries adopted a set of commitments to be reached by the end of the 20<sup>th</sup> Century. First and foremost among these, with respect to 1990, was the goal of reducing mortality in children under 5 (under-5 mortality) either by one-third or down to a level of 70 per every 1,000 live births, whichever was greater.

In its report on the State of the World's Children 2002, the United Nations Children's Fund (UNICEF) compiled regional and national reports on progress made towards meeting the goals set in 1990. The report indicated that more than 60 countries throughout the world managed to reach the goal of reducing infant and under-5 mortality by one-third. At the global level, this meant a 14% reduction between 1990 and 2000.

In September 2000, in line with numerous United Nations conferences and summits, world leaders met again at UN Headquarters in New York to approve the Millennium Declaration, committing their countries to a new world alliance aimed at reducing levels of extreme poverty. They established a series of time-limited objectives, known as the Millennium Development Goals (MDGs), with a fixed deadline of 2015.

Three of the aforementioned MDGs are specifically targeted at health. All of them articulate the countries' commitment to reach a specific health-related goal:

- > **MDG 4:** "Reduce Child Mortality"
  - Target 4.A: "Reduce by two-thirds, between 1990 and 2015, the under-5 mortality rate" (using the 1990 figures as a baseline)

- > **MDG 5:** "Improve Maternal Health"
  - Target 5.A: "Reduce by three-quarters the maternal mortality ratio" between 1990 and 2015
  - Target 5.B: "Achieve universal access to reproductive health" by 2015
  
- > **MDG 6:** "Combat HIV/AIDS, Malaria, and Other Diseases"
  - Target 6.A: "Have halted by 2015 and begun to reverse the spread of HIV/AIDS"
  - Target 6.B: "Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it"
  - Target 6.C: "Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases"

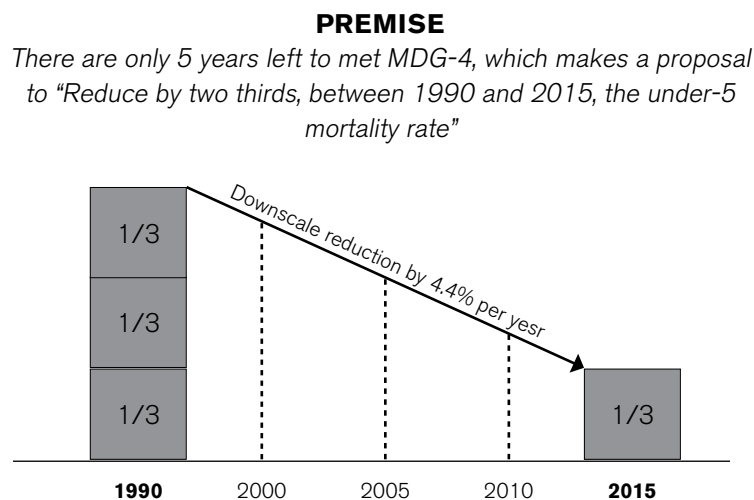
MDG 4 provides continuity for the goal set in 1990 to reduce under-5 mortality by one-third by the year 2000. It proposes continuing this reduction up to 2015, so as to ensure by that time that infant and under-5 mortality will only be one-third of what it was in 1990.

With some countries having already practically fulfilled the quota of two-thirds during the period proposed for reaching to goal by 2015, it is clear that certain countries in the Americas have made progress in this process. They have also been able to identify bottlenecks and will be able to scale up efforts to reduce child and infant deaths during the last five years remaining in the period.

## PROGRESS EXPECTED IN REACHING MDG-4

Reaching MDG 4 implies that all countries will have reduced their under-5 mortality to a value of one-third of that reported in 1990 (Figure 1).

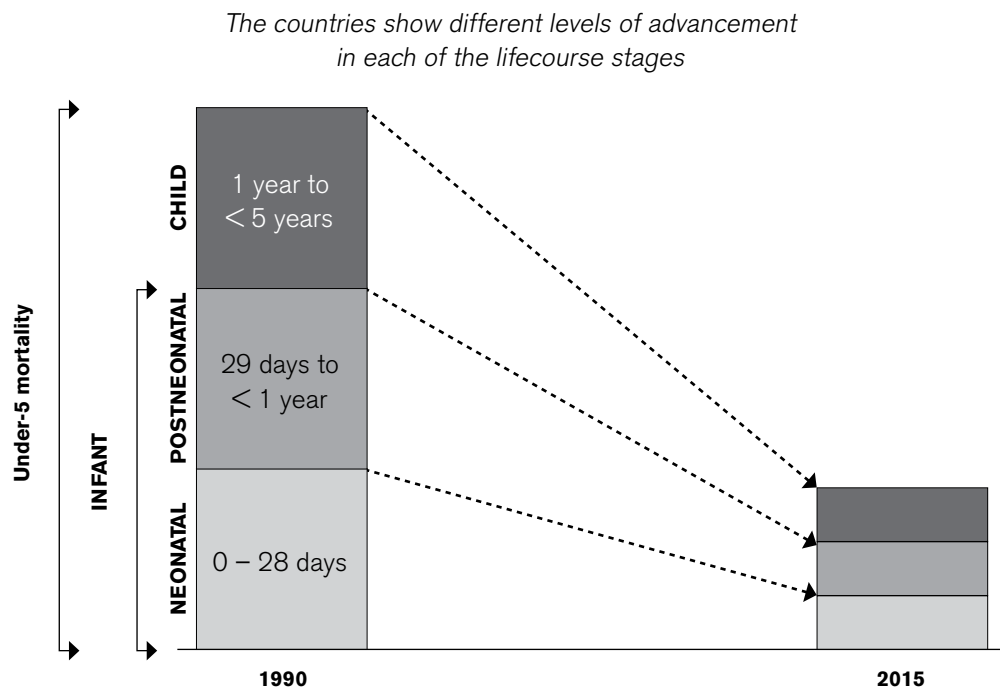
**Figure 1:** Expected Reduction in Under-5 Mortality Based on the Millennium Development Goals for 2015



In order to achieve a continuous downscale throughout the period 1990–2015, the countries should reach, at the very least, an annual decline of 4.4% of the under-5 mortality registered for 1990, with the goal of reaching a figure two-thirds lower by 2015. To the extent that this drop has been less rapid during one or more years of the period already elapsed (1990–2010), a much more accelerated drop will be required during the remaining years, so as to compensate for the cumulative delay in this decline during previous years.

Furthermore, MDG 4 was set to encompass total under-5 mortality, although countries have different percentages for its distribution in terms of age of death (Figure 2). Thus, those countries in which high post-neonatal mortality still persists present a situation different from those in which the highest proportion of under-5 mortality is concentrated in the first week or the first month of life.

**Figure 2:** Composition of Under-5 Mortality and Expected Reduction between 1990 and 2015, within the Framework of MDG 4



A two-thirds reduction in mortality between 1990 and 2015 for each component would indeed result in the countries' reaching the proposed goal. Nevertheless, their chances of achieving this reduction will depend both on the initial magnitude of each component and on the interventions that have been made and will be made to actually prevent deaths during each period of life. Thus, it can be expected that countries will show different degrees of progress with regard to their declines in neonatal mortality, post-neonatal mortality, and child mortality among 1–4-year-olds.



## PROGRESS MADE BY THE COUNTRIES OF THE AMERICAS IN REACHING MDG 4

In their review of the progress made by the countries of the world with regard to reaching MDG 4,<sup>2</sup> Rajaratnam et al. found that, although a considerable number of countries had achieved a notable reduction in under-5 mortality between 1990 and 2010, other countries were not advancing at a rate fast enough to reach an under-5 mortality rate by 2015 equivalent to a maximum of one-third of that registered in 1990. Their review of the clinical evolution of mortality for the different neonatal, post-neonatal, and childhood components also showed differences both among and within countries concerning the decline effectuated in post-neonatal mortality and in 1–4-year-olds, when compared to neonatal mortality.

Reviewing these findings for the Americas allows for grouping the countries by the situation they will need to face over the next five remaining years that are left to reach the 2015 goal set by MDG 4. With regard to under-5 mortality, five countries have been identified that will be able to reach the goal if they continue at the rate of mortality reduction already reported for the period 1990–2010. However, ten countries will need to accelerate their annual speed of under-5 mortality reduction by five or more times to reach that goal (Figure 3).

**Figure 3:** Expected Prospects of the Countries of Americas of Meeting MDG 4 in Terms of Speed of Annual Under-5 Mortality Reduction, 2010–2015

<b>Speed of annual reduction</b>	<b>Countries</b>
Proceed at the same rate	<b>Chile, Peru, Cuba, El Salvador, Brazil</b>
Double the present rate	<b>Costa Rica, Mexico, Ecuador, Nicaragua, Guatemala</b>
Triple the present rate	<b>Argentina, Costa Rica, Colombia, Bolivia</b>
Quadruple the present rate	<b>Honduras, Dominican Republic</b>
Increase the present rate fivefold or more	<b>Canada, United States, Uruguay, Venezuela, Jamaica, Belize, Paraguay, Panama, Trinidad and Tabago, Guyana</b>

*Source:* Estimates based on PAHO/HSD/HA and on Rajartnam JK, Flaxman AD, Wang H, Levin-Rector A, Dwyer L, Costa M, Lopez AD, and Murray CJL. Neonatal, post-neonatal, childhood, and under-5 mortality in 187 countries, 1970-2010: a systematic analysis of progress toward Millennium Development Goal 4. *The Lancet*. 2010; 375(9730, June 5). <http://www.thelancet.com/journals/lancet/articlePIISO140-6736%2810%2960703-9/fulltext> (accessed 9 September 2011)

This situation observed in the countries regarding their prospects of reaching MDG 4 and reducing under-5 mortality differs with regard to infant mortality, i.e. for babies under a year old (the 'under-1s') (Figure 4). Only four countries in the Americas could conceivably reduce infant mortality to one-third of the rate registered in 1990 by the 2015 deadline. However, another 14 countries will have to increase their rate of decline in infant mortality fivefold or more in relation to what they achieved up to 2010, in order to be able to reach the proposed goal.

