



Technical Advisory Group on IMCI (IMCI-TAG)

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

Report of the Fifth Meeting



Texas Children's Hospital
Houston, Texas
May 16 and 17, 2006



**Pan American
Health
Organization**



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This document contains a summary of the fifth meeting of the Technical Advisory Group on IMCI (IMCI-TAG), together with the conclusions and recommendations prepared by the group given 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 fifth meeting of the IMCI-TAG was held at Texas Children's Hospital, Houston, TX, USA, on 16 and 17 May 2006. The meeting was coordinated by Dr. Antonio Sáez Crespo, of Spain, who is a member of the IMCI-TAG.

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1. Prologue

Dr. Mirta Roses Periago

Director, Pan American Health Organization

Regional Office of the World Health Organization



In the closing decades of the 20th century, humanity made great strides in understanding the diseases and conditions that adversely affect people's health. This knowledge not only made it possible to identify many of their causes and determinants, but to understand

the mechanisms that cause them to become a threat to survival and healthy growth and development throughout life.

Greater understanding of health and its determinants, on the one hand, helped identify the interventions necessary to protect health, prevent diseases and threats to health, and provide treatment; and it triggered the design and development of a wealth of technologies whose application has led to longer life expectancy and a lower incidence of diseases and health problems and a decrease in their severity. Greater knowledge of the many factors and determinants of the health status of our peoples, on the other hand, helped promote research on health systems, their organization and operation, their coordination with other service and production sectors, and their link to the community that they are a part of and that they serve. This research also triggered major reforms and changes in the conceptualization and approach to public health and health care—changes that have been fundamental to the success achieved in reaching the entire population with essential measures for preventing disease and protecting health.

Continued movement in this direction is one of the principal challenges of the 21st century, as stated in the Millennium

Development Goals; guaranteeing that the attainment of these goals is accompanied by a reduction in the gap between countries and their different population groups must be considered an ethical imperative to contribute to the survival, healthy growth and development of the most vulnerable population groups.

This challenge has been taken up by all the countries in the Region of the Americas and has become the compass for their action. Taking advantage of the successful experience in meeting the goals of the 2000 World Summit for Children, the countries of the Hemisphere are managing to sustain the progress made and continue to reduce infant mortality, which has translated into a steadily increasing life expectancy for the population. Diseases that were once responsible for the suffering and death of millions of families have been eradicated in the Region and others are beating a retreat. All this has been accompanied by and is the result of coordinated action among the different sectors—increasingly integrated action with growing community participation that has emphasized the family approach, bearing in mind the role of the family in protecting health and providing care.

The experience gained in this process has been very significant, and the continued sharing of information among the countries in the design, implementation, and evaluation of the process has contributed to faster dissemination and expansion of its effects and served as a key input for the definition of social, health, research, and training policies.

In the years to come, the countries must face the challenge of continuing to expand, adapt, and improve this to confront

the new health threats stemming from an epidemiological scenario in permanent flux. Much of the progress already made will be essential for providing adequate responses for the new developments. The integration of health interventions in strategies that make health—and not just the disease that currently jeopardizes it—the focus of care will continue to be essential for preventing missed opportunities to improve people’s health. Linking these strategies throughout the life cycle will also be key to promoting healthy lifestyles that will reduce risks and threats and enable each individual to reach his greatest potential at each stage of growth and development. Emphasis on the family as the most important area for developing healthy lifestyles and appropriate practices to protect health will also be the foundation for the success of actions promoting health and sustainable development in the coming decades.

Integrated management of childhood illness, IMCI, has proven a successful strategy for responding to the current challenges; and its adaptability makes it ideal for meeting the challenges of the future.

IMCI has buttressed the successes of its interventions, helping them reach many more children. It has applied the inte-

grated approach to the care and treatment of the children in the health services and community alike, and it has served as a gateway for identifying and addressing family problems, linking care for children with the health of mothers and other adult caregivers and promoting continuity in the monitoring of growth and development in childhood and adolescence.

Because of these characteristics, IMCI, as well as other integrated strategies for promoting health in the different stages of the life cycle, is destined to play a major role in the prevention and treatment of new threats to the preservation and protection of health, at the same time furnishing the tools to control the common diseases that impact child and family health in each epidemiological scenario.

The challenge of building a more equitable society where the benefits of knowledge and technology are within the reach of the entire population requires that we continue to move toward the integration of health actions as one more facet of community activity. Achieving this goal will enable us to extend the benefits already obtained with respect to greater child survival and healthy growth and development, ensuring that these benefits really are the heritage of all for all.

Dr. Mirta Roses Periago

Director

Pan American Health Organization

Regional Office of the World Health Organization

Washington, D.C., USA

2. Foreword

Welcoming Remarks by Mark A. Wallace, President and Chief Executive Officer of TCH, to the Members of the IMCI-TAG



Progress in the challenges and outlook for improving the health status of children and adolescents in the Americas is the primary mission of the integrated management of childhood illness strategy. Being that the role of promotion and facilitation is necessary for collaboration among international organizations, academic institutions, and care facilities, the Texas Children's Hospital is privileged to host the 5th Meeting of the Technical Advisory Group.

An analysis of our successes since the meeting in Toledo indicates that there are pending issues that we must address while at the same time exploring the adjustments needed to fine-tune the initiatives most likely to be effective. We hope to find in this meeting an interest in promoting strategic partnerships and mobilizing resources in support of the IMCI strategy. The necessary collaboration between medical, academic, and research institutions and the Pan

American Health Organization is considered vital for the strengthening, expansion, and success of the initiatives to benefit children.

Texas Children's Hospital is proud to host for the third time this meeting of hemispheric importance, and I would to take advantage of this opportunity to announce plans to open Texas Children's Hospital Maternity Center in 2011. The expansion of our facility from a children's hospital to a full-service maternity center stems not only from the logical imperative of care but from what we have learned through our collaboration with the Pan American Health Organization.

We are especially honored by the presence of Dr. Gina Tambini, Manager of the Pan American Health Organization's Family and Community Health Area, and Dr. Yehuda Benguigui, Chief of the Child and Adolescent Health Unit of that same organization. The history of our collaboration over the past seven years augurs success for the meeting's deliberations.

Mark A. Wallace

President and Chief Executive Officer

Texas Children's Hospital

Welcoming Remarks by Dr. Ralph D. Feigin to the Members of the IMCI-TAG at the V Meeting



It is always a privilege for me to welcome such a select and important group to develop creative ideas that will contribute to better health in the Hemisphere. I would like to thank Drs. Gina Tambini, Yehuda Benguigui, and Fernando Stein for the opportunity to share some thoughts at the start of this important meeting. Here in this room at Texas Children's Hospital we have an impressive array of talent that is overshadowed only by the willingness to work and make a contribution that I recognize in each of you individually and as a group. Bringing together, stimulating, and maintaining intellectual capital in a university, a hospital, or international organization is the greatest challenge that I foresee in the coming years.

When we study the steps taken in the implementation of the IMCI strategy, we notice a combination of four key elements: resources, cooperation, creativity, and political will. These elements have been developed and coordinated, thanks to the individual and group efforts of the intellectual capital to

which I have just referred. Amassing, retaining, and linking this intellectual capital together demands a deliberate effort on the part of international organizations working in collaboration with academia. Baylor University's Department of Pediatrics and Texas Children's Hospital are committed to working with the Pan American Health Organization, not only to advance the IMCI strategy but to preserve and develop the intellectual capital of the our organizations, from which we are benefiting on this important occasion.

As an infectious disease specialist, I have followed with interest and pleasure the achievements obtained in this area with the strategy that you represent, and I have watched with enthusiasm the application of the various elements and components to related areas such as maternal and child care, growth and development, sexual health, and the detection, prevention, and response to domestic violence.

I congratulate you on the work that you are willing to do and I am putting all of our resources at your disposal to ensure that your meeting is fruitful.

Ralph D. Feigin M.D.

Professor and Chairman

Department of Pediatrics

Baylor College of Medicine

Physician-in-Chief, Texas Children's Hospital

3. Technical Cooperation Strategy of the Family and Community Health Area

Dr. Gina Tambini
Area Manager, Family and Community Health

SITUATION ANALYSIS

The American Hemisphere is a vast geographical region marked by highly diverse landscapes, climates, and environments and inhabited by over 600 million people. The health status of the Hemisphere's population also varies widely from country to country and region to region, displaying sharp contrasts that continue to persist regarding access and use of gains that have contributed to knowledge and technology, especially in the past century.

Concern about preserving and protecting health has been a constant in the Hemisphere, manifested in the countries' initiative in the late 19th century to improve regional coordination in the surveillance and control of many diseases that posed a threat to public health, resulting in the fruitful history of the Pan American Health Organization, which continues to this day.

At the dawn of the 21st century, the Hemisphere boasts an impressive series of achievements in improving the health of its peoples; however, in a region characterized by inequality in the distribution of wealth, major gaps and challenges persist that must be addressed by coordinating the efforts of all the countries. A review of the achievements to date should lay the foundation for revisiting successful initiatives, expanding them to all population groups, and designing new interventions and strategies that will enable us to make progress toward the achievement of the Millennium Development Goals.