**Figure 4:** Expected Prospects of the Countries of the Americas of Meeting MDG 4 in Terms of Speed of Annual Under-1 Mortality Reduction, 2010-2015

<b>Speed of annual reduction</b>	<b>Countries</b>
Proceed at the same rate	<b>Cuba, El Salvador, Ecuador, Peru</b>
Double the present rate	<b>Chile, Costa Rica, Mexico, Brasil, Argentina, Bolivia</b>
Triple the present rate	<b>None</b>
Quadruple the present rate	<b>Uruguay</b>
Increase the present rate fivefold or more	<b>Canada, United States, Venezuela, Jamaica, Colombia, Belize, Paraguay, Dominican Republic, Panama, Nicaragua, Honduras, Trinidad and Tabago, Guyana, Guatemala</b>

Source: Estimates based on PAHO/HSD/HA and on Rajartnam JK, Flaxman AD, Wang H, Levin-Rector A, Dwyer L, Costa M, Lopez AD, and Murray CJL. Neonatal, post-neonatal, childhood, and under-5 mortality in 187 countries, 1970-2010: a systematic analysis of progress toward Millennium Development Goal 4. *The Lancet*. 2010; 375(9730, June 5). <http://www.thelancet.com/journals/lancet/articlePIISO140-6736%2810%2960703-9/fulltext> (accessed 9 September 2011)

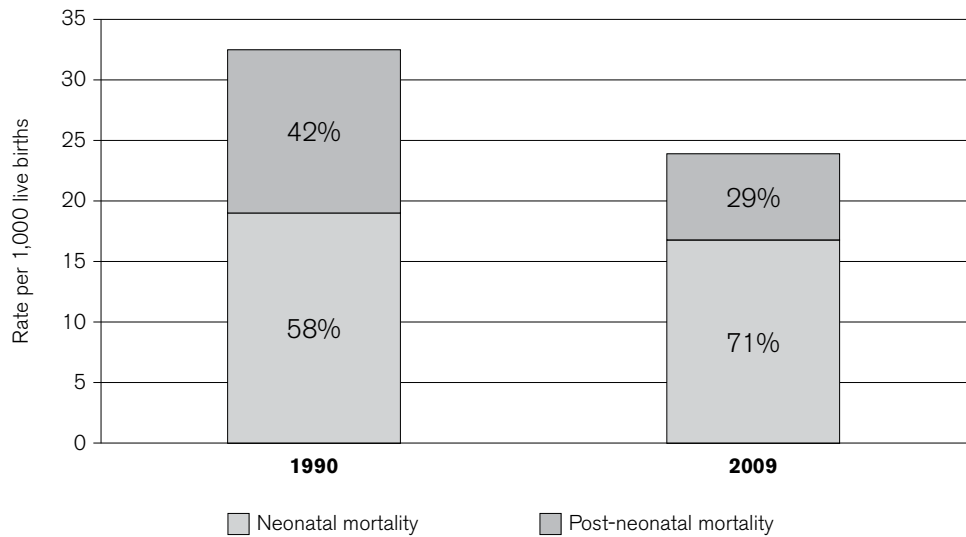
Even those countries that have shown great progress in reducing infant mortality will need to double their annual speed of reduction over the next five years if they are to reach the 2015 goal and truly ensure that the infant mortality for that year shows a value of one-third of what was reported in 1990.

The worst-case scenario for the countries regarding their progress towards reaching the under-1 mortality goal would be to show the smallest annual rate of decline when compared to drops in the total under-5 mortality rate. While under-5 mortality showed an annual decline of 2.6% between 1990 and 2010, under-1 mortality only declined at a lower rate of 2.4% annually—and neonatal mortality, by even less, at 2.2% annually. Thus, neonatal mortality shows the slowest rate of decline when compared to those for the post-neonatal period and for 2–4-year-olds, implying a greater weight for the neonatal component as a portion of under-5 mortality. Consequently, interventions will have to be adapted to target mortality in children, with greater efforts aimed at preventing deaths during the first week and the first month of life.

Neonatal mortality actually rose from 58% of total under-1 mortality in 1990 to over 70% of total under-1 mortality by 2010 (Figure 5). Part of this rise took place during the 21<sup>st</sup> century.

**Figure 5:** Estimated Distribution of Under-1 Mortality by Neonatal and Post-Neonatal Components, Americas, 1990–2009

*Percentage of Neonatal Mortality in Relation to the Total Number of Under-5 and Under-1 Deaths*

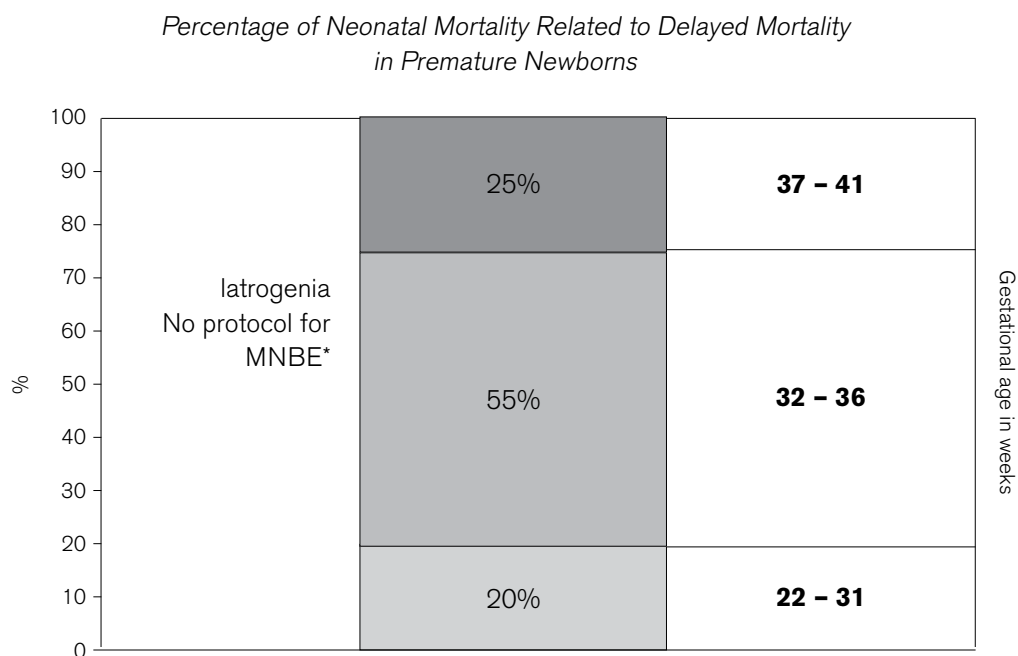


Source: Estimates by FCH/CA, PAHO/WHO 2009

As a result, reaching MDG 4 will require greater emphasis on actions geared towards improving women's health both before and during pregnancy, improving fetal care during gestation, and guaranteeing quality care during childbirth and for newborns—all of which reduce the risks of perinatal mortality. At the same time, it will be necessary to strengthen actions aimed at providing quality newborn care during the first weeks of life, given the importance that mortality during this period has gained in the majority of the countries of the Americas.

Estimates show that more than half of all neonatal deaths are associated with prematurity, i.e., in infants born between gestational weeks 32 and 37 (Figure 6). When caring for these newborns, iatrogenesis—i.e., inadvertent and preventable induction of disease or complications brought on by medical treatment—takes on great importance, as does any lack of adherence to standardized protocols based on the best available scientific evidence. Adding to these deaths those occurring in full-term newborns during the first weeks of life accounts for 80% of all neonatal mortality currently registered in the countries of the Americas.

**Figure 6:** Distribution of Neonatal Mortality in Relation to the Newborn's Gestational Week, in percent



Source: Osrin D. The implications of late-preterm child survival. *Int J Epidemiol* 2010; 39(3):645-649  
<http://ije.oxfordjournals.org/content/39/3/645.full?sid=6824a6cc-1137-4274-9a21-6567adcs2aa>  
 accessed 9 Septmeber 2011.

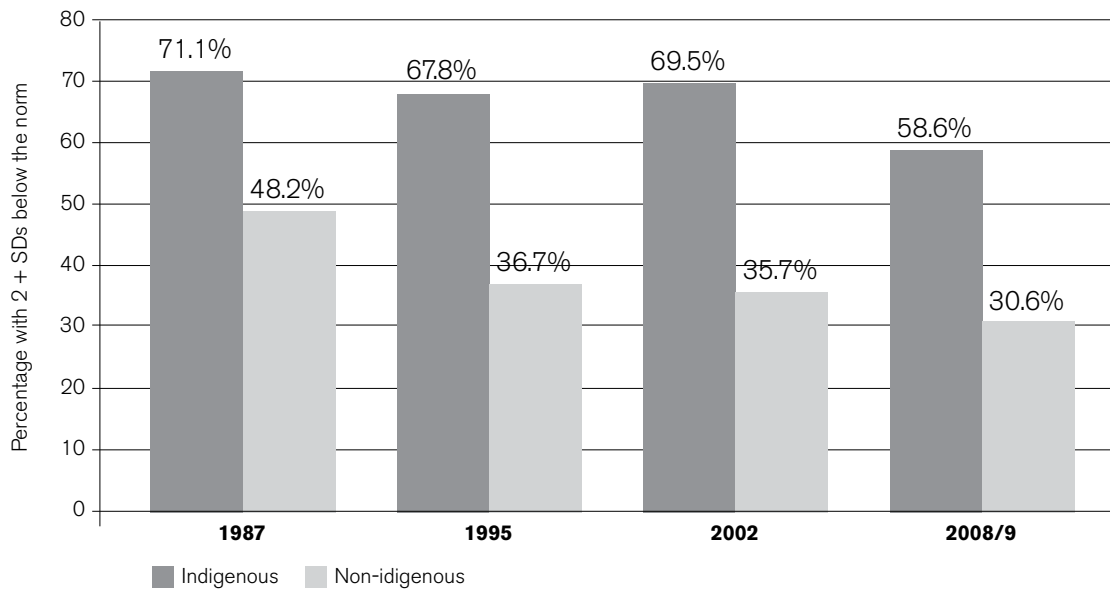
Along with analyzing the distribution of under-5 mortality by component, identifying factors within each component that are associated with these deaths can help guide the necessary interventions more efficiently in terms of accelerating the mortality decline in coming years to reach MDG 4. It is also essential to identify the population groups most threatened by disadvantageous health conditions during infancy that lead to increased mortality.

In this regard, the persistence of marked inequality in health status among the indigenous population is noteworthy, in that this group represents one of the most vulnerable in terms of risks both for survival and for healthy growth and development during infancy and childhood.

Studies conducted in Guatemala show the different magnitude of chronic malnutrition during childhood and the increasing gap between indigenous and non-indigenous populations that has been reported in recent years (Figure 19). Although the prevalence of chronic malnutrition was reduced among both groups between the late 1980s and 2010, the reduction was greater among the non-indigenous population than among the indigenous population, which served to increase the gap between the two groups.

In 1987, the prevalence of chronic malnutrition among the indigenous infant population was 47.5% higher than among the non-indigenous population. This difference has increased to 91.5%, such that the prevalence among the indigenous population was close to double that reported among the non-indigenous infant population.

**Figure 7:** Trends in Chronic Malnutrition (NCHS, by height age, and ethnic group in boys and girls ages 3–59 months)



NCHS = National Center for Health Statistics

SD = Standard deviation

Source: *Encuestas Nacionales de Salud Maternoinfantil* (ENSMIs), [National Surveys on Maternal and Child Health], 1987–2008/9.

## FINAL CONSIDERATIONS

Despite the progress made in reducing under-5 mortality, it is clear that many countries of the Americas need to strengthen their activities to accelerate the speed of mortality reduction if they are to reach the goals set by 2015. There are major differences among the countries in how much they have achieved in terms of reducing the different components of under-5 mortality. These differences have consistently shown the ever-increasing weight attached to neonatal mortality as the main component of under-5 mortality. Finally, observations have shown the persistence of more disadvantaged conditions in specific groups, either in terms of age at time of death and gestational age, or in belonging to a given ethnic group.

Within this framework, the current situation calls for specific actions aimed at the population and age groups most prone to mortality and whose survival and healthy growth and development are most at risk during infancy and childhood.



Photo: © Getty Images | Jupiterimages

## 8

# NEW IMCI COMPONENTS: INTEGRATED CARE FOR SKIN DISEASES IN INFANTS UNDER 2 MONTHS OLD



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## INTRODUCTION

Integrated Management of Childhood Illness (IMCI) has provided a suitable framework for improving the quality of care of children under 5. It can boost coverage by implementing preventive and therapeutic measures that benefit all children, ensuring their access to better healthcare and promoting healthy growth and development.