ACHIEVEMENTS

Average life expectancy at birth for the male population of the Americas increased by four years in the period 1980-2000. The

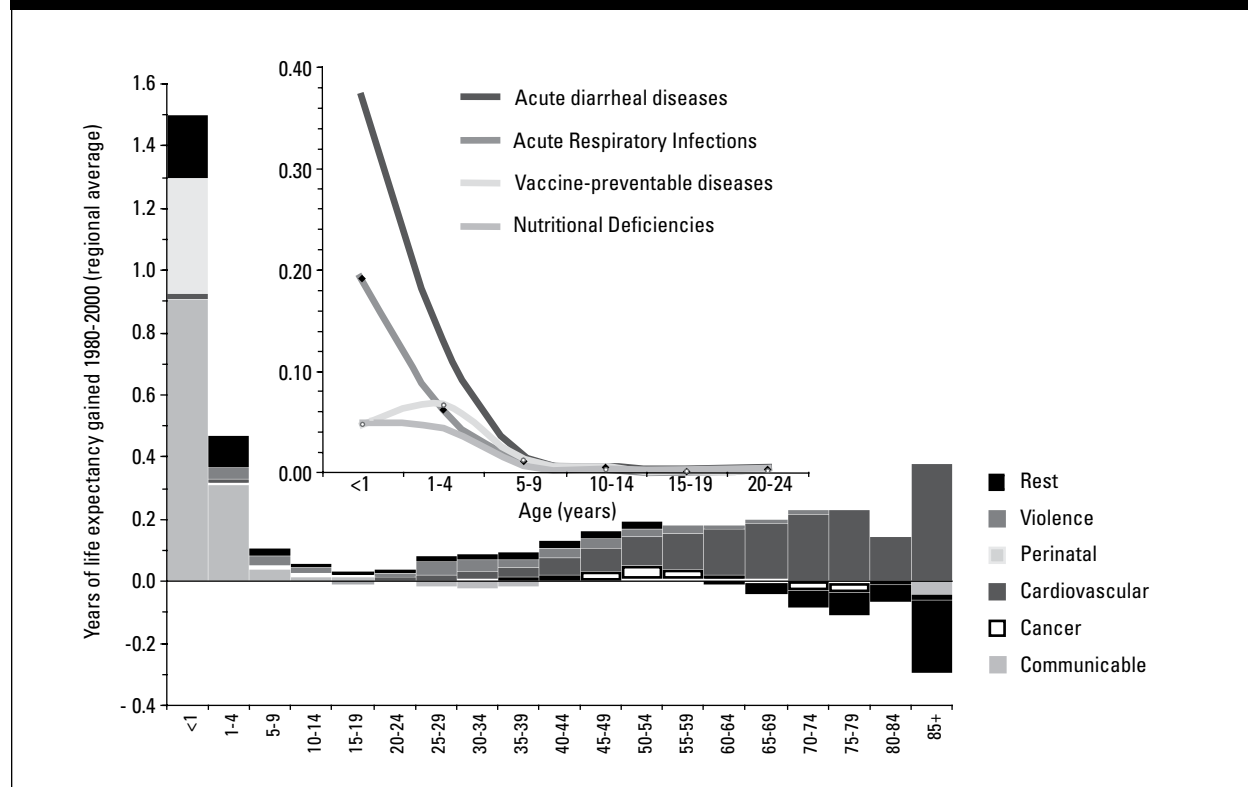
distribution by 5-year age cohorts and major cause of death categories for the four years of life expectancy gained (Figure 1) shows that virtually half of the gain in life expectancy was attributable to a reduction in the risk of dying from infectious causes in the first five years of life. The reduction in mortality from acute diarrheal diseases in children under 1 year and aged 1 to 4 has been the primary contributor to the increase in life expectancy, followed by the reduction in mortality from acute respiratory infections. The contribution of lower mortality from nutritional deficiencies and vaccine-preventable diseases in childhood was similar in children under 1 year, but has been greater for the first of these causes among children aged 1 to 4.

It has also been observed that, from people aged 55 and over, the reduction in mortality from cardiovascular diseases contributed greatly to the increase in life expectancy in the last two decades of the 20th century.

The contribution to the increase in life expectancy of the peoples of the Hemisphere due to lower mortality from communicable diseases has partly been the result of the countries' efforts to adopt interventions and strategies for prevention, early diagnosis, and treatment, which have improved the health status of the population. This effort has resulted in a steady increase in the coverage of these interventions and strategies, reflected in the growing proportion of population that has benefited from them.

From 1980 to 2000 a steady decline in the number of reported cases of vaccine-preventable diseases in the Hemisphere has paralleled an increase in vaccination coverage, leading to an interruption in the transmission of poliovirus throughout the Americas and a dramatic reduction in the number of measles cases (Figure 2).

FIGURE 1. Legacy of Health for All in the Year 2000 for the Population of the Americas. Changes in life expectancy by cause and age group during the period 1980-2000



PAHO/WHO: Health in the Americas, 2002 edition

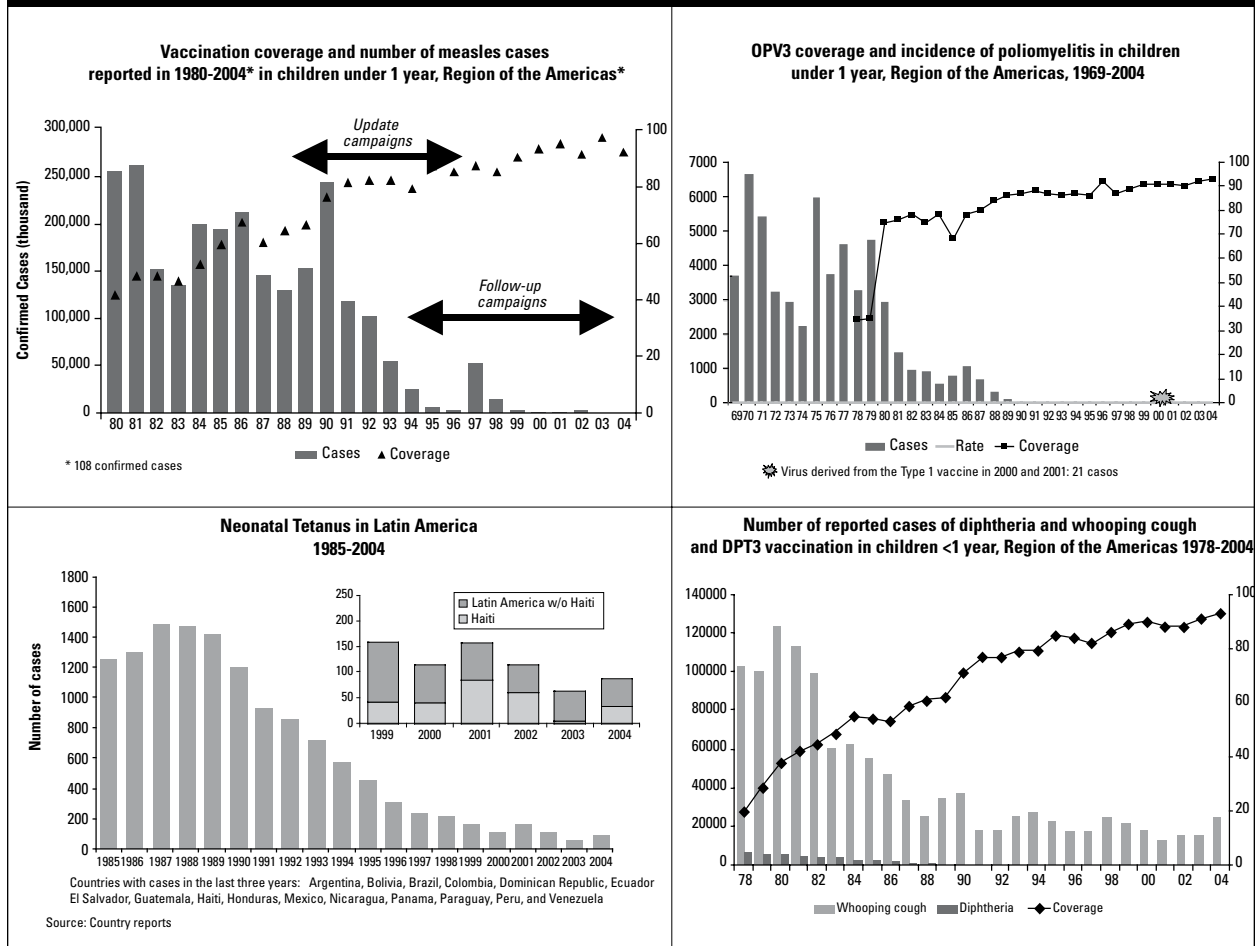
Polio vaccination coverage rose dramatically in the early 1980s and remained at around 90% throughout the 1990s, resulting first in a steady decline in the number of cases reported and from 1991 onward, maintaining the interruption of polio transmission. In 2000 and 2001 there was an outbreak of 21 cases associated with the virus derived from the Type 1 vaccine in the Dominican Republic and Haiti due to low vaccine temperatures.

Another very important regional achievement was the interruption of wild measles virus transmission in 2002, also the result of the steady increase in measles vaccination coverage, which rose from around 50% in 1980 to 80% in 1990 and was kept above 90% beginning in 2000, and to the mass vaccination strategies for reducing the number of susceptible individuals.

Finally, there has also been a significant decline in reported cases of neonatal tetanus, whooping cough, and diphtheria in the Region, associated with the steady increase in vaccination coverage, which has held at 90% or more since the beginning of the 21st century.

Studying infant mortality rates by country, we learn from the countries with low rates that the successes and progress in improving the population's health status in the Region of the Americas are the result, on the one hand, of the countries' social investments and international mobilization of resources and efforts in the past decade. The specific achievements in reducing morbidity and mortality from diseases, on the other hand, are attributable to the implementation and expansion of policies and strategies for prevention, early detection, and treatment.

FIGURE 2. Trend in vaccination coverage and in the number of reported cases of vaccine-preventable diseases in the Americas

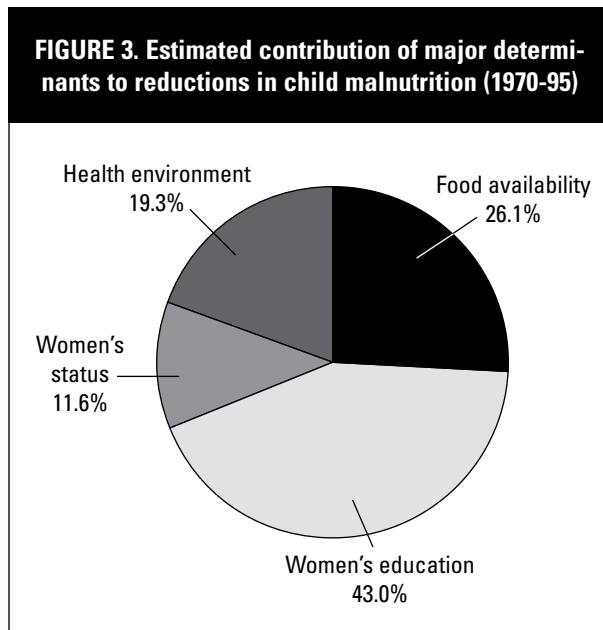


These results indicate that the most efficient way of investing the available resources to improve health status is to combine two approaches: On the one hand, increase and expand social investment that contributes to the development of the entire community and, on the other, carry out specific interventions and health strategies for the prevention and treatment of diseases and health problems and increase their coverage. Promoting these approaches in conjunction with health promotion in general, in turn, is essential for empowering citizens not only to make the right decisions to protect their health and the environment, but also for social monitoring of interventions, plans, and the achievement of the expected results.