Initially designed to address the most prevalent health problems of infancy and childhood, IMCI has served as an appropriate strategy for integrating different interventions for both prevention and early diagnosis and treatment, aimed at identifying other health problems that can affect children. In this context, IMCI has enhanced its own strategy with complementary components to address the problems of infants under 2 months old—problems that have emerged as the leading cause of death during the first year of life in the majority of the countries of the Americas.

Caring for newborns, from the moment of birth and during the first weeks of life, is crucial—not only for guaranteeing child survival, but also for preventing possible threats and diseases that jeopardize their health and impair their healthy growth and development. In this regard, IMCI's peri-neonatal component plays an essential role in preventing illness and promoting children's healthy growth and development by addressing the problems that most frequently endanger their health during gestation, birth, and the first months of life.

Among these problems are skin disorders, which have become increasingly important not only due to their frequency, but also—especially in the tiniest babies—due to their risk of causing severe damage. IMCI has incorporated a component to manage skin diseases in newborns and infants under 2 months old, which will help improve prevention and treatment of these problems and thus reduce their severity.

## **ASSESSMENT FOR SKIN DISEASES IN INFANTS UNDER 2 MONTHS OLD**

The component for assessing skin diseases in newborns and infants under 2 months old primarily includes reviewing background data. This includes information related to maternal and family history, obstetric history, and neonatal history.

Regarding background data on maternal and family history, certain details need to be evaluated: the parents' age as well as any previous history of skin or mucosal disease, skin rashes, sensitive skin, ectodermal defects or birthmarks, systemic diseases, birth defects, major genetic defects, or infectious diseases: for example, the herpes simplex virus, syphilis, or the human immunodeficiency virus (HIV).

Reviewing this background provides guidance for health workers on any major risk the newborn may face of suffering from skin diseases. This risk can be assessed by taking into account the occurrence of these problems in one or both parents.

The pre-assessment review should also evaluate the mother's obstetric history, bearing in mind certain factors:

- > previous pregnancies
- > the results of these pregnancies
- > the loss of any children either before or after birth
- > current maternal serology regarding syphilis, rubella, or HIV

Other factors to look for include reviewing the mother's history of illness, surgeries, fever, and skin rashes, as well as any use of medicines during pregnancy. This evaluation may include such prenatal diagnostic tests as amniocentesis and chorionic villus sampling for chromosomal or genetic disorders in the fetus, as well as assessing factors related to childbirth:

- > when the mother's water broke (at what point the amniotic membrane ruptured)
- > the duration of labor and delivery as well as any occurrence of complications during delivery
- > fetal (intrauterine) monitoring
- > amniotic liquid (meconium, infection, oligohydramnios, hydramnios or polyhydramnios) the mother's having had a fever prior to or following delivery
- > fetal stress
- > type of delivery (instrumental using forceps or ventouse, or surgical via caesarean/C-section)
- > placental anomalies, if any

Finally, reviewing the infant's neonatal history includes evaluation of the following:

- > gestational age and birthweight, as well as the relationship between the two; this enables classifying the infant as small for gestational age (SAG), appropriate for gestational age (AGA), or large for gestational age (LGA)



- > whether the newborn required resuscitation
- > current and previous use of medicines
- > cutaneous history (onset of symptoms, morphology, distribution, treatment applied, and evolution)
- > any lesions or skin rashes
- > general medical and surgical history, including structural anomalies
- > any history of lethargy, irritability, hypotonia (muscle weakness and floppiness: 'rag doll' syndrome)
- > food intolerance

The review and evaluation of all the aforementioned items is summarized in a set of questions that health workers should ask and observations that they should take into account, following the scheme established in the different components of the IMCI strategy (Table 1). During the assessment, health workers can include questions for the mother or whoever is with her, make observations regarding the overall health status of both mother and newborn, and thereby determine the elements necessary for the baby's later classification in relation to whether or not there are any lesions or skin diseases.

**Table 1:** Assessment of Skin Problems in Infants under 2 Months Old within the Framework of the IMCI Strategy

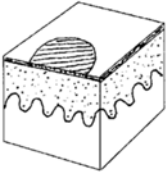
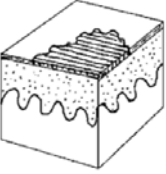
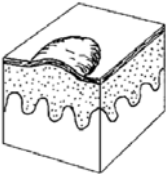
<b>Does the infant have a skin problem?</b>	
<b>IF THE ANSWER IS AFFIRMATIVE</b>	
<b>ASK</b>	<b>OBSERVE</b>
<ul style="list-style-type: none"> <li>• Did the mother have an illness or infection during her pregnancy?</li> <li>• Did the mother take any medications during her pregnancy?</li> <li>• Does the mother have a background of skin diseases or diseases of the mucous membranes?</li> <li>• Was the delivery difficult or instrumental (forceps or ventouse)?</li> <li>• Did the mother have a fever at the end of her pregnancy?</li> <li>• Were the baby's lesions present at birth or did they appear later?</li> <li>• Was the baby hospitalized?</li> </ul>	<ul style="list-style-type: none"> <li>• The type of lesion</li> <li>• Any abnormal coloration (bluish or purplish discoloration, or cyanosis; pallor; a yellow cast to the skin or jaundice, reddishness or floridity)</li> <li>• Cutaneous orifices</li> <li>• Swelling or tumors</li> <li>• Congenital problems</li> <li>• Vascular malformations</li> </ul> <p><b>DETERMINE</b></p> <ul style="list-style-type: none"> <li>• Whether the lesion is localized or has spread</li> <li>• Size of the lesion</li> <li>• Characteristics of the lesion</li> <li>• Axillary temperature</li> </ul> <p><b>Whether there are any serious signs</b></p>

## INSTRUCTIONS FOR THE SKIN CARE COMPONENT IN INFANTS UNDER 2 MONTHS OLD

The component for assessing skin diseases in newborns and infants under 2 months old includes tables with procedures that help guide health workers through the assessment process to determine whether there are any existing lesions. These tables provide the necessary information on the characteristics of skin lesions and thus facilitate their classification (Table 2).

Table 3 describes skin lesions and provides examples of small maculas (discolored spots), larger discolored patches, and yet larger papules (small solid elevations), along with a scheme containing the characteristics and description of each type of lesion.

**Table 2:** Description of Skin Lesions

LESION	DIAGRAM	DESCRIPTION
<p><b>Macula</b> (<i>small spot with discoloration</i>)  <i>Examples:</i></p> <ul style="list-style-type: none"> <li>• Flat nevus (a congenital or acquired, usually highly pigmented area on the skin)</li> <li>• Tinea versicolor (chronic noninflammatory infection of the skin—especially of the trunk—caused by a lipophilic fungus)</li> <li>• Capillary malformations</li> </ul>		<ul style="list-style-type: none"> <li>• Flat, round, oval, or irregular</li> <li>• Confined to the skin</li> <li>• Lesions &lt; 1 cm in size</li> <li>• Spot with heightened coloration or hypopigmentation</li> <li>• Generally brown or red</li> </ul>
<p><b>Patch</b> (<i>larger discoloration</i>)  <i>Examples:</i></p> <ul style="list-style-type: none"> <li>• Light brown splotch</li> <li>• Vitiligo (marked by sharply defined white patches)</li> <li>• Mongolian blue spot</li> </ul>		<ul style="list-style-type: none"> <li>• Flat or irregular</li> <li>• Confined to the skin</li> <li>• Showing a change in color</li> <li>• Lesions &gt; 1 cm in size</li> </ul>
<p><b>Papule</b> (<i>a small, solid, usually conical elevation of the skin caused by inflammation, accumulated secretion, or hypertrophy of tissue elements</i>)  <i>Examples:</i></p> <ul style="list-style-type: none"> <li>• Wart (verruca)</li> <li>• Milia (tiny white bumps or small cysts on the skin)</li> <li>• Dermoid cyst (a saclike growth present at birth that contains structures such as hair, fluid, teeth, or skin glands)</li> <li>• Irritative dermatitis</li> </ul>		<ul style="list-style-type: none"> <li>• Confined to the skin, elevated, and solid</li> <li>• Lesion &gt; 1 cm in size</li> <li>• Formed by a convergence of papules</li> </ul>

Applying the assessment criteria for skin diseases in infants under 2 months old allows for identifying lesions of both infectious and non-infectious origin. Infectious lesions can stem from different etiologies, such as bacterial infections (including spirochetes, i.e., any bacterium of the order Spirochaetales, including those causing syphilis and relapsing fever), fungal infections, and viral infections. The clinical manifestations and most frequent and specific etiological agents for each of these can be found in Table 3.

Table 5 describes certain lesions of non-infectious origin that can be seen in newborns with pustules or vesicles (membranous and usually fluid-filled pouches). These are associated with the following:

- > Neonatal toxic erythema: also known as erythema toxic neonatorum / ETN, erythema toxicum, or toxic erythema of the newborn; a self-limiting skin condition among full-term infants, manifested by a bright red rash
- > Transient neonatal pustular melanosis: also known as transient neonatal pustulosis; a cutaneous condition presented at birth with 1- to 3-mm flaccid, superficial fragile pustules, possibly already existing in utero, leaving behind discolorations/macules
- > Neonatal acne: 'baby acne,' with pimples on the forehead, nose, cheeks, chin, or back
- > Miliaria crystalline or Rubra: a chronic dermatitis characterized by the formation of papular horny plugs in hair follicles and pinkish macules that tend to spread and become scaly
- > Neonatal herpes simplex occurs during birth when the baby comes in contact with infected genital secretions in the birth canal, most common with mothers that have newly been exposed to the virus, though mothers that had the virus before pregnancy have a lower risk of transmission; an estimated 5% are infected in utero, and approximately 10% of cases are acquired postnatally, appearing on the skin, eyes, and mouth (SEM)

For all cases, the clinical manifestations of each lesion and the time when they appear are also included, as is advice on how to detect and subsequently classify these lesions. Also included among non-infectious lesions are hives or blisters, such as

- > Incontinentia pigmenti: a hereditary skin condition leading to unusual blistering and changes in skin color
- > Epidermolysis bullosa or EB: a hereditary disease of the connective tissues causing blisters on the skin and mucous membranes
- > Bullous mastocytosis: a rare skin disease clinically characterized by blister formation, commonly seen in infants
- > Aplasia cutis congenital: also known as 'cutis aplasia,' 'congenital absence of skin,' or 'congenital scars'
- > Langerhans cell histiocytosis or LCH: a bright red rash varying from scaly lesions to papules, often in areas where the body folds: e.g., inner thighs and genitalia, elbows, knees, armpits, behind the ears, and between fingers and toes); up to 80% of all LCH patients have extensive scalp eruptions; provokes a non-specific inflammatory response that can include fever, lethargy, and weight loss

The clinical manifestations and common findings allowing for diagnosis of all these skin lesions can be found in Table 4.