The need for combination approaches to improve the

health of the population is underscored by the multiplicity of factors that determine the prevalence and severity of health problems, as well as the special vulnerability of certain population groups. With a key problem like malnutrition in children, for example, food availability is not the sole determinant; other factors, such as the education and socioeconomic status of women are in play, resulting in nutritional deficits in children (Figure 3, next page).

The interdisciplinary combination approach to health problems must also consider differences not only among but within the countries in terms of geographical areas and population groups. Notwithstanding the advances in recent decades, which have contributed to an improvement in overall health status in the Hemisphere, significant gaps



Source: L. Smith and L. Haddad, *Overcoming Child Malnutrition in Developing Countries: Past Achievements and Future Choices* (Washington, D.C.: IFPRI, 2000).
 Note: Malnourished children refers to underweight children.

between countries and population groups still persist.

As late as 2005, live births in seven countries in the Region of the Americas had a risk of dying that was three times higher, on average, than that of live births in the five countries with the lowest infant mortality rates. A comparison of the risk of dying in the first year of life between live births in the country with highest infant mortality and that of the country with the lowest infant mortality yields a relative risk that is 16 times higher.

However, the differences between countries conceal the contrasts that exist within them, bearing in mind that national infant mortality rates represent the average for the overall situation of the population. The differences in the health status of children in the countries become visible when the situation of the different population groups or regions is compared.

Certain population groups--for example, indigenous peoples--have an infant mortality rate as much as two times higher than that of the general population.

Although the differences are less marked in some countries,

live births in the indigenous populations of every country in the Hemisphere are exposed to a higher risk than those in the general population.

These differences between ethnic groups are replicated between different regions or areas of each country, between the sexes in children under 5, and between households of different socioeconomic levels, among the other risk factors for dying to which newborns are exposed during their first year of life.

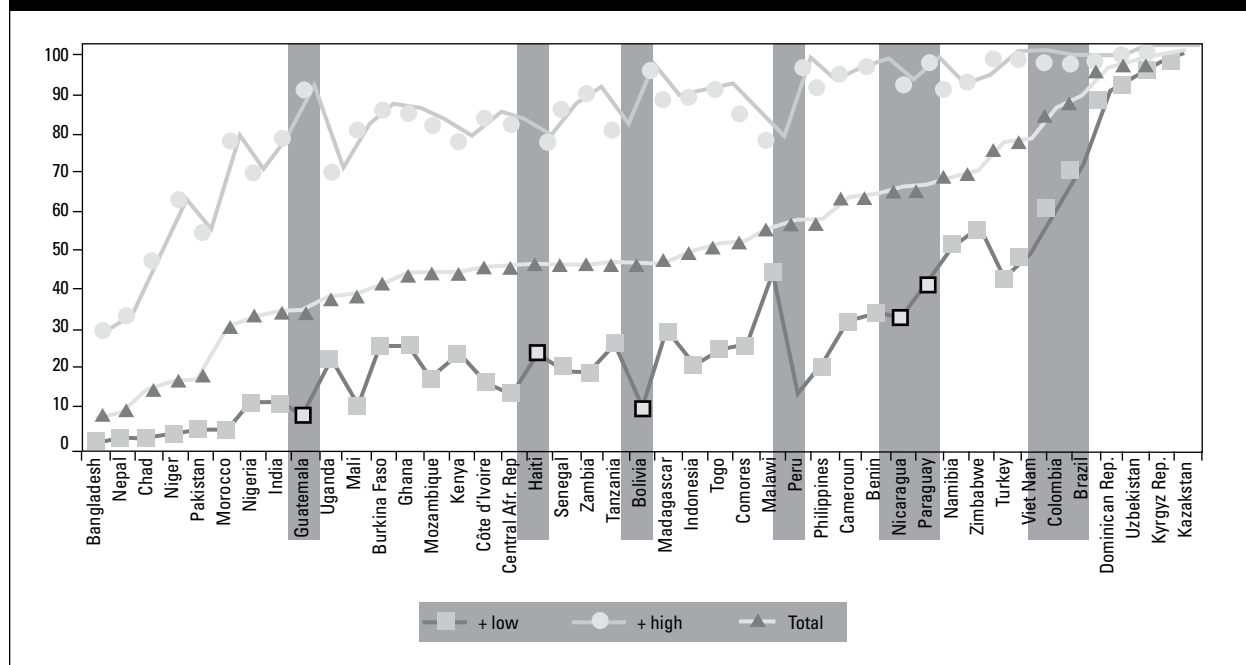
A World Bank study published in 2000 (Figure 4, below) shows that, the quality of care received by families in each country is higher for the higher income social groups, which, in turn, are the groups that have the lowest risk of contracting diseases and are in a better position to combat them. This contrast simply highlights the existence of gaps between population groups in terms of exposure to the risk of getting sick and dying and underscores the urgency of efforts to secure a more equitable distribution of the benefits associated with the existing interventions in prevention, treatment, and health promotion.

Better distribution of the available interventions for improving the population's health should also address the new emerging health problems that are adversely impacting the family and community environment.

It is estimated that in 1 out of every 5 births in the Regional of the Americas, the mother is under the age of 20, a phenomenon that has increased the proportion of teenage mothers and the role of this group in parenting, educating, and caring for newborns. It is also estimated that around half of these births are unplanned. This is very important, as it affects the women's family and social situation, sometimes leading to their ostracism and a lower probability of completing their primary education.

The spread of HIV and its rising transmission rate, especially among adolescents and young adults, has made it a priority problem, not only in terms of care for the growing number of people living with this infection and progressing to AIDS, but also for the prevention of vertical transmission of the infection, since a growing number of newborns are

FIGURE 4. Skilled attendance by wealth quintiles



Source: World Bank 2000

becoming infected through mother-to-child transmission. According to current estimates, around 1 in 3 people newly infected with the human immunodeficiency virus in the Region of the Americas is under the age of 24.

The social context has also changed, with domestic and social violence emerging as an increasingly important cause of morbidity and mortality in most of the countries: in Central America alone, teenage gang members number around 100,000, one-third of homicide victims are between the ages of 15 and 24, and violence and sexual abuse have increasingly become the reason for consultation or diagnosis in the health services at all levels.

Thus, continuing and reinforcing the progress made with the increase in life expectancy will require joint action at many levels and in many sectors to guarantee due attention to the persistent health problems that produce morbidity and mortality in specific areas and population groups and, at the same time, to make headway in developing an appropriate approach to the new diseases and problems that jeopardize the health of the entire population.

CHALLENGES

The persistence of certain health problems and diseases, such as infectious diseases, respiratory diseases, and malnutrition, and their unequal distribution among and within the countries, with sharp contrasts in the magnitude and trends of their incidence, severity, and mortality, reveals on the one hand, the impact achieved in the control of these problems in particular population groups and, on the other, the failure to provide universal access to the benefits of the interventions and strategies used.

The **first challenge** facing the Hemisphere is to identify the geographical areas and population groups that are most vulnerable to the health problems and diseases for which there already are effective prevention and treatment measures, and to design appropriate strategies to make these interventions available to that entire population. This will gradually close the existing gaps between and within countries and population groups in terms of the distribution of health benefits, and it will decrease the relative risk of getting sick and dying in these countries and populations.

Implementation of the interventions targeting priority areas with more vulnerable population groups has had a tangible impact on many countries in the Hemisphere and has helped to strengthen community participation mechanisms and make the interventions more sustainable. These processes, however, require changes in the criteria for managing the programs for implementing interventions, integrating community participation and commitment, as well as the community's world view, in all the stages from planning, to implementation, monitoring, and evaluation. Community participation has helped to alter the view of diseases and health problems by linking them with specific populations, contributing to better identification of the key determinants, an interdisciplinary vision of the problem, and plans of action that originate in the community itself and are implemented with the commitment and participation of the different social sectors and actors.

Integrating these plans in the lines of action that emerge from the Millennium Development Goals (MDGs) will also offer an opportunity to standardize goals and indicators and align them with international and national objectives, thus adhering to the premise of moving from local action to national and global action.

Ensuring that processes of this type multiply and spread throughout the Hemisphere requires the political will of all the countries, translated into the necessary social investment for reaching priority areas and population groups. This is the **second challenge** facing the Region of the Americas. That political commitment must focus on attaining the MDGs. To accomplish this, it must include specific action to improve maternal, neonatal, and child health, putting it at the heart of the right to health for the entire population, especially the most vulnerable groups. It is also essential to commit the resources necessary for mechanisms that will steadily increase the funding for health interventions.

Political will is also essential for advancing as rapidly as possible toward a reduction in health inequities and making basic health services accessible to all the population, extending social protection in health, giving the neediest populations access to basic interventions, accelerating the

achievement of universal coverage, and improving the quality of the care provided to the entire population.

The **third challenge** for the Americas is to guarantee sustainable approaches, providing a continuum of care that meets the needs of the population throughout life and integrating the available programs and interventions for prevention, treatment, and health promotion.

The life cycle approach to care is essential for considering each stage of life as an inseparable part of a continuum that, in turn, determines health status at each stage. In this regard, the focus on sexual and reproductive health, which includes pregnancy, childbirth, and the post-neonatal period up through childhood, has provided a more integrated vision of the relationship between the different stages, permitting the early detection of problems, earlier interventions, and more efficient combinations of treatments and preventive measures.

The health care continuum should also consider the environments in which people live and include measures that should be adopted in the home, primary school and subsequent educational levels, and recreational and work environments.

Finally, it is essential that the interventions organized by specific programs in the health services also be a continuum and that they are complemented and linked. That will lead to more efficient investment in prevention, treatment, and health promotion, considering each program as part of comprehensive health care to guarantee better health status for the population in the environment in which they live.

The **fourth challenge** for the countries of the Hemisphere is to focus on local interventions that link political will with community participation in order to improve the quality of life and health of the most vulnerable populations. These interventions can be based on numerous experiences in the majority of the countries that have promoted the expansion of prevention measures such as vaccination, early detection, and primary care for diseases like diarrhea and pneumonia, and the promotion of healthy lifestyles, such as those related to HIV/AIDS prevention.