**Table 3:** Most Frequent Origin, Cause, and Characteristics of Newborn Infections Manifested by Pustules or Vesicles

ORIGIN	CAUSE	CLINICAL CHARACTERISTICS
<b>Bacterias</b>	<ul style="list-style-type: none"> <li>Streptococcus A or B</li> <li><i>Listeria monocytogenes</i></li> <li><i>Pseudomona aeruginosa</i></li> <li><i>Stapylococcus aureus</i></li> <li>Other Gram-negative organisms</li> </ul>	Presence of other signs of infection
<b>Fungal</b>	<ul style="list-style-type: none"> <li>Thrush (<i>candida/candidiasis</i>)</li> </ul>	Present within 24 hours of birth if congenital or after 1 week if acquired during birth
<b>Spirochetal</b>	<ul style="list-style-type: none"> <li>Syphilis</li> </ul>	<p>Lesions on the palms of the hand and soles of the feet</p> <p>Positive laboratory results of venereal disease research laboratory (VDRL) test and/or rapid plasma regain (RPR) test</p>
<b>Viral</b>	<ul style="list-style-type: none"> <li>Human herpesvirus 5 HHV-5 (Cytomegalovirus)</li> <li>Herpes simplex</li> <li>Chickenpox (Varicella zoster)</li> </ul>	<p>Groupings of abnormally red (erythematous) vesicles and pustules</p> <p>For Herpes simplex and Varicella zoster, the Tzanck skin test/smear (also called the Chickenpox or herpes skin test) of the contents of the lesion will show multinucleated giant cells</p>

**Table 4:** Non-Infectious Lesions in Newborns Manifested by Pustules or Vesicles

LESION	TIME OF APPEARANCE	DURATION	CLINICAL CHARACTERISTICS
<b>Neonatal toxic erythema</b>	24-72 hrs.	1 week	<ul style="list-style-type: none"> <li>Generalized red papules, some with central vesicles and pustules</li> </ul>
<b>Transient neonatal pustular melanosis</b>	Birth	Pustules: days Macules: months	<ul style="list-style-type: none"> <li>Vesicles/pustules with brownish patches on the neck, chin, palms of the hands, and soles of the feet developing over a few days</li> </ul>
<b>Neonatal acne</b>	Birth to a few weeks old	First months of life	<ul style="list-style-type: none"> <li>Several pustules on the face over a reddened area on the face</li> <li>Common, goes away on its own</li> </ul>
<b>Miliaria crystalline, Miliaria rubra</b>	First weeks of life	Several hours to several days	<ul style="list-style-type: none"> <li>M. cristalina: Clear vesicles</li> <li>M. rubra: Bright red papules or vesicles in body fold areas</li> </ul>
<b>Neonatal herpes</b>	Birth to a few weeks old	Several weeks	<ul style="list-style-type: none"> <li>Bullas (large vesicles or blisters), either flaccid or hard</li> </ul>

**Table 5:** Non-Infectious Lesions in Newborns Manifested by Hives

LESION	MANIFESTATION ON THE SKIN	CLINICAL CHARACTERISTICS
<b><i>Incontinentia pigmenti</i></b>	<ul style="list-style-type: none"> <li>• Vesicles that develop into hives or blisters over a few weeks, with changes in skin color; generalized with Blaschko's lines (various shapes of lines on the skin—V- or S-shaped, or wavy shapes—that become visible in the presence of infection)</li> </ul>	<p><i>4 stages</i></p> <ol style="list-style-type: none"> <li>1. Vesicular (from birth to 2 weeks old)</li> <li>2. Verrucous (from 2 to 6 weeks old)</li> <li>3. Hyperpigmented or darkening of skin (in children)</li> <li>4. Hypopigmented or loss of skin color (in adults)</li> </ol>
<b><i>Epidermolysis bullosa (EB)</i></b> 1. EB simplex (EBS) 2. Dystrophic EB (DEB) 2 types: 3. Dominant 4. Recessive 5. Hemidesmosomal EB (HEB) 6. Junctional EB (JEB)	<ul style="list-style-type: none"> <li>• Hives/blisters and erosion (superficial destruction of a surface area of tissue such as mucous membrane by inflammation, ulceration, or trauma) from blows to the elbows, hands, and feet</li> <li>• With dominant DEB, hives/blisters and erosion are present at birth</li> </ul>	<ul style="list-style-type: none"> <li>• Possible bleeding in gastrointestinal or respiratory tract or in the ocular (eye) tissue</li> <li>• Difficulties in feeding</li> <li>• Prognosis bad for JEB and recessive DEB</li> </ul>
<b><i>Bullous mastocytosis</i></b>	<ul style="list-style-type: none"> <li>• Spread of hives/blisters, skin firm or hard (indurated)</li> </ul>	<p><i>3 clinical types:</i></p> <ol style="list-style-type: none"> <li>1. Mastocytoma (a tumorous mass produced by proliferation of mast cells)</li> <li>2. Urticaria pigmentosa (also known as 'generalized eruption of cutaneous mastocytosis (childhood type)'; most common form of cutaneous mastocytosis, a rare disease caused by excessive numbers of mast cells in the skin that produce hives or lesions on the skin when irritated)</li> <li>3. Diffuse cutaneous mastocytosis ('homme orange')</li> </ol>
<b><i>Aplasia cutis congenita (ACC)</i></b> (congenital absence of skin, congenital scars)	<ul style="list-style-type: none"> <li>• Localized on the epidermis and in the dermis and subcutaneous tissue and occasionally in muscles and bones</li> <li>• More common on skin where there is hair but can occur anywhere</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical findings secondary to various processes occurring in utero</li> <li>• Elevated levels of acetylcholinesterase and alpha-fetoprotein in amniotic fluid</li> </ul>
<b><i>Langerhans cell histiocytosis (LCH)</i></b>	<ul style="list-style-type: none"> <li>• Reddish, verrucous papules, nodules, pustules, vesicles, hives/blisters, erosions and/or ulcers</li> </ul>	<ul style="list-style-type: none"> <li>• Many types; most common at birth is Hashimoto-Pritzker disease, or congenital self-healing reticulohistiocytosis, a self-limiting variant of LCH</li> <li>• Congenital variant has a better prognosis than the infant type</li> </ul>

## **TRAINING AND COUNSELING MATERIALS FOR HEALTH WORKERS PROVIDING CARE FOR SKIN DISEASES IN INFANTS UNDER 2 MONTHS**

Health workers will need training in how to incorporate the component for managing skin disease in infants under 2 months old into the IMCI peri-neonatal component. To do this, IMCI has prepared modular training materials. These include a description of the criteria used for evaluation, classification, and treatment—along with practical exercises using clinical cases to allow for practical application of the theoretical content, and audiovisual aids that facilitate observation and identification of the different forms of skin lesions that can appear in early infancy.

The general contents of this component are summarized below—following the same scheme as the other IMCI components—in a table outlining the procedures to be followed. Table 6 contains instructions on how to assess newborns and infants under 2 months old, to determine whether or not there are any skin lesions of the types listed. It teaches health workers how to use their findings to classify the infant's health status and then, based on that classification, recommend what treatment is appropriate in each case.

The training module includes an introduction and sections devoted to how to assess skin problems in newborns and infants under 2 months old, how to classify these problems, what treatment to recommend for each of them, how to counsel the mother or caregiver, and what instructions to follow during follow-up visits to monitor treatment.

## **FUTURE PROSPECTS FOR EXPANDING IMCI COMPONENTS**

IMCI has shown enormous potential in its capacity to integrate different components covering the most frequent childhood health problems and diseases. Its sequential approach enables health workers to identify additional signs and symptoms of disease other than those that originally prompted the consultation. In doing so, it has improved coverage in implementing interventions aimed at prevention, health promotion, early diagnosis, and treatment. It has made them available not only to children whose visit was motivated by illness, but also to all those who are suffering from diseases but were not taken to a health professional for that particular reason.

Incorporating the peri-neonatal component has been truly momentous in improving care for pregnant woman during labor and delivery as well as newborn care, including infant resuscitation and care during the first days and weeks of life. Thus, the IMCI strategy has helped strengthen daily practice in implementing the lifecourse approach, linking actions taken to improve child health with those that are needed to guarantee improved women's health. For women, this means care before, during, and after pregnancy. For children, it means care and treatment aimed at improving their growth and development, thus promoting adolescent health by providing better chances for youth to reach their full potential later on as adults.

The component for care of skin diseases in infants under 2 months old is part of this effort to expand IMCI coverage by offering tools that allow health workers and families to provide better newborn care. IMCI

**Table 6:** Assessment and Classification of Skin Diseases in Infants under 2 Months Old

**DOES THE INFANT HAVE A SKIN PROBLEM?**

IF THE ANSWER IS AFFIRMATIVE		EVALUAR	CLASIFICAR	TRATAMIENTO
ASK	OBSERVE			
<ul style="list-style-type: none"> <li>• Did the mother have an illness or infection during her pregnancy?</li> <li>• Did the mother take any medications during her pregnancy?</li> <li>• Does the mother have a background of skin diseases or diseases of the mucous membranes?</li> <li>• Was the delivery difficult or instrumental (forceps or ventouse)?</li> <li>• Did the mother have a fever at the end of her pregnancy?</li> <li>• Were the baby's lesions present at birth or did they appear later?</li> <li>• Was the baby hospitalized?</li> </ul>	<ul style="list-style-type: none"> <li>• The type of lesion</li> <li>• Any abnormal coloration (a bluish or purplish discoloration, or cyanosis; pallor; a yellow cast to the skin or jaundice, reddishness or floridity)</li> <li>• Cutaneous orifices</li> <li>• Swelling or tumors</li> <li>• Congenital problems</li> <li>• Vascular malformations</li> </ul> <p><b>DETERMINE</b></p> <ul style="list-style-type: none"> <li>• Whether the lesion is localized or has spread</li> <li>• Size of the lesion</li> <li>• Characteristics of the lesion</li> <li>• Axillary temperature</li> </ul> <p><b>Whether there are any serious signs</b></p>	<p><b>One</b> of the following signs:</p> <ul style="list-style-type: none"> <li>• Bluish, white, yellowish, or reddish cast to skin during the first 72 hours of life</li> <li>• Reddish areas on the abdomen</li> <li>• Generalized petequiae (minute reddish or purplish spots containing blood that appear in the skin or mucous membranes as a result of localized hemorrhage)</li> <li>• Generalized vesicles or hives/blisters</li> <li>• Generalized purplish lesions</li> <li>• Lesions with pus &gt; 2 cm in size</li> <li>• Tumor &gt; 4 cm in size</li> <li>• Major lesions caused by trauma</li> <li>• Congenital problems</li> <li>• Vascular malformations</li> </ul>	<b>SERIOUS SKIN PROBLEM</b>	<ul style="list-style-type: none"> <li>▶ Administer an initial dose of two recommended antibiotics</li> <li>▶ If the infant has a fever, treat it with Acetaminophen</li> <li>▶ Advise the mother to continue breastfeeding her infant</li> <li>▶ <b>MAKE AN IMMEDIATE REFERRAL FOR EMERGENCY HOSPITAL CARE!</b></li> </ul>
		<p><b>One</b> of the following signs:</p> <ul style="list-style-type: none"> <li>• Yellowish or reddish cast to the skin after the first 72 hours of life</li> <li>• Cystic lesions or whitish plaques on the mouth</li> <li>• A few localized vesicles or hives/blisters</li> <li>• Localized reddish areas in the diaper area</li> <li>• Minor lesions caused by trauma</li> <li>• Localized swelling or inflammation</li> </ul>	<b>MINOR SKIN PROBLEM</b>	<ul style="list-style-type: none"> <li>▶ Be alert for warning signs and advise the mother or caregiver on what to look for</li> <li>▶ Teach the mother how to treat local infections at home</li> <li>▶ Advise the mother to continue breastfeeding her infant</li> <li>▶ Thoroughly explain and reiterate the course of the disease</li> <li>▶ <b>REFER TO A SPECIALIST FOR CONSULTATION</b></li> </ul>
		<p><b>One</b> of the following signs:</p> <ul style="list-style-type: none"> <li>• Marble-like skin</li> <li>• Localized papules (elevated areas)</li> <li>• Small vesicles with clear or whitish liquid</li> <li>• Localized macules (discolored spots)</li> <li>• Localized or hardened nodules or plaques</li> <li>• Small cutaneous orifices (tiny holes)</li> <li>• Excess or absence of body hair</li> <li>• Minor congenital anomalies</li> </ul>	<b>TEMPORARY BENIGN LESIONS</b>	<ul style="list-style-type: none"> <li>▶ Continue treatment as indicated</li> <li>▶ Be alert for warning signs and advise the mother or caregiver on what to look for</li> <li>▶ Advise the mother to continue breastfeeding</li> <li>▶ Thoroughly explain and reiterate the course of the disease</li> </ul>

can then progressively incorporate other components, including expanding the skin disease component to address those that affect children over 2 months old, given their high prevalence and the possibility of their remaining detected because no visit was scheduled to specifically address them.

IMCI is also developing other components. These range from guidelines for administering and managing medicines during infancy and childhood ("Pharmacological IMCI"), detecting and managing genetic diseases and birth defects, to preventing and treating accidents, hospital infections, and cancer in infants and children.

All these components are designed to provide health workers and families with the necessary knowledge and essential practices that can help improve child health:

- > preventing disease and health problems
- > contributing to their early detection by watching for warning signs and thus bringing about timely consultation
- > guaranteeing proper treatment based on the latest available scientific evidence of its efficacy
- > promoting healthy habits and practices that will continue to boost healthy growth and development during childhood.



## 9

NEW IMCI COMPONENTS:  
IMCI AND CANCER**Dr. Martha Beltrán**

Pediatrician, Intensive Care  
Clínica del Country  
Bogotá, Colombia

**Dr. Rolando Cerezo Mullet**

Pediatrician and Neonatologist  
Institute of Nutrition of Central America and Panama (INCAP)  
Regional Center of PAHO/WHO, Guatemala



Since the first meeting of the Technical Advisory Group on IMCI (IMCI-TAG) in Miami, Florida, on 5–6 September 2001, one of its main recommendations has been to accelerate the incorporation of new activities and new components into the Integrated Management of Childhood Illness (IMCI) strategy. These have included “Neonatal IMCI,” “Oral Health,” “Asthma,” “Healthy Growth and Development,” and “Child Abuse.”

Since then, the majority of these new components have been published, adapted, and incorporated into health programs in the countries. Other new IMCI components have been added, two of which are “IMCI for Nursing” and “Dermatological IMCI.” A group of Colombian specialists—including intensive care specialists, hemato-oncologists, university professors, and pediatricians—has proposed a complementary new IMCI component: “Early Diagnosis of Cancer in Childhood,” following the methodology contained in the IMCI strategy. This new component now offers a clinical guide, a facilitators’ guide, and a table of procedures. It is ready to be integrated into the national IMCI guides.

In most of the countries of Americas, cancer is the second leading cause of death in children over 1 year old. Great progress has been made over the last few years in terms of results obtained for cancer treatment. Nevertheless, a huge gap still remains between results obtained in developed countries and those obtained in many of the developing countries of Latin America and the Caribbean. For a cancer patient, any delay in remission and/or late start or suspension of treatment can represent the difference between life and death. However, timely diagnosis does not depend on specialized hemato-oncology services but rather on nurses, physicians, and pediatricians who see the children in outpatient services. Hence, this module was created for all of them, using the tried-and-proven IMCI methodology that has demonstrated its effectiveness over the years.

The methodology used in the module is based on all the input submitted to IMCI by the Pediatric Hemato-Oncological Association of Central America and the Caribbean (Asociación Hemato-Oncológica Pediátrica de Centroamérica y el Caribe, or AHOPCA). This group was in charge of collaboratively developing primary

care tools, by reviewing oncology guides from all over the world focused on early diagnosis of cancer in children. With the findings it obtained, the group developed a module based on the IMCI methodology, looking for those signs and symptoms that are characteristic of oncological diseases in children. They sought a way to classify these signs by behavior-based category, consistent with the procedures followed in the IMCI methodology to assess, classify, determine, treat, counsel the parents or caregivers, and monitor the child.

As it is not easy in daily practice to find children with cancer, the group reviewed the clinical histories of 45 children with various oncological diseases who passed through the country's health system during several months over the course of 2009 and 2010. The group reviewed the onset of the disease and the signs described in these histories, where registration forms were filled out to document each case.

The review of the clinical histories showed that 100% of the 45 patients with cancer had been referred for confirmation of cancer diagnosis. Similarly, some children with other pathologies, such as purpuras (purplish discolorations caused by hemorrhaging, that do not blanch upon applying pressure) or arthritis, could be referred by assigning the classification Probable Cancer or Acute Disease. However, this was not seen as an error: given the merits of each case, these children needed to be evaluated in a tertiary-level care facility in any case.

In conclusion, the IMCI facilitators found this material to be of great importance, and it was corrected by each of the reviewers. All of them judged the material to be both useful and practical and were in favor of using it. Pediatric residents and interns who were already familiar with IMCI had no difficulty in managing either the module or the registration form. In summary, the oncology interns found the material to be of great practical use.

# 10 MONITORING CHILD DEVELOPMENT WITHIN THE FRAMEWORK OF INTERACTIVE IMCI



## Dr. Arnaldo Grosman

Maimónides University  
Buenos Aires, Argentina

## INTRODUCTION

Worldwide goals for child health were set for the 1990s at the World Summit For Children in 1990 and have continued through the first decade of the 21st century with the Millennium Development Goals (MDGs). Within this framework, developing countries have made great efforts to reach these goals and have succeeded in greatly reducing infant mortality and, consequently, improving child survival.

However, these achievements have been unequal both among and within countries: certain geographical areas or population groups can still be identified where infant mortality is much higher than the respective national and regional average. Despite this, thousands of boys and girls have already benefitted from the reduced risk of disease and death from causes that, a few decades back, were the leading causes of mortality during the first years of life.

The implementation of specific interventions for prevention and treatment, as well as the later integration of these interventions into the Integrated Management of Childhood Illness (IMCI) strategy, has been a leading factor in achieving reduced mortality. The impact of this reduction on child health eventually changed its epidemiological profile. Ever-increasing importance is now being attached to disorders originating in the perinatal period, as well as other causes of morbidity and mortality. Examples of these include birth defects that appear during the first year of life, in addition to accidents and external causes in children 1–4 years old.

Lower rates of child mortality are now being reported in the majority of the developing countries of the world, and particularly in the Americas. This has underscored the importance of interventions aimed at disease prevention and health promotion, targeted at reducing the burden of disease in children under 5 and promoting healthy growth and development during the first years of life. The combination of interventions not only designed to prevent under-5 mortality, but also aimed at improving child growth and development, is essential at this point in time. This applies not only to reaching the goal of reducing child mortality but also to improving child health by guaranteeing adequate growth and stimulating development, thus making it possible for all girls and boys to reach their full potential as they grow into adolescence and become adults.

IMCI constitutes a key strategy for integrating these interventions, since it includes measures for both preventing and treating the diseases that most frequently jeopardize child health, as well as for promoting

healthy child growth and development. The original IMCI components have been enhanced by adding new ones targeted at

- > assessing child development
- > identifying early developmental delays
- > implementing activities and actions to treat the problems identified as early as possible
- > promoting early stimulation

All of these contribute to meeting the general objective of improving health during infancy and childhood.

## **DEVELOPING MATERIALS AND METHODS TO STRENGTHEN CHILD DEVELOPMENT IN THE IMCI CONTEXT**

PAHO has encouraged the countries of the Americas to exchange their experiences and disseminate their plans and interventions aimed at child development. Their input has allowed PAHO to prepare a component for “Monitoring Child Development in the IMCI Context,” to promote healthy development during infancy and childhood. This component provides health workers, families, and communities with the necessary knowledge and practices to assess development during the first years of life, identifying early warning signs that can indicate a developmental delay and indicating what steps are appropriate in each case. This then entails the family bringing the child in to the clinic and clinicians either setting into motion a specific set of actions for treatment or making a referral for the child to be taken to a specialist.

Within the framework of best practices promoted by IMCI for healthy child growth and development, IMCI’s developmental component also includes sections with practical advice for families and communities on how to apply them. This guidance helps promote stimulation and healthy development during the first years of life.

In order to implement this component and facilitate its application throughout the Region, IMCI developed a project that produced a multimedia CD to facilitate dissemination and training, using the manual Monitoring Child Development (0-6 Years) in the IMCI Context. This multimedia material is based on the contents of the manual, to enable self-teaching. It allows students to explore and, in turn, deepen their knowledge of different subjects by consulting the recommended bibliography, which provides scientific evidence for the procedures suggested.

For a more vivid presentation, the multimedia material will be in flash format and will include animations, images, and videos—as well as audio components (voice and music) that are turned on as soon as the CD is inserted into the computer. It will be developed according to a personalized design that follows PAHO guidelines and acknowledges the input from the countries.

The multimedia CD will contain videos in which neurologists and child development specialists conduct virtual classes providing theoretical content. There will be an introductory video underscoring the importance of incorporating the component on “Monitoring Child Development (0-6 Years) in the IMCI Context.” It will also contain written documents with hyperlinks that will take the student to the chapter in the manual

and allow her or him to read and study it. The multimedia CD will also include self-evaluation exercises to facilitate the practical application of theoretical knowledge by solving problems posed in practical exercises. This will allow the student to continuously monitor his or her own progress while studying the subject.

## PROSPECTS FOR IMPLEMENTING THE IMCI CHILD DEVELOPMENT COMPONENT

Disseminating and implementing self-teaching materials on child development within the IMCI framework will help reinforce actions being incorporated into all levels of child healthcare, including not only health services but also family, community, and other institutions in which boys and girls spend their time: for example, child daycare centers, children's homes, or kindergartens.

All these actions are targeted towards bringing about early detection of child development problems as well as at early stimulation and promotion of child development. Ensuring that all the children of the Americas, their families, and their community have access to these actions through health services, will call for great efforts over the coming years in terms of training and effectively disseminating the knowledge and practices needed to produce results. In this regard, prompt utilization of the multimedia material is expected to aid in the rapid dissemination and implementation of the IMCI child development component, thus making the expected impact in terms of improving growth and development throughout infancy and childhood.





## 11

# REGIONAL STRATEGY AND PLAN OF ACTION FOR COMPREHENSIVE CHILD HEALTH, GROWTH, AND DEVELOPMENT: PAHO'S PROPOSAL FOR A NEW APPROACH

## Mr. Christopher Drasbek

Healthy Lifecourse Project (FCH/HL)  
Family and Community Health (FCH)  
Pan American Health Organization (PAHO)

## INTRODUCTION

At the beginning of the 1990s, diarrheal diseases, respiratory diseases, and malnutrition were still leading causes of morbidity and mortality during infancy and childhood. In recent decades, specific prevention and control interventions aimed at these diseases have helped improve infant survival and healthy child growth and development. These targeted interventions geared towards prevention, early diagnosis, and treatment have made an enormous contribution to preventing millions of deaths throughout the world. As a result, most developing countries all over the world were able to significantly reduce under-5 mortality, reaching the goals set by the World Summit for Children in 1990 for the year 2000.