The **fifth challenge** is to guarantee the necessary human resources for providing skilled care to women, children, and families within the framework of the aforementioned continuum. Expanding coverage will require a larger supply of human resources for health and a guarantee of continuing education mechanisms to keep the skills of health workers up-to-date and enable them to adapt to new approaches and strategies for improving the health of the population. This process must consider the need to target the most vulnerable population groups, which are sometimes hard to reach from both a geographical and cultural standpoint.

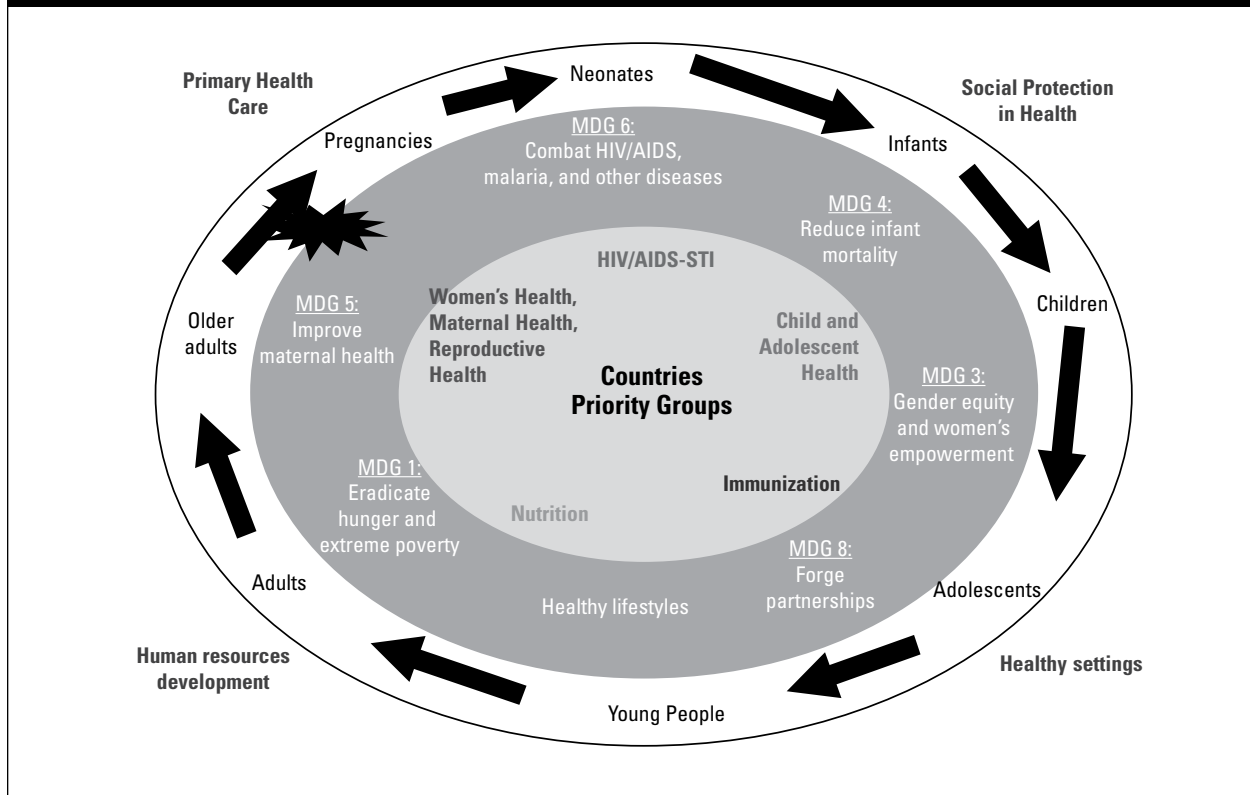
The **sixth challenge** facing the countries of the Americas is the need to reorient health services through a renewed primary health care (PHC) strategy that recognizes families and communities as the protagonists of change.

The **seventh and final challenge** for the countries is to bolster national plans through appropriate public policies; national, intersectoral, and interagency coordination;

technical standards and protocols; ongoing training and supervision; a guarantee of the necessary inputs and logistics; effective epidemiological surveillance and operating systems; social mobilization whose information, education, and communication mechanisms include the community; and the improvement of monitoring and evaluation systems to guarantee the channeling of social investment toward the achievement of the proposed objectives and goals.

Given the challenges facing the countries, the Family and Community Health Area must focus on developing adequate and efficient response mechanisms to aid the countries in their efforts to attain the MDGs with an equity approach (Figure 5). This approach must consider the gaps between and within the countries that reveal the geographical areas and population groups requiring greater investment in order to bring their health indicators up to more acceptable levels--levels that were reached by other countries in the mid-20th century.

FIGURE 5. Framework of Family and Community Health work



This investment can be geared to the specific diseases and health problems indicated in the MDGs and the available interventions for preventing disease and offering accessible, acceptable services for their early detection and effective treatment, tackling all of them with an integrated, health promotion approach that contributes to social empowerment that favors the adoption of healthier lifestyles.

When adopting these interventions, countries should consider the life cycle continuum and guarantee access to prevention and treatment services at each stage of life, extending primary health to all the people, guaranteeing social protection in health, organizing human resources development so that it meets the needs, and guaranteeing healthy settings that reduce the risk of getting sick and contribute to better community health status.

In order to ensure the effective implementation of this framework, the Family and Community Health Area is moving forward in the following lines of action:

- Prioritizing technical cooperation to the more vulnerable populations and areas, supporting country efforts to increase access to the effective interventions available for improving health and reducing the gaps between population groups.
- Strengthening national, subnational, and local capacity, helping to make the interventions sustainable and multiply processes, extending their coverage to all groups that need them.
- Prioritizing monitoring and evaluation, measuring results, and documenting experiences. This will facilitate the identification of obstacles and the horizontal sharing

of successful experiences, which other areas and countries can use to their advantage as part of an ongoing process to boost the efficiency of health interventions.

- Buttressing activities in the framework of the maternal-neonatal-child-health continuum, bearing in mind the global priority in the MDGs of reducing mortality in mothers, infants, and children under 5 and the impact that meeting these objectives will have in terms of increasing the life expectancy of the entire population.
- Working with governments to make their commitments to the MDGs even more visible, turning them into guidelines not only for government institutions but for non-governmental organizations and the private sector as well, reinforcing the notion at all levels that they must be social objectives.
- Mobilizing resources, political will, and partnerships around clear objectives and goals to ensure that the resources that the community allocates for improving its health status are used to achieve concrete, measurable results that can be monitored, thus extending community participation to monitoring and evaluation processes.

These lines of action are part of the general framework of PAHO's vision for the Region of the Americas, designed to achieve a Hemisphere united in its efforts to attain the highest possible standard of health for all its inhabitants, with governments that exercise leadership and take responsibility for mobilizing all of society to improve the health of the people, and with individuals, families, communities, and institutions empowered to seek social justice through the promotion of health and the protection of life¹.

1 Dr. Mirta Roses Periago, Director, Pan American Health Organization/World Health Organization.

4. Progress, Challenges, and Perspectives for Improving the Health Status of Children and Adolescents in the Americas: Role of the IMCI Strategy in the Maternal-Neonatal-Child Health Continuum

Dr. Yehuda Benguigui
Chief, Child and Adolescent Health Unit, Family and Community Health Area

THE INTERNATIONAL CONTEXT

In the closing years of the 20th century and the initial years of the 21st century, humanity witnessed incredible advances in its knowledge and understanding of factors that determine health status. Many of these advances have yielded new approaches in the management of diseases and problems that impact health and in the creation of new prevention and treatment responses. As a result of this process and an improvement in the living conditions of the population, life expectancy has been extended, reaching or exceeding 80 years in nine countries¹ by 2004.

This tremendous progress, however, is still tarnished by the persistence of easily preventable or effectively treatable diseases and health problems that continue to pose a threat to child survival and healthy growth and development. Moreover, in 2004, life expectancy in seven countries of the world was under 40 years and, in two of them, under 35.

Every day the world suffers an irredeemable loss of human lives, most of them in the developing countries. Every minute, a woman dies in pregnancy or childbirth, seven new-

borns die before reaching their first month, and 20 children do not live to reach their fifth birthday². Thus, the survival of mothers and infants has become a daily challenge for the world, which annually suffers the loss of over half a million women's lives in pregnancy or childbirth, over 10 million deaths in children under 5, 4 million of them in the first weeks of life, and approximately 3 million stillbirths.

The unequal distribution of these deaths among countries underscores the significant gaps in their basic health indicators. Over 95% of deaths of women during pregnancy or childbirth occur in the developing countries, mainly Africa and Asia. Within countries, poorer families, families located in rural areas, and indigenous or ethnic minority groups are the most affected.

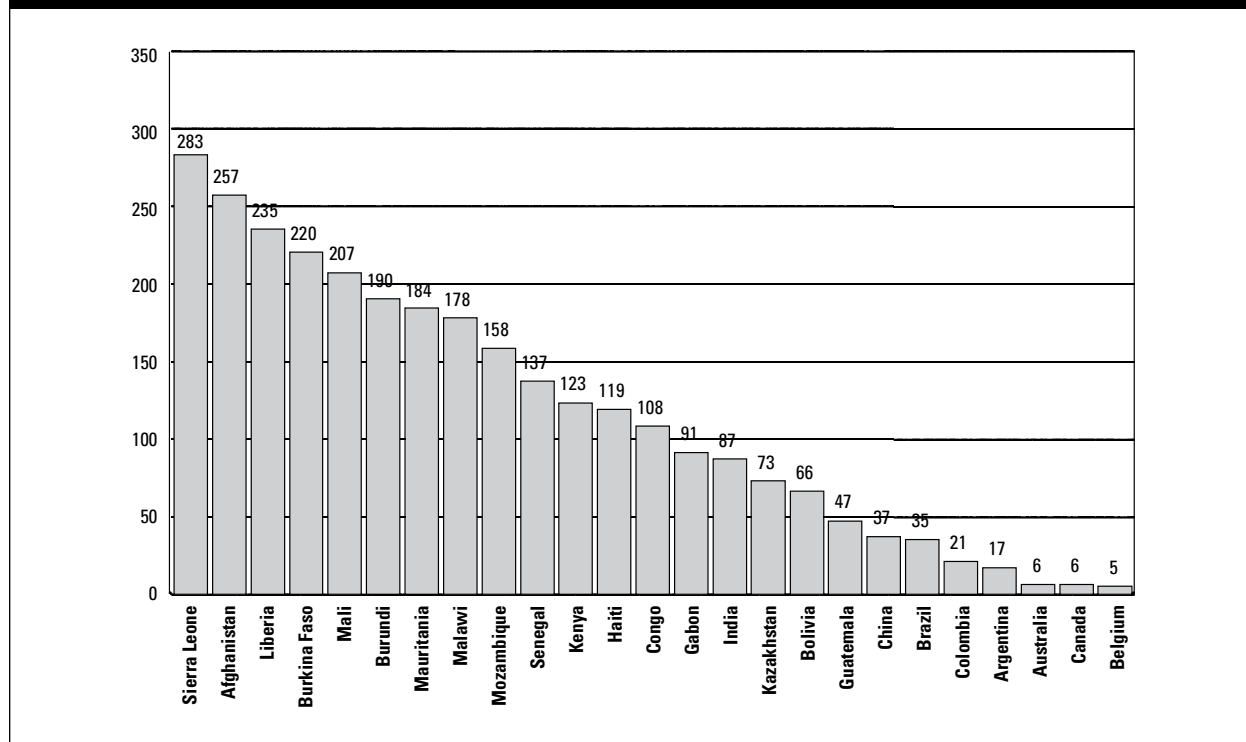
A comparison of under 5 mortality rates shows that while only five or six out of every 1,000 live births do not reach the fifth year of life in some countries, in other countries, the figure is 40 times higher (Figure 1).

Under-5 mortality rates are much lower in the Americas than in some developing countries in Africa and Asia.

¹ United Nations Development Program (UNDP). Human Development Report 2006. Beyond Scarcity: Power, Poverty and the Global Water Crisis. UNDP, New York, 2006.

² The Partnership for Maternal, Newborn & Child Health. Improving Health, Saving Lives.

FIGURE 1. Under- 5 mortality in some countries in the world
Rates per 1,000 live births



Source: The World Health Report 2005. World Health Organization, Geneva, 2005.

Newborns in Haiti, the country with the highest under-5 mortality in the Americas, have a relative risk of dying half or less than that of newborns in Sierra Leone, Afghanistan, and Liberia.

Nevertheless, major contrasts in this situation still persist in the Hemisphere: a newborn's relative risk of dying in Haiti still is 20 times higher than that of a live birth in Canada, and six times that of a live birth in Colombia.

This gap in child health status persists despite the progress of recent decades. Between 1990 and 2000 the Region of the Americas recorded a one-third reduction in infant and under-5 mortality, thus meeting the goal set at the World Summit for Children. However, this goal, achieved overall in the Americas, was not met by certain countries in the Hemisphere.

The gap in the evolution of health indicators from country to country is observed not only in the Region of the Americas but globally as well; and it is the reason why inter-

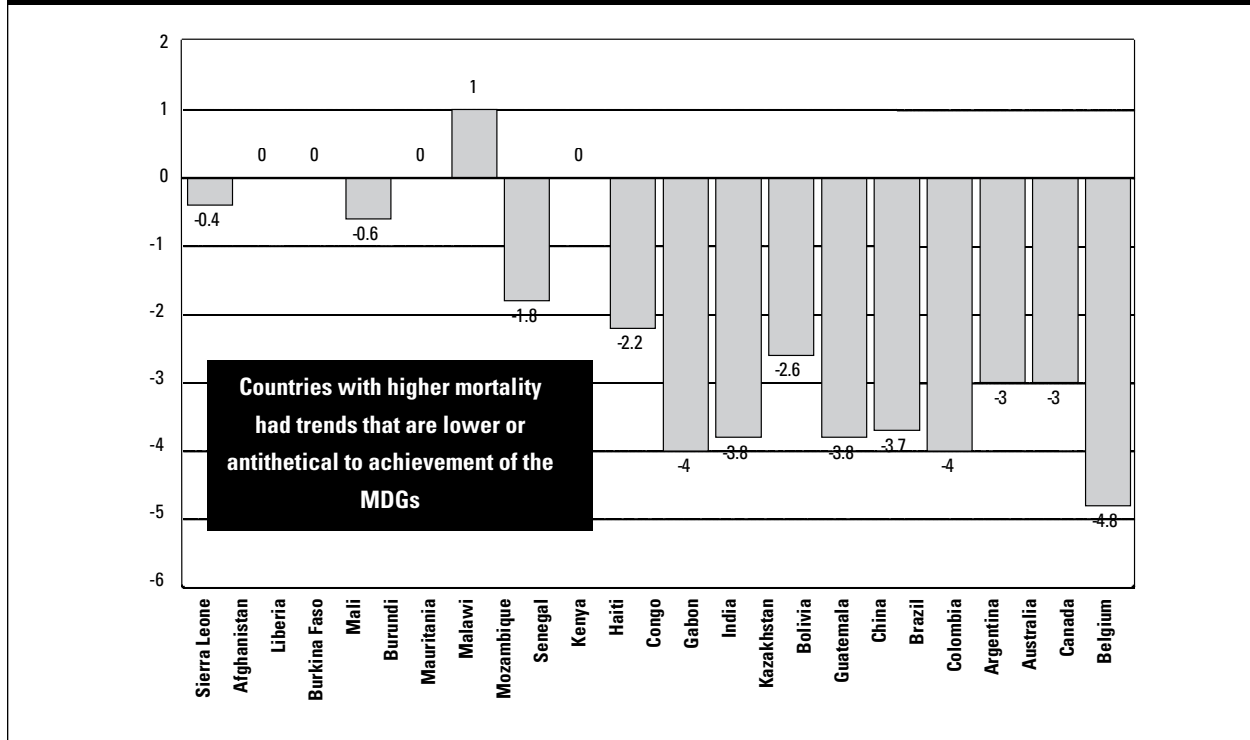
national technical cooperation agencies are giving priority to reducing the gaps between countries, rather than simply meeting the general goal of reducing mortality.

Many countries around the world sharply reduced their under-5 mortality during the last quinquennium of the 20th century and the initial years of the 21st century. This reduction was largely due to the plummeting mortality from infectious diseases. As a result, the significance of these diseases as a threat to health during the first years of life fell markedly.

Nevertheless, the countries with higher mortality progressed more slowly than those with lower mortality, and in some of them, children's health status has remained the same or deteriorated further in recent years.

This contrast in the trend in under-5 mortality in the countries is visible on comparing the differences in the rate of mortality reduction achieved in this age group (Figure 2).

FIGURE 2. Annual percentage variation in under-5 mortality rates in countries of the world between 1995 and 2003.



Source: The World Health Report 2005. World Health Organization, Geneva, 2005.

In the closing years of the 20th century and the initial years of the 21st, this indicator fell slightly or held steady in three countries with under-5 mortality rates in excess of 230 per 1,000 live births (Sierra Leone, Afghanistan, and Liberia). During this same period, in contrast, three countries with mortality rates of six or less per 1,000 live births recorded an average annual reduction of 3% or more for this indicator, reaching a 5% annual decline in the case of Belgium.

The combination of high mortality in the first five years of life and a low rate of decline in this indicator results in the persistent high risk of dying to which newborns in many developing countries are exposed. The fact that significant rates of decline are seen at the same time in countries that already have low mortality rates contributes to a widening of the gap that separates them, resulting in steadily growing inequity among the countries.

The contrast at the global level is also observed in the

Americas. Between 1995 and 2003, the country with the highest under-5 mortality rate (Haiti) had an annual rate of decline that was almost half that of the country with the lowest mortality in children under 5 in the Hemisphere (Canada). As a result, the relative risk of newborns in Haiti dying versus newborns in Canada rose substantially in that period.

The contrast among the countries with respect to the under-5 mortality trend was also observed among developing countries: the rate of decline in Haiti between 1995 and 2003 was half that of Bolivia, the country with the second-highest mortality in children under 5 in the Hemisphere, after Haiti.

The high number of infant deaths, together with the high number of maternal deaths that still occur in many countries of the world are a matter that must be addressed, given the existence of interventions and measures that could pre-

vent and effectively treat most of the diseases and health problems responsible for them. The effectiveness of these measures has been demonstrated not only by the evaluations conducted in numerous locations and work environments but also by the results in mortality trends observed in many countries of the world that have employed them for several decades.

The latest estimates by the World Health Organization (WHO) indicate that around three out of every four maternal deaths that occur annually worldwide are preventable, which represents the potential for saving the lives of approximately 375,000 women of childbearing age who die each year in pregnancy, childbirth, and the puerperium. It is also estimated that some two out of three of the deaths in children under 5 that occur annually are preventable, which would mean preventing 7,000,000 child deaths in first five years of life annually.

The magnitude of the loss of life that still occurs annually in the countries, added to the unequal distribution of deaths, unjustly puts mothers and newborns in the most vulnerable populations and with greatest need for care at risk, underscores the importance of taking up the main challenge faced by international community in the 21st century, which is putting our knowledge and technology in action to improve health status and ensure greater equity.

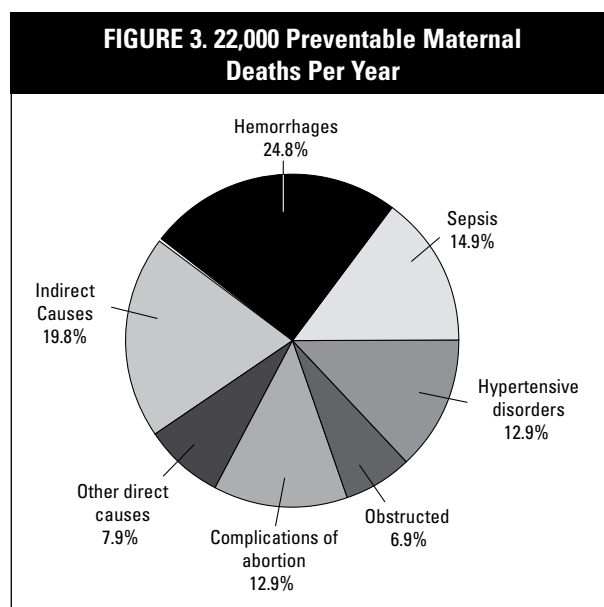
THE REGIONAL SITUATION

Maternal, neonatal, and child health has been a priority in the Americas in recent decades and remains one of the principal lines of action of the governments of all the countries, within the context of the commitments made in the Millennium Development Goals.