At the same time, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) were working to prepare a more integrated approach to providing healthcare for children. The intent of this approach was to combine the benefits of the specific strategies and expand their implementation coverage to reach many girls and boys who had not been receiving those benefits up to that point. The Integrated Management of Childhood Illness (IMCI) strategy, presented by WHO and UNICEF in the mid-1990s, constituted an appropriate response to this need. By combining the specific interventions available into a single strategy, the focus on providing healthcare to children changed from an illness-based approach to one focusing on the overall health status of girls and boys.

IMCI targeted its components at the most prevalent childhood illnesses and included interventions based not only in health services but also in the community. In so doing, IMCI reinforced the progress already made and contributed a more integrated approach to healthcare for children. This approach provided care to all children over and above the reason for the initial consultation, by including them in interventions aimed at preventing problems and promoting their general state of health. In addition, these interventions incorporated early detection and treatment of other possible problems of which the family might not have been aware at the time of the visit.

IMCI not only helped improve integrated actions taken to provide healthcare but also made it possible to look at such care within a broader framework. Thus, it included assessing the determinants of child health

that are associated with the family, the environment, and the community. In turn, when faced with a changing epidemiological context for child health, IMCI adapted its response and tailored it to the different realities in the countries, as well as their different geographical areas and population groups. By incorporating additional components for prevention and treatment, IMCI contributed to preventing and treating other prevalent diseases and health problems. IMCI's expansion also linked its child health interventions to others aimed at the various lifecourse stages, such as pregnancy, women's health prior to pregnancy, and adolescence.

In this context, the Pan American Health Organization's (PAHO's) proposed Regional Strategy, and Plan of Action for Comprehensive Child Health, Growth, and Development will strengthen IMCI's achievements by expanding its benefits to encompass child health, family health, and community health.

## **EPIDEMIOLOGICAL CONTEXT OF CHILD HEALTH IN THE AMERICAS**

In recent decades, the epidemiological profile of infant mortality has changed; and as a result, the weight of communicable diseases as a cause of death has become smaller. While infectious diseases accounted for 40% or more of under-5 mortality at the beginning of the 1990s, by 2006 they only caused 19.1% of these deaths. With this reduction in proportional mortality due to communicable diseases, the weight of perinatal disorders has risen, such that they are now the leading cause of mortality. Perinatal disorders currently account for 39.3% of all deaths in children under 5, according to figures from 2006 (Figure 1).

This change in the epidemiological profile calls for an analysis of the causes of deaths during the first weeks of life. The objective would be to identify possible preventive actions and treatment, with the end goal of reducing infant and child mortality over the coming years.

The majority of deaths occurring during the perinatal period are due to perinatal respiratory diseases (which account for over 50% of all perinatal deaths), retardation of growth in utero, fetal malnutrition or underweight, and bacterial sepsis in the newborn (which accounts for over 22% of perinatal deaths). Interventions to prevent deaths due to these causes, which account for 39% of the total under-5 mortality, would contribute to reaching Millennium Development Goal 4 (MDG 4), which is targeted at this age group.

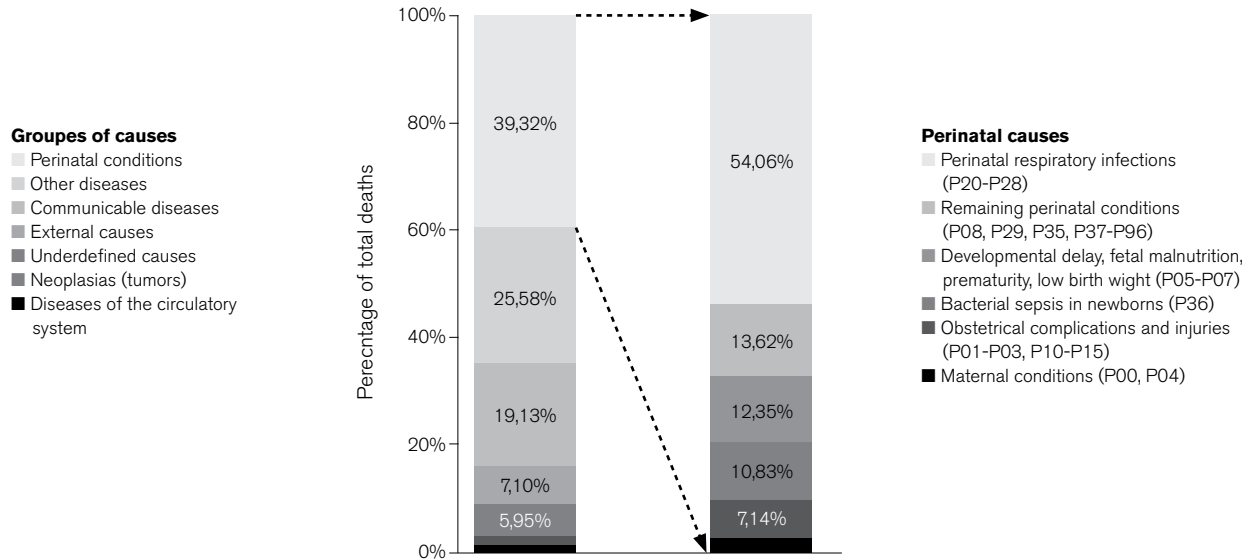
Incorporating IMCI's peri-neonatal component represents an important contribution to implementing interventions that, once integrated into the remaining IMCI components, can help support efforts made by the countries to continue to reduce under-5 mortality.

Implementation of these interventions to prevent neonatal deaths is even more important given the situation of the countries of the Americas with regard to under-5 mortality. Available estimates indicate that, while some of them are advancing towards reaching MDG 4 by 2015, others have not yet managed to reach an under-5 mortality that is one-third of the rate reported in 1990 (Figure 2).

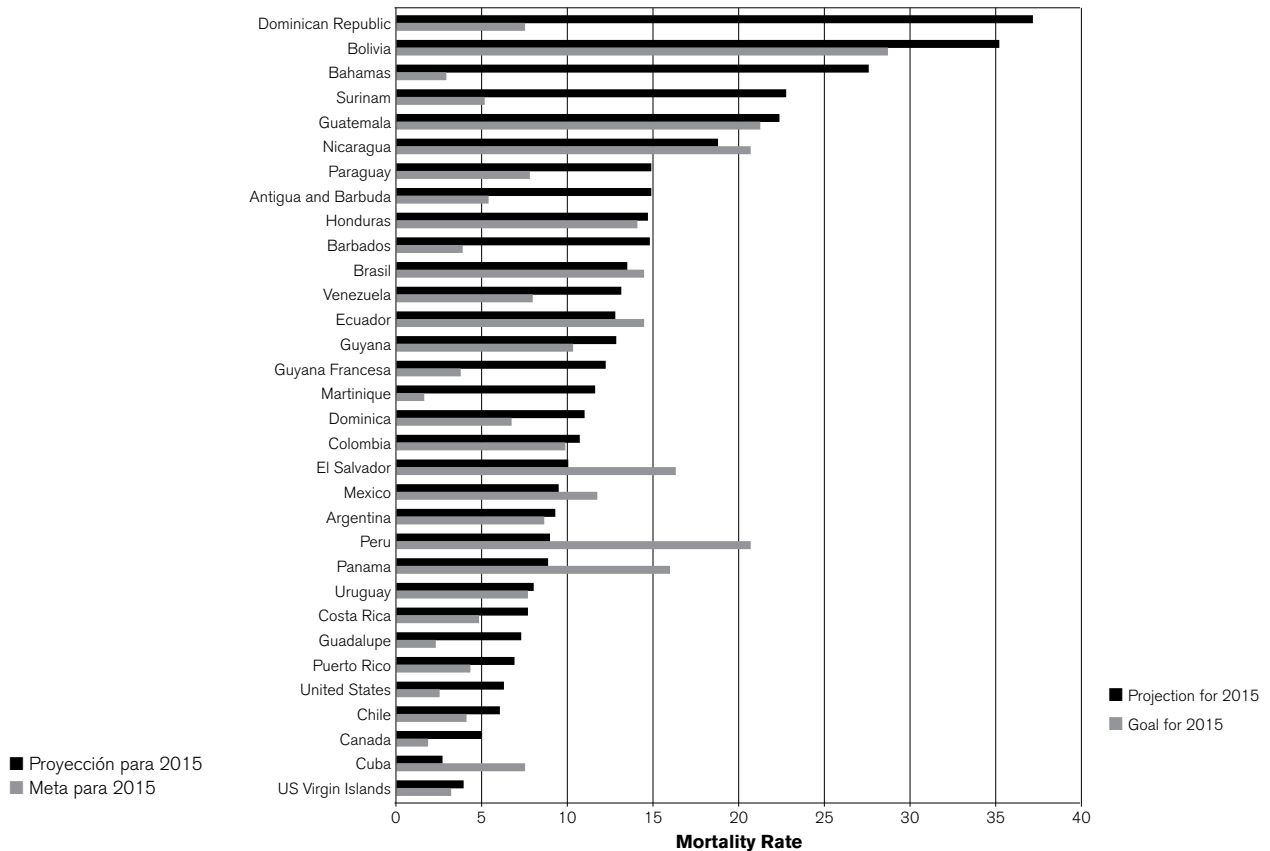
If the current trend continues, more than 20 countries of the Region will not reach the goals set for 2015 in terms of lowering their under-5 mortality rates. Changing this trend will require greater prevention and control efforts targeted at the leading causes of death among this age group.



**Figure 1:** Leading causes of Death in Children under 5, Latin America and the Caribbean, circa 2006



**Figure 2:** Projected Infant Mortality Rate for 2015 Based on the Current Situation and the 2015 Goal Forecast in the Americas



## PROSPECTS FOR IMCI EXPANSION

IMCI has provided not only health workers but also families and communities with a strategy aimed at addressing the most prevalent diseases and health problems during the first years of life. Furthermore, it has incorporated other interventions into its basic components to increase their coverage of child health problems. The most salient of these targeted interventions range from perinatal and neonatal care to accident prevention, prevention of child abuse and violence against children, asthma control, treatment of human immunodeficiency virus (HIV), promoting development, assessing nutritional status and growth, and promoting a nutritious diet.

Through its implementation not only in health services and health workers but also in families and communities, IMCI has helped improve knowledge and care practices for all children. In so doing, IMCI has contemplated including special components for planning, monitoring, and evaluating results, within the framework of assessing the progress made towards reducing child mortality as established in the MDGs for 2015.

Steps taken to date have been expanded, with a view to continuously improving the response of health services and communities and bringing about a positive impact on child health. The growing importance of environmental and socioeconomic determinants on child and family health has helped incorporate environmental and other policies aimed at improving families' socioeconomic status. These policies have been integrated into preventive and health promotion measures to boost healthy child growth and development.

The change in the epidemiological profile also calls for addressing women's healthcare, monitoring and check-ups during pregnancy, and perinatal care. All these are priority issues for improving child survival. In addition, promoting breastfeeding and guaranteeing a nutritious diet during the first years of life is essential for improving healthy growth and development throughout childhood.

Still, given the changes brought about in the epidemiological profile of child morbidity and mortality, certain diseases continue to be a threat to children's survival and can affect their nutritional status and delay their development. For this reason, strengthening vaccination coverage and preventing and managing diarrheal diseases and pneumonia are essential interventions in all countries. This particularly applies to geographical areas and population groups where reported morbidity and mortality rates are still higher than the regional averages. In the same way, such diseases as malaria, Chagas disease, tuberculosis, congenital syphilis, and HIV infection continue to endanger broad sectors of the population in the Americas. Expanding coverage for their prevention and treatment is essential for progressively reducing the burden caused by these diseases.