Outstanding progress has been made and is reflected in the achievement of the World Summit for Children's goals of reducing maternal mortality and infant and child mortality, in general and mortality from specific causes such as diarrheal diseases, acute respiratory infections, and malnutrition. The impact in terms of the reduction in the number of deaths from these causes has had a direct impact on life

expectancy in the population of the Region of the Americas, which has increased over past 25 years. The benefits of this longer life expectancy, however, have not distributed evenly among or within the countries.

Each year, 22,000 women of childbearing age die in the Americas from causes associated with pregnancy, childbirth, and the puerperium--deaths that could be avoided with the use of simple, effective prevention and treatment measures (Figure 3).



One out of every four maternal deaths is due to hemorrhage, which is the leading cause of death in women among causes associated with pregnancy and childbirth in the Americas. Hemorrhage, septicemia, and hypertensive disorders account for one out of two maternal deaths in the Hemisphere.

Complications of abortion are another major cause of maternal mortality. The available regional figures indicate that over 2,500 deaths per year in the Hemisphere are abortion-related. However, the figure may be even higher, since many countries have laws that affect the recording of abortion as an underlying cause of death, leading to a higher number of deaths attributed to septicemia or other causes whose origin actually lies in an abortion procedure.

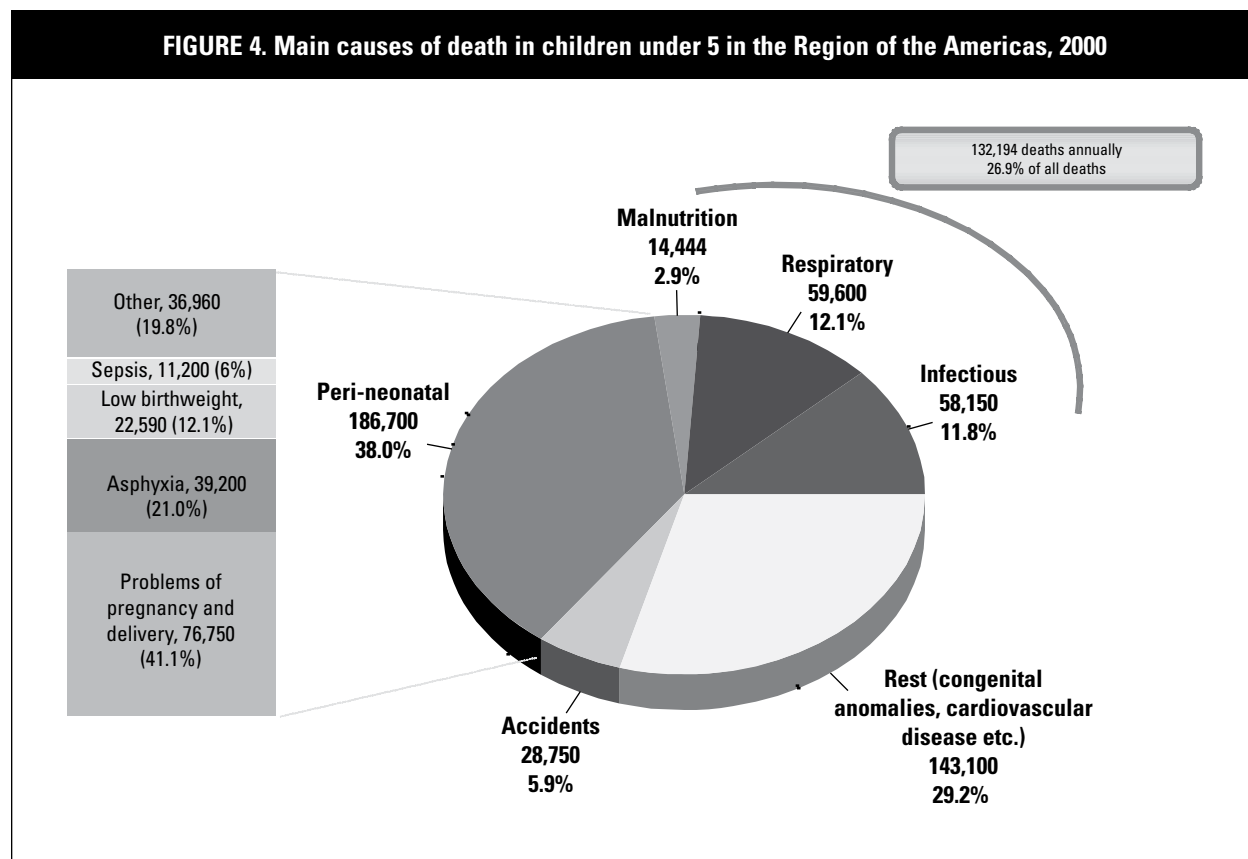
In addition, each year half a million children die before the

age of 5 in the Americas, and a high proportion of these deaths are attributable to causes that could be prevented or effectively treated if detected early.

Although the majority of deaths in children under 5 occur during the first year of life, especially during first month, infectious diseases, respiratory diseases, and malnutrition were still responsible for at least one out of every four deaths in the first five years of life recorded at the beginning of the 21st century (Figure 4). An estimated 60,000 children per year died before the age of 5 of a respiratory disease, and a virtually equal number died of a diarrheal disease. Furthermore, it is estimated that over 14,000 children died of malnutrition. This figure does not include deaths from other causes that are harder to treat because they are associated with poor nutritional status, which increases the risk of infection and lowers the body's natural resistance, even if the specific recommended treatment is received.

However, while this group of diseases is still a major cause of mortality in children, the epidemiological profile of the Americas at the beginning of the 21st century reveals that perinatal problems are the primary cause of mortality, accounting for roughly four out of every 10 deaths in children under 5 and more than half of the deaths in the first year of life. Among these problems, the number of deaths in the initial days of life from septicemia, low birthweight, and asphyxia at birth is similar to number of deaths from diarrhea and acute respiratory infections in children aged 1 month to 5 years.

Nevertheless, the highest proportion of neonatal mortality in the Americas stems from problems associated with pregnancy and delivery, which are responsible for most of the deaths recorded in the first month of life and for more deaths than respiratory diseases and malnutrition combined.



Source: Estimates of the Child and Adolescent Health Unit (FCH/CA), based on data from the Health System and Trend Analysis Unit (AIS). Pan American Health Organization (PAHO). 2004.

The current distribution of mortality in the first five years of life in the Hemisphere, therefore, shows the persistence of diseases and health problems typical of developing countries, such as infectious and respiratory diseases and malnutrition, associated with the growing importance of peri-neonatal problems as a cause of disease and death, these latter being the primary causes of mortality in the first years of life.

This combined epidemiological profile is also associated with striking inequality in the distribution of deaths in children, such that children born in certain countries in the Hemisphere have a 4 to 16 times higher risk of dying than those born in others (Figure 5).

Differences in the risk of dying in early childhood are observed not only between developing and developed countries, but also within the latter. At least three developing countries, Cuba, Chile, and Costa Rica, managed to lower their infant mortality rates to under 10 per 1,000 live births in 2005, while seven countries in the Hemisphere still have

infant mortality rates in excess of 30 per 1,000 live births, two of them with rates of over 50 per 1,000 live births.

The contrast among infant mortality rates in the countries of the Hemisphere reveals the persistent inequality in the distribution of the benefits of knowledge and simple prevention and treatment technologies for improving child survival. This inequality is also observed within each country, since mortality rates based on national averages conceal the differences between regions, provinces, departments, and human groups.

An analysis of maternal mortality rates in Nicaragua's SILAIS (Local Health Care Systems) shows that the pregnancy-associated risk of death in women of childbearing age can be more than 20 times higher in some areas of the country, with maternal mortality rates of over 500 per 100,000 live births (Figure 6). Thus, the national average conceals the gaps between the different SILAIS, revealing the lack of access by part of the population to prevention and treatment benefits that are available to other parts.

FIGURE 5. Infant mortality rates per 1,000 live births in the Region of the Americas. FCH/CA estimates. WHO/PAHO, 2005

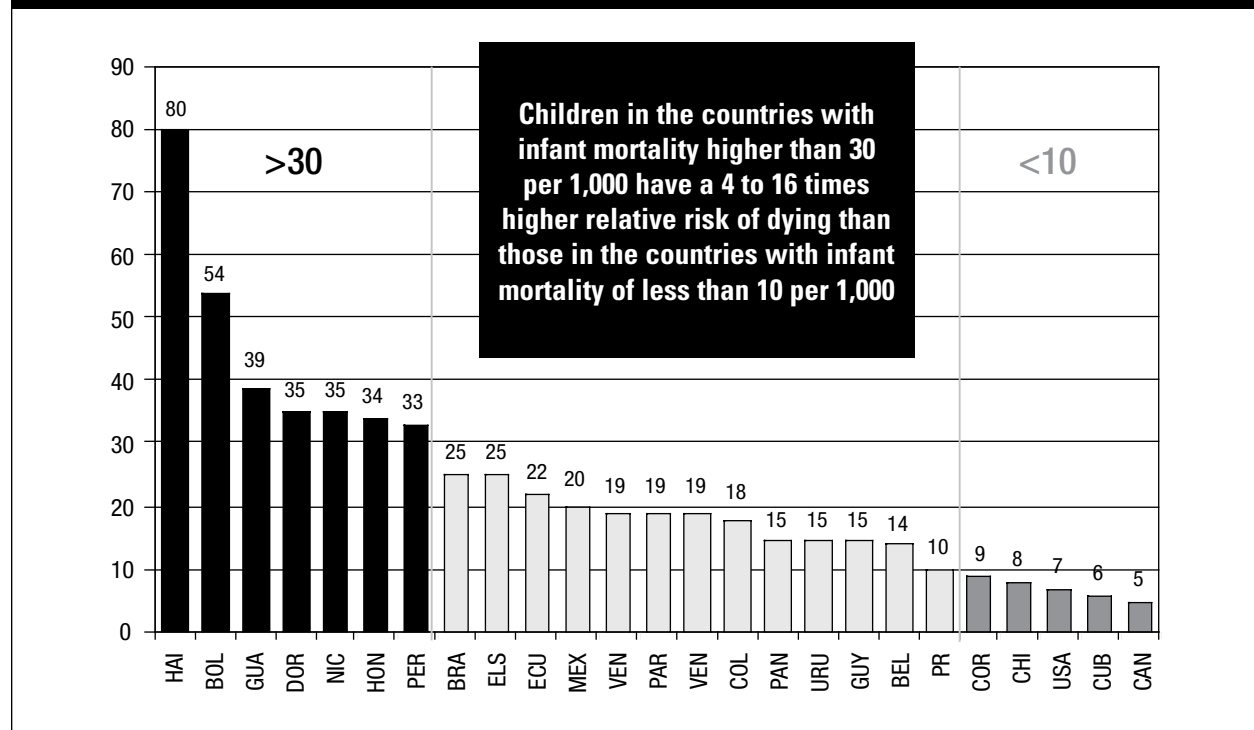
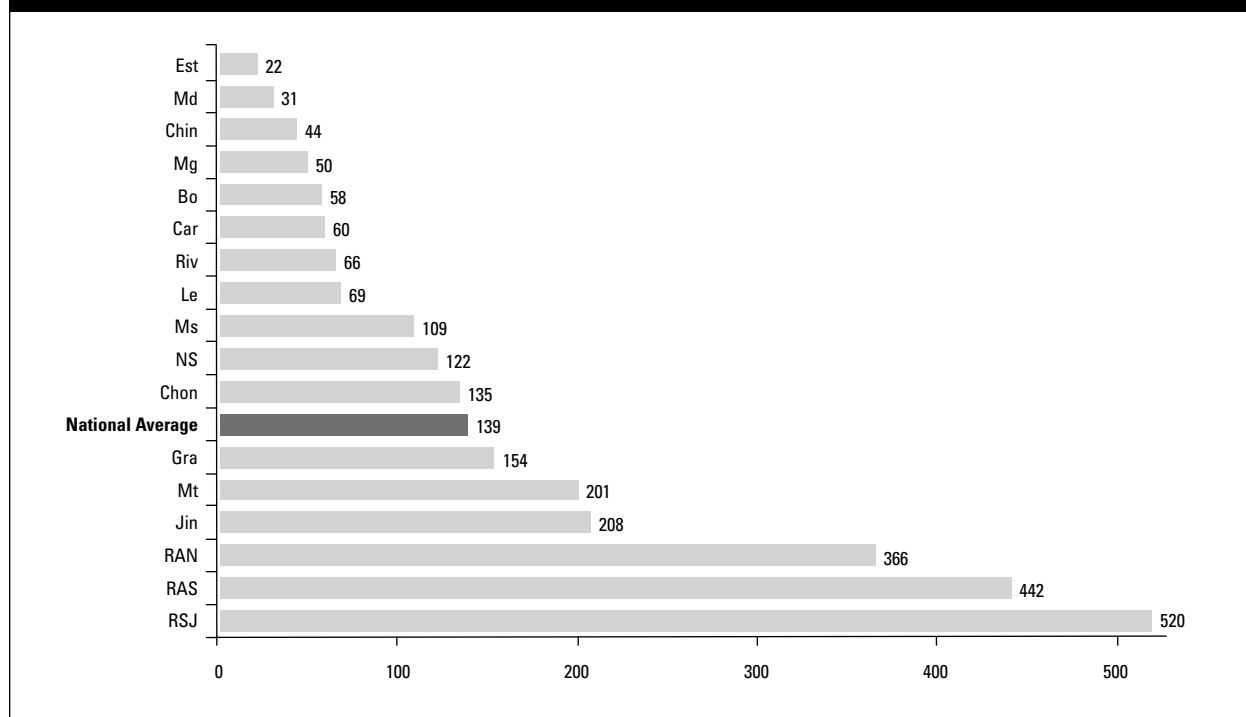


Figure 6. Maternal Mortality Ratios By Silais - Nicaragua (per 100,000 Live Births.



Source: MM Surveillance System, Ministry of Health 2001

The differences with countries are observed not only between geographical areas but within population groups as well. In all cases, the averages conceal the extremes, making it impossible to see the simultaneous presence of much higher values indicative of a very serious situation; instead the averages yield much lower values that would seem to indicate substantial progress in preventing and controlling the diseases and health problems that afflict the population. This is why health situation analysis is essential for identifying the areas in the countries with the most critical indicators in order to target the implementation and strengthening of control measures.

With the emphasis placed in recent years on achieving more equitable distribution of the health benefits that can be obtained from applying the available knowledge and technologies, identifying the most vulnerable population groups has become a priority. This has made it possible to determine the particular vulnerability of certain population groups, such as the indigenous peoples of the different countries of the Hemisphere, whose overall morbidity and

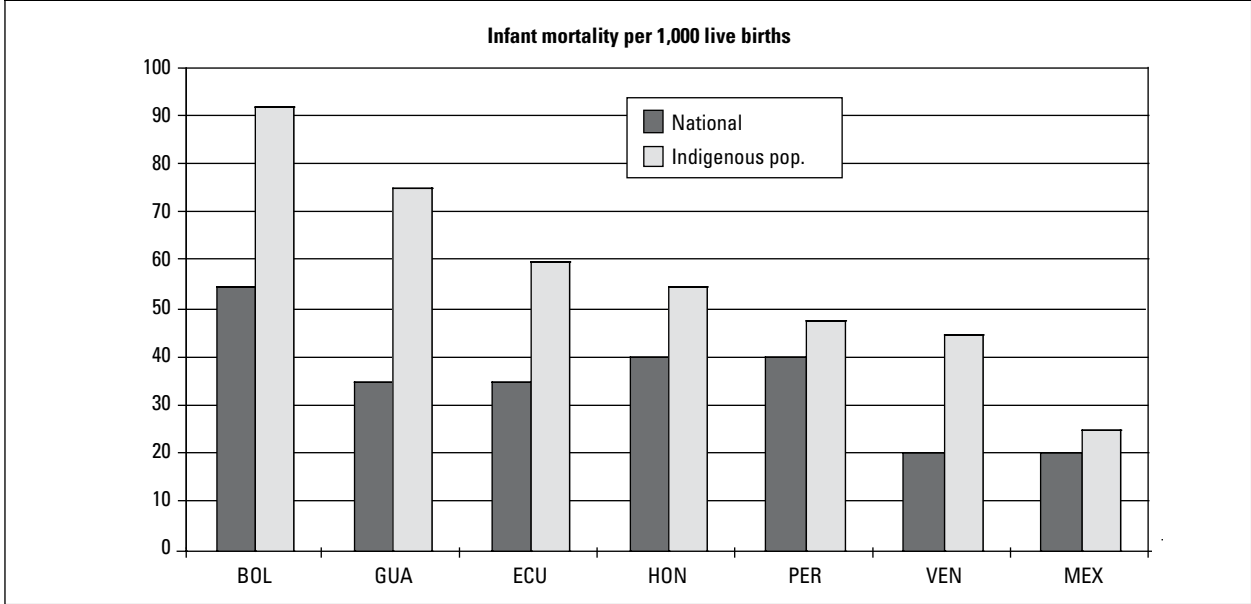
mortality rates are higher than the averages for the general population would indicate.

A comparison of infant mortality rates in Latin American countries, disaggregating national averages into indigenous and non-indigenous populations, has shown that indigenous groups have rates as much as twice as high as those observed in the general population (Figure 7).

These higher rates indicate that child survival is more threatened in indigenous populations, with the consequent adverse impact for the guarantee of ethnic diversity in the Hemisphere. The main threat in these cases comes from the persistence of diseases and health problems that are generally easily preventable or treatable and no longer pose a major public health problem in other, non-indigenous population groups.

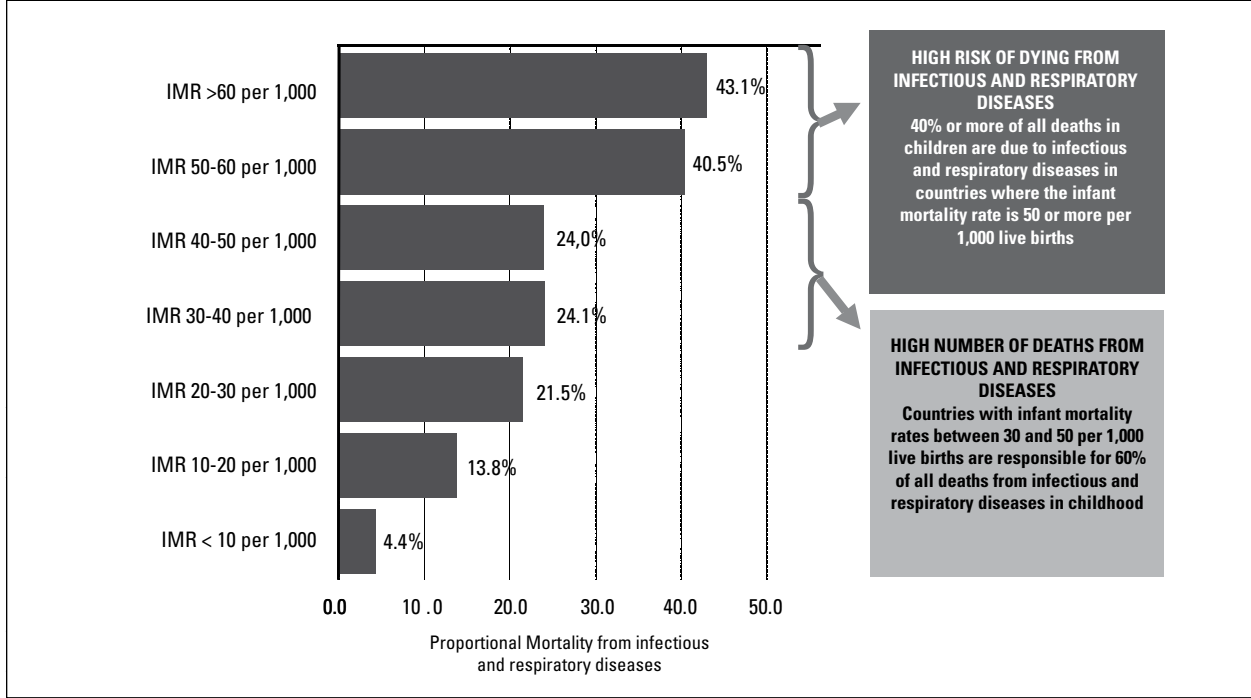
Analysis of the mortality profile in the Americas by infant mortality rate reveals that countries with high rates of infectious and respiratory diseases still have a very high proportion of deaths in the first year of life, accounting for over

FIGURE 7. Infant mortality at the national level and in indigenous populations of selected countries of the Americas



Source: PAHO/WHO 2000

FIGURE 8. Differences in the proportion of deaths from respiratory and infectious diseases in the Americas, by infant mortality rate. Estimates circa 2003



Source: Estimates of the Child and Adolescent Health Unit (FCH/CA), based on the information available in the Health Situation and Trend Analysis Unit (AIS). Pan American Health Organization (PAHO). 2004.