Improvements in child survival should also be accompanied by measures to improve child development, including early stimulation for all girls and boys. To this end, family and community participation is essential and can be accomplished through promoting the key family practices included in the IMCI strategy.

Throughout this entire process, health services and health workers will be playing a major role, not only as healthcare providers, but also as key actors who promote healthy practices within the family and community—which in turn will promote healthy growth and development using a lifecourse approach. The diversity of interventions will call for increasing intersectoral efforts to achieve greater socioeconomic equity and

improve access to healthcare. A focus on primary health care (PHC) and a healthy lifecourse, as well as on family and community participation, will be essential.

We at PAHO are working on this in a coordinated manner. Together, several of PAHO's technical areas—Family and Community Health (FCH), Health Surveillance and Disease Prevention and Control (HSD), Sustainable Development and Environmental Health (SDE), and Health Systems and Services (HSS)—are coordinating activities to strengthen the incorporation of various approaches and interventions into a novel strategy of renewal. The Regional Strategy and Plan of Action for Comprehensive Child Health, Growth and Development includes, among others, a gender and ethnic approach and the principles contained in the United Nations Convention on the Rights of the Child (CRC).

## **NEXT STEPS AND CHALLENGES TO THE NEW REGIONAL STRATEGY AND PLAN OF ACTION FOR COMPREHENSIVE CHILD HEALTH, GROWTH, AND DEVELOPMENT**

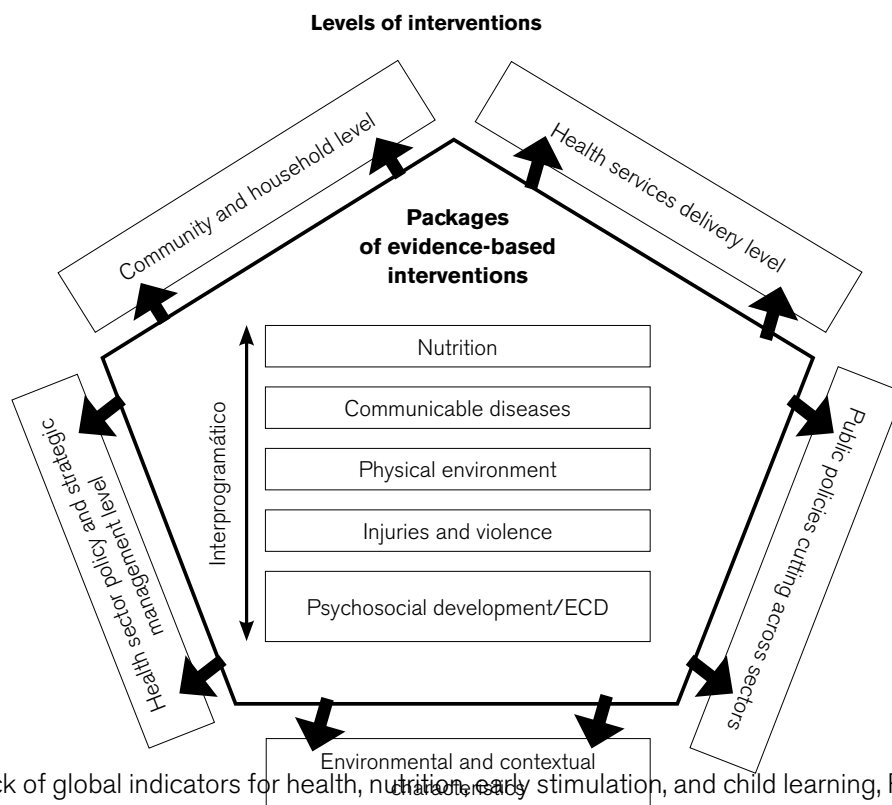
Taking into account the progress made and the gaps identified that can be bridged by strengthening and expanding the IMCI strategy, PAHO is preparing the Regional Strategy and Plan of Action for Comprehensive Child Health, Growth, and Development. This strategy responds to the current situation of the Americas with respect to child health by promoting comprehensive care. It is based on a thorough review and analysis of the current epidemiological status of child health as well as on the scientific evidence currently available on those diseases that jeopardize child health. It is also based on the impact made by disease prevention and health promotion measures, as well as the lessons learned over the past few decades—especially progress made by different plans, programs, and interventions that were implemented to improve child survival, growth and development (Figure 3).

The Regional Strategy and Plan of Action for Comprehensive Child Health, Growth and Development proposes a fundamental change in approach from treating diseases to providing healthcare for the total child, as proposed by IMCI. It incorporates a comprehensive view of healthcare for all children in terms of the actors involved, aspects of health included, and personnel involved in the interventions. The strategy includes an action plan for the Americas with objectives, goals, indicators, and activities. It also provides for a continuous process that encompasses monitoring, resource mobilization, coordination, strengthening partnerships, process assessment, and evaluation of results.

The Regional Strategy and Plan of Action for Comprehensive Child Health, Growth and Development will be subject to analysis by the PAHO governing bodies. Once this is completed, the Americas will have a regional document that can be adapted at the level of each country. Tailored to each national reality, these adaptations will serve as a guide for key actors at all levels in the country who participate in the various aspects of providing healthcare for children. It will then help utilize resources in the most efficient way for providing treatment and comprehensive care for all children, within the framework of a healthy lifecourse approach.

Implementation of the Regional Strategy and Plan of Action for Comprehensive Child Health, Growth and Development will call for a thorough review of mechanisms for monitoring progress. Taking into account

**Figure 3:** Proposal for a Conceptual Framework—Intervention Levels and Available Scientific Component for Evidence-Based Interventions



the current lack of global indicators for health, nutrition, early stimulation, and child learning, PAHO is working on developing a set of acceptable indicators to enable measurement and assessment. Doing so will require intense advocacy to underline both the importance and the benefits of such a set of basic health and nutrition indicators for the Americas. To accomplish this task, PAHO will work jointly with United Nations agencies, nongovernmental organizations (NGOs), and other institutions involved in child health. In this way, progress made in every area can be identified according to concrete criteria, along with any possible problems that may arise during implementation. This will help PAHO provide support to the countries so that they can strengthen their policies and programs geared towards promoting child development and apply a regional conceptual framework to boost coordination between countries and institutions.

To advance this process, the Americas will have to face numerous challenges that, given the Region's collective experience, it should be able to address by taking advantage of that same wealth of experience. Advocacy efforts must be scaled up among countries, among PAHO technical areas at headquarters and at its offices in the countries, and among agencies involved in child health activities. All this will contribute to sharing the new approach and jointly promoting its implementation.

The Regional Strategy and Plan of Action for Comprehensive Child Health, Growth, and Development will constitute a conceptual framework useful for adapting integrated actions to different regional, subregional, national, and subnational contexts. Implementing the strategy will call for an exhaustive review of existing

technical materials and the development of new ones, along with complementary documents outlining the novel elements of this new approach.

Resource mobilization—at the Americas-wide, national and local levels—will be essential to aid in furthering promotional activities and implementing the Regional Strategy and Plan of Action for Comprehensive Child Health, Growth, and Development. In so doing, its benefits will be made available to all the children of the Americas.

Finally, implementation of a set of proposed indicators for monitoring and evaluating the Regional Strategy and Plan of Action for the Comprehensive Child Health, Growth, and Development should be considered a priority—not only to track progress in improving treatment and care for children and their families, but also to quickly identify any problems to be faced. This will make it possible to document both processes and outcomes and take advantage of lessons learned, so as to continuously improve health practices and ensure that the strategy reaches the entire population.



## 12

# TECHNICAL ADVISORY GROUP ON IMCI (IMCI-TAG) REPORT OF THE EIGHTH MEETING: CONCLUSIONS AND RECOMMENDATIONS



Córdoba, Argentina  
13 -14 October 2010

## CONCLUSIONS

The countries of the Americas have reported progress in reducing infant mortality. The Region's general prospects for keeping the commitments made within the framework of the Millennium Development Goals may turn out to be favorable if the positive trends being observed in many countries continue and if the countries showing greater delays accelerate their rates of mortality reduction.

The reduction in mortality reported to date has resulted in changing the mortality profile. While there has been a reduction in the burden of infectious diseases, respiratory diseases, and malnutrition, peri-neonatal disorders are increasingly growing in importance. This calls for continuous adaptation of prevention and control strategies aimed at reducing morbidity and mortality in infants.

However, reported changes in mortality throughout the Americas as a whole do not reveal existing contrasts and gaps both among and within countries. This calls for a stratification of mortality figures, in order to identify geographical areas or population groups where interventions need to be strengthened so that the MDGs can be reached with greater equity.

In turn, in geographical areas and population groups where mortality is greater, a combined epidemiological profile emerges. In this, infectious diseases, respiratory diseases, and malnutrition co-exist with problems associated with pregnancy, delivery, birth, and the first months of life.

This new epidemiological scenario for the Americas calls for strengthening an integrated approach to care throughout the lifecourse, one that combines interventions and levels of implementation. This approach will meet the needs of preventing childhood disease and promoting child health within a framework of family health.

## RECOMMENDATIONS

1. IMCI-TAG considers that the lifecourse approach can help strengthen integrated actions to benefit

families' and children's overall state of health. This means that IMCI-TAG adheres to and endorses initiatives to strengthen this framework through IMCI. IMCI-TAG additionally expresses the need to promote research to obtain evidence of the impact of the lifecourse approach on child and family health, along with the need to develop a framework for operationalizing the lifecourse approach. IMCI-TAG also underlines the importance of the lifecourse approach and how its adaptation and duplication in the countries and their geographical regions will contribute to IMCI implementation and expansion.

2. IMCI-TAG considers it important to take advantage of experience and results obtained during the course of IMCI implementation in the countries, for the further expansion of its activities. IMCI-TAG backs IMCI expansion following a comprehensive child health approach, one that strengthens a humanist vision of health and well-being and of healthy spaces. IMCI-TAG commits to active participation in reviewing and providing input for technical documents that will facilitate this process.
3. IMCI-TAG backs the approach to family and community health and points out the contribution this can make to facilitate the delivery of integrated care to the entire population, within the framework of a continuous process of maternal and neonatal care.
4. IMCI-TAG recognizes existing scientific evidence of the key role played by social determinants in child and family health. In addition, IMCI-TAG acknowledges the need to incorporate these determinants into IMCI's design, adaptation, and implementation—as well as into lifecourse-targeted health interventions. IMCI-TAG emphasizes the need to intensify teaching on social determinants and taking them into consideration locally in all processes aimed at improving child and family health—be it through treatment, care, or health promotion.
5. IMCI-TAG welcomes the proposal that PAHO is preparing for its next Directing Council with regard to developing a Regional Strategy and Plan of Action for Comprehensive Child Health, Growth, and Development and its corresponding “Resolution on Comprehensive Child Health.” IMCI-TAG considers that this can strengthen the lifecourse approach and the continuous expansion of IMCI in all its components. IMCI-TAG recommends maintaining the identity of this strategy implemented over 14 years ago in more than 80 countries throughout the world and in more than 20 countries the Americas, which has achieved results in reducing child mortality and morbidity and improving child growth and development.
6. IMCI-TAG highlights the progress made by the countries during their first 10 years of work towards reaching MDG 4 by 2015, as well as IMCI's contribution to the progress made. IMCI-TAG reiterates the need for continuity in this effort and for an increase in international support to priority countries that have experienced greater delays in reaching the MDGs and that are at risk of not reaching them at all. IMCI-TAG also reiterates the need to provide support to all the countries so that they might identify areas within them that show more modest progress and strengthen actions targeted at the people in these areas in such a way as to guarantee their reaching the MDGs with greater equity.
7. IMCI recognizes the great inequity that exists both among and within countries, as well as the fact that mortality levels are higher in vulnerable populations and that these gaps are not reflected in the national averages. To deal with this, and in line with PAHO's proposal, IMCI-TAG recommends compiling an Infant and Child Health Profile in all countries—especially in priority and high-impact countries.
8. IMCI-TAG recommends documenting the progress made by many countries with regard to improving infant and child health. IMCI-TAG advises promoting exchange, in order to take advantage of successful experiences and allow countries to adapt them to different local conditions to benefit the most vulnerable groups.



9. IMCI-TAG recognizes that, although infant mortality has declined in the Americas, the neonatal component has reported a smaller reduction than the post-neonatal and currently represents 70% of all infant mortality in the Americas. IMCI-TAG points to the fact that PAHO/WHO has documented how asphyxiation, sepsis, and low birthweight are now the leading causes of neonatal mortality—and that 70% of these deaths can be prevented. IMCI-TAG considers it fundamental for all countries accelerate their efforts to prepare, adapt, and effectively implement their national neonatal plans pursuant to the document approved by the PAHO Directing Council in 2008. IMCI-TAG recommends that the countries include in their national plans all evidence-based interventions that have demonstrated their impact on reducing neonatal and perinatal morbidity and mortality. Furthermore, IMCI-TAG backs national adaptations of “Neonatal IMCI,” including evidence-based neonatal interventions (EBNIs) and neonatal resuscitation programs.
10. IMCI-TAG recognizes that, for all the countries of the Americas, it is still a challenge to make available to all current and future healthcare staff the necessary knowledge and practices that will guarantee IMCI access to the entire population. IMCI-TAG emphasizes the need to take advantage of every available alternative for training health workers—especially incorporating virtual media and adapting and designing new materials to be made available for distance learning, self-teaching, and continuing education.
11. IMCI-TAG considers it essential to strengthen links among the specific interventions directed at family health and education when implementing a comprehensive healthcare approach, which stands at the very core of IMCI. IMCI-TAG recognizes the need to increase international, national, and subnational efforts to improve intersectoral coordination between the health, nutrition, and education sectors. IMCI-TAG recommends that this type of intersectoral coordination be used to promote local initiatives and adapt interventions that have helped improve the child health situation in both the developing and the developed countries of the Americas. IMCI-TAG recognizes the various different mechanisms for carrying this out and wishes to cite one example, which consists of programs to ensure that every child who does not have books will have a chance to obtain them once he or she reaches school age, and that the child will have someone to read to her or him.
12. IMCI-TAG recognizes that a significant portion of the population still has no access to knowledge and best practices for family health that contribute to local empowerment and, in turn, to improvements in child growth and development. IMCI-TAG recommends that the community and family practices summarized by IMCI for the peri-neonatal and early childhood periods be more widely disseminated, taking advantage of all available resources and means so that families and communities can both learn and implement them.
13. IMCI-TAG considers follow-up, monitoring, and evaluation of progress made in IMCI implementation and coverage to be essential. IMCI-TAG finds that the same applies to IMCI's results in terms of reducing child mortality and minimizing the threats posed by diseases and other threats to child health. IMCI-TAG considers that this will make it possible not only to verify the success of interventions made and to identify areas that show a greater delay in reaching MDG 4, but also to associate such delays with different coverage levels in IMCI implementation—as well as other health, nutrition, and educational interventions. IMCI-TAG emphasizes the need to strengthen regional, national, subnational, and local monitoring and evaluation, as well as to continuously disseminate results to all stakeholders involved in child well-being and development.
14. IMCI-TAG recognizes that the economic crises of the past few years have compromised investments in health and, in the Americas, have impacted efforts to diminish inequities within the countries. IMCI-TAG recommends looking for mechanisms to mobilize international, national, and local resources to support

the countries' efforts to put into place specific implementation plans for IMCI that will result in improved peri-neonatal and child health.

15. IMCI-TAG reiterates the importance of conducting a new survey on teaching IMCI as part of the pediatrics curriculum in medical schools of the Americas. IMCI-TAG supports the proposal of the Latin American Association of Pediatrics (Sociedad Latinoamericana de Pediatría, or ALAPE) to present this in its 2012 Congress.
16. IMCI-TAG endorses the proposal made by the American Academy of Pediatrics (AAP) in the United States and Maimónides University in Argentina to provide access to Fellowships in Child Health to the global health community (International Community Access for Child Health, or ICACH), including new fellowships for IMCI training.
17. IMCI-TAG highlights the importance of designating the Texas Children's Hospital as a new PAHO/WHO Collaborating Center for Perinatal and Neonatal Health in the Americas. IMCI-TAG considers the role it will play in supporting the expansion of the IMCI strategy in the Americas to be of great relevance, particularly in expanding IMCI's perinatal/neonatal component. Within this framework, IMCI-TAG recommends promoting the creation of this type of collaborating center in the countries, to support the different IMCI components, conduct research, and produce new evidence. IMCI-TAG considers that doing so would also support effective IMCI implementation and expansion, help reduce infant morbidity and mortality, and promote healthy growth and development.
18. IMCI-TAG recognizes that the natural disasters affecting the Americas in recent years have demonstrated the vulnerability of vast sectors of the general population, particularly children. IMCI-TAG considers that helping these populations in emergency situations calls for a special approach regarding childhood—recognizing that in general, children are especially vulnerable, and that they are even more vulnerable in the precarious conditions generated by natural catastrophes. IMCI-TAG considers it fundamental for all countries to promote the use of PAHO/WHO guides for integrated child healthcare under emergency conditions, within the IMCI framework, in order to help reduce the threat of the natural disasters to child health.
19. IMCI-TAG considers it essential to accelerate implementation of the IMCI nursing component, taking into account the key role played by nurses in care at all health facilities, both in primary care (first level) and in hospitals. For this reason, IMCI-TAG recommends promoting regional and national plans to implement and expand the IMCI nursing component and to especially target it at the most vulnerable geographical areas and population groups.
20. IMCI-TAG recognizes that IMCI has played a key role in improving child care in the countries of the Americas and has demonstrated its impact on reducing infant mortality, by lessening the burden of infectious disease as a cause of childhood deaths. In addition, IMCI-TAG recognizes how IMCI has encouraged its own expansion by incorporating new components based on the epidemiological situation of the different countries and geographical areas, thus contributing to adapting its response to the conditions of each locality. IMCI-TAG considers it crucial to promote the implementation of the new IMCI components in all the countries, adapting this process to the respective national situations and to local needs. IMCI-TAG also considers it fundamental to continually develop other components that will strengthen a comprehensive vision of child healthcare.

# 13 ANNEXES

# AGENDA

## FIRST DAY: WEDNESDAY, 13 OCTOBER 2010

- 9:00 – 9:20 Welcoming Remarks and Inauguration of the Event
- Dr. Humberto Jure, Health Department, City of Córdoba, Argentina
  - Dr. Salvador García, PAHO/WHO Representative Office in Argentina, Buenos Aires, Argentina
  - Dr. Yehuda Benguigui, PAHO/WHO, Washington, D.C., U.S.A.
- 9:20 – 9:40 Introduction of the Participants, Description of the Mechanics of the Meeting, Designation of the Meeting Coordinator and Rapporteur, and Approval of the Agenda
- Dr. Juan Carlos Bossio, Department of Health Programs, Emilio Coni National Institute of Respiratory Diseases (INER), Argentina
- 9:40 – 10:05 am **Presentation:** New Approaches Based on the Care Continuum in a Healthy Lifecourse, with a View to Reaching MDG-4
- Dr. Yehuda Benguigui, Healthy Lifecourse Project, Family and Community Health Area (FCH/HL), PAHO/WHO, Washington, D.C., U.S.A.
- 10:05 – 10:30 am **Presentation:** Regional Epidemiological Changes with a View to Reaching MDG-4
- Dr. Rolando Cerezo, Institute of Nutrition of Central America and Panama (INCAP/PAHO), Guatemala City, Guatemala
- 10:30 – 11:00 Break
- 11:00 am–12:00 pm **Working Group 1:** Analyze the New Approaches Based on the Care Continuum and Health Lifecourse and Family and Community Health, in the Context of Regional and Local Epidemiological Changes, with a View to Reaching MDG-4 and Proposing Lines of Action for its Fulfillment in 2015
- 12:00 – 12:30 pm Preparation of Recommendations by Working Group 1
- 12:30 – 12:50 pm **Presentation:** New IMCI Components
- Integrated Care for Skin Diseases in Infants under 2 Months Old.
- Dr. Gerardo Cabrera-Meza, Texas Children's Hospital, Houston Texas, U.S.A.
- IMCI and Cancer
- Dr. Martha Beltrán & Dr. Rolando Cerezo, INCAP/PAHO, Guatemala City, Guatemala
- 12:50 – 1:00 pm **Presentation:** Monitoring Child Development within the Framework of Interactive IMCI
- Dr. Arnoldo Grosman, Maimónides University, Buenos Aires, Argentina

1:00 – 2:00 pm	Lunch
2:00 – 3:00 pm	<b>Teamwork 2:</b> Identification of New and Innovative Training Methodologies for the Different Components of the IMCI Strategy
3:00 – 3:30 pm	<b>Presentation:</b> Regional Strategy and Plan of Action for Comprehensive Child Health, Growth, and Development: PAHO's Proposal for a New Approach Christopher Drasbek, Healthy Lifecourse Project, Family and Community Health Area (FCH/HL), PAHO/WHO, Washington, D.C.
3:30 – 4:00 pm	Break
4:00 – 5:00 pm	<b>Working Group 3:</b> Relevant Aspects to Be Included in a Comprehensive Child Health Strategy
5:00 – 5:30 pm	Conclusions and Closing by the Moderator

## SECOND DAY: THURSDAY 14 OCTOBER

9:00 – 9:15 am	Review of Meeting Progress
9:15 – 9:25 am	Summary of Regional Epidemiological Changes with a View to the Reaching MDG-4 Dr. Rolando Cerezo, INCAP/PAHO, Guatemala City, Guatemala
9:25 – 10:00 am	Working Group 4: Proposals to Analyze the Current Situation of the under-5 Population in Priority and High-Impact Countries, to Serve as a Reference for Local and National Authorities, Technical Cooperation Organizations, and Decision-Making in the Prevention and Control of Prevalent Diseases
10:00 – 10:30 am	Preparation of Recommendations by Working Group 4
10:30 – 11:00 am	Break
11:00 – 11:45 am	Working Group 5. Moving towards Reaching MDG-4: New Components of the IMCI Strategy, Mechanisms for Resource Mobilization, Partnerships, and Alliances
11:45 am – 12:15 pm	Preparation of Recommendations by Working Group 5
12:15 – 12:50 pm	Review and Revisions to Working Group Recommendations: Reading, Discussion, and Approval of the Final Document
12:50 – 1:00 pm	Closure <ul style="list-style-type: none"> <li>■ Dr. Humberto Jure</li> <li>■ Dr. Yehuda Benguigui</li> <li>■ Dr. Salvador García, Coordinator of the 8th meeting of IMCI-TAG</li> </ul>



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Photo: Alejandro Rossi







**Pan American  
Health  
Organization**



*Regional Office of the  
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ISBN: 978-92-75-11650-0



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