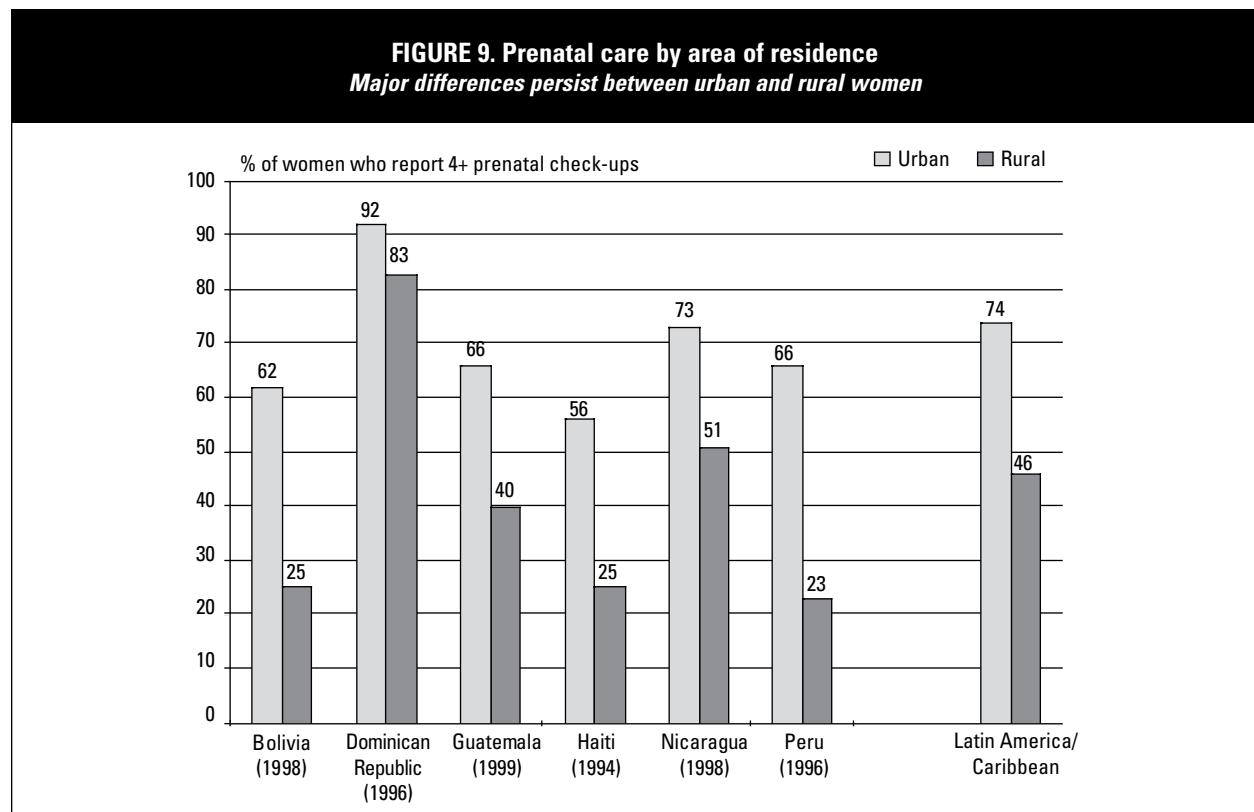
This inequity in the distribution of access to available prevention and control technologies combines with the differences in other key factors and determinants of maternal and child survival and healthy child growth and development. Significant among these are the income level of the population and, especially, the high levels of poverty found in rural, urban, and peri-urban areas; educational level and illiteracy of parents, especially the mother or young children's caregiver; women's nutritional status before and during pregnancy, as well as that of children in their first years of life; environmental conditions in and around the home and in the community that lead to greater exposure to health risks and threats to growth and development, which can manifest themselves in childhood and adulthood.

Unwanted pregnancies and lack of access to culturally acceptable reproductive health measures is also an important determinant of the health status of women, children, and the family. Associated with this are other family and community lifestyles that can become a present and future

risk to the healthy growth and development of children.

Greater exposure to the risk of sickness and death generally results in a higher prevalence and incidence of diseases and health problems that in other contexts could be prevented or treated effectively when detected early.

The gaps in maternal and child health status, however, are not only determined by the social, economic, and cultural factors that affect families and communities. The way that the available prevention and treatment interventions are distributed and applied helps to reduce or exacerbate them. Thus, the population's access to neonatal, maternal, and child health services, as well as family planning and family and community health services, is a factor of the greatest importance that influences the end result, expressed in the morbidity and mortality figures of this population group. The same holds true for continuous availability of basic inputs in order to guarantee that application of the prevention and treatment measures, the quality of prevention and treatment services, and the population's access to health services, health infor-



Source: AbouZahr and Wardlaw, 2002

mation, and education for the target population, provided in an appropriate, understandable, and acceptable manner.

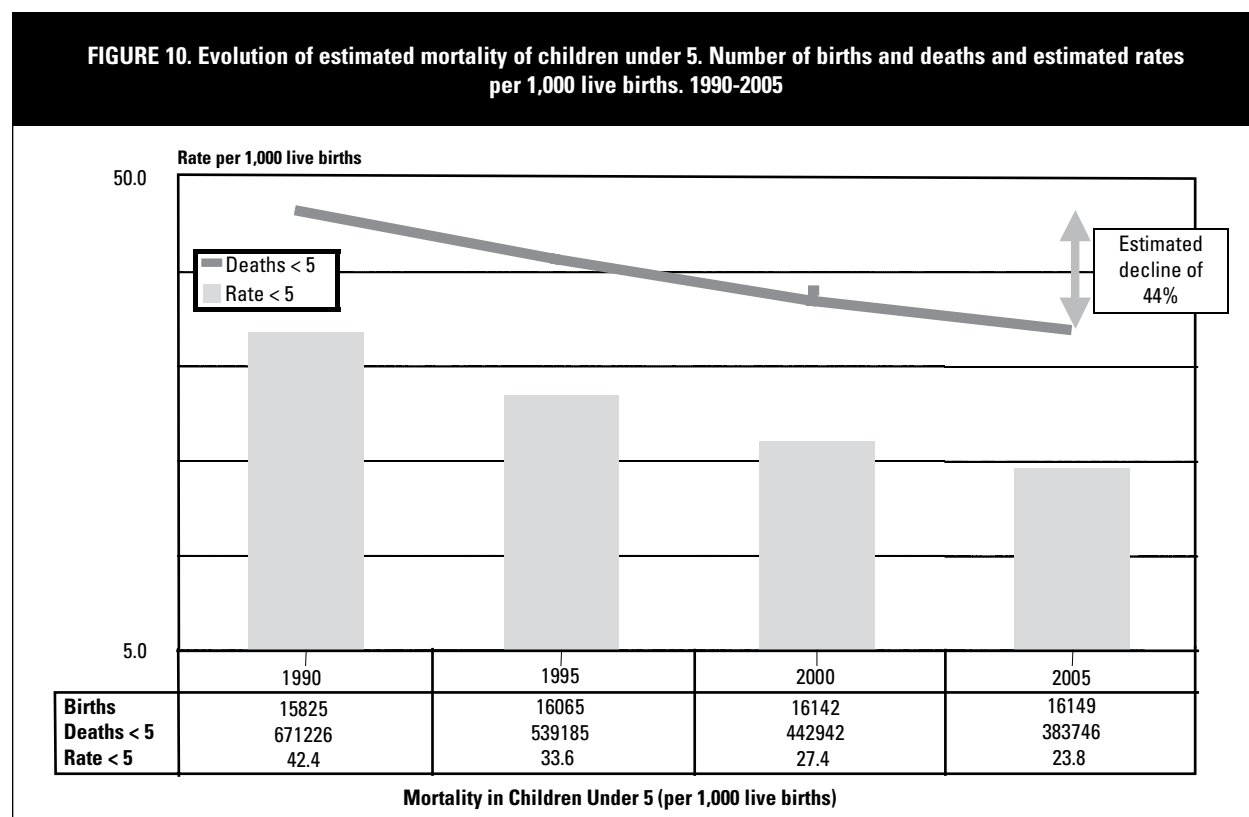
Another determinant of equity in the distribution of interventions is the existence of appropriate information systems to provide an early and timely indication of the population's health status. These systems permit rapid identification of higher-risk situations to target and improve action in health and health activities and make up the differences in access to the interventions and their impact in terms of reducing maternal, perinatal, and infant morbidity.

Today, simultaneously addressing these and other key determinants and factors associated with the characteristics of populations and the coverage, quality, and timeliness of action to improve health is a real challenge for the countries. Success in achieving lower morbidity and mortality in the population and closing gaps between and within countries and population groups will depend on it.

PROGRESS

In recent years, the countries of the Hemisphere have made progress toward meeting the challenge of obtaining higher levels of maternal and child health. This has been reflected in their fulfillment of the commitments made at the World Summit for Children, whose goals included reducing mortality in children under 5 by one-third during the decade 1990-2000. This was achieved by increasing the rate of decline in mortality in this age group during the period as compared with figure for the 1980s, and helped to accelerate the decline in under-5 mortality, saving many lives in the Hemisphere. The continuity of the national and regional efforts beyond 2000 made it possible to project the significant trend of the 1990s and, by 2005, the Region of the Americas had achieved a 44% drop in the under-5 mortality rate (Figure 10).

This decline in mortality virtually halved the number of



Source: Estimates of the Child and Adolescent Health Unit, Family and Community Health Area (FCH/CA), based on "Health Conditions in the Americas. Basic Indicators 2004". Health Analysis and Health Information Systems. Pan American Health Organization/World Health Organization (PAHO/WHO), 2005.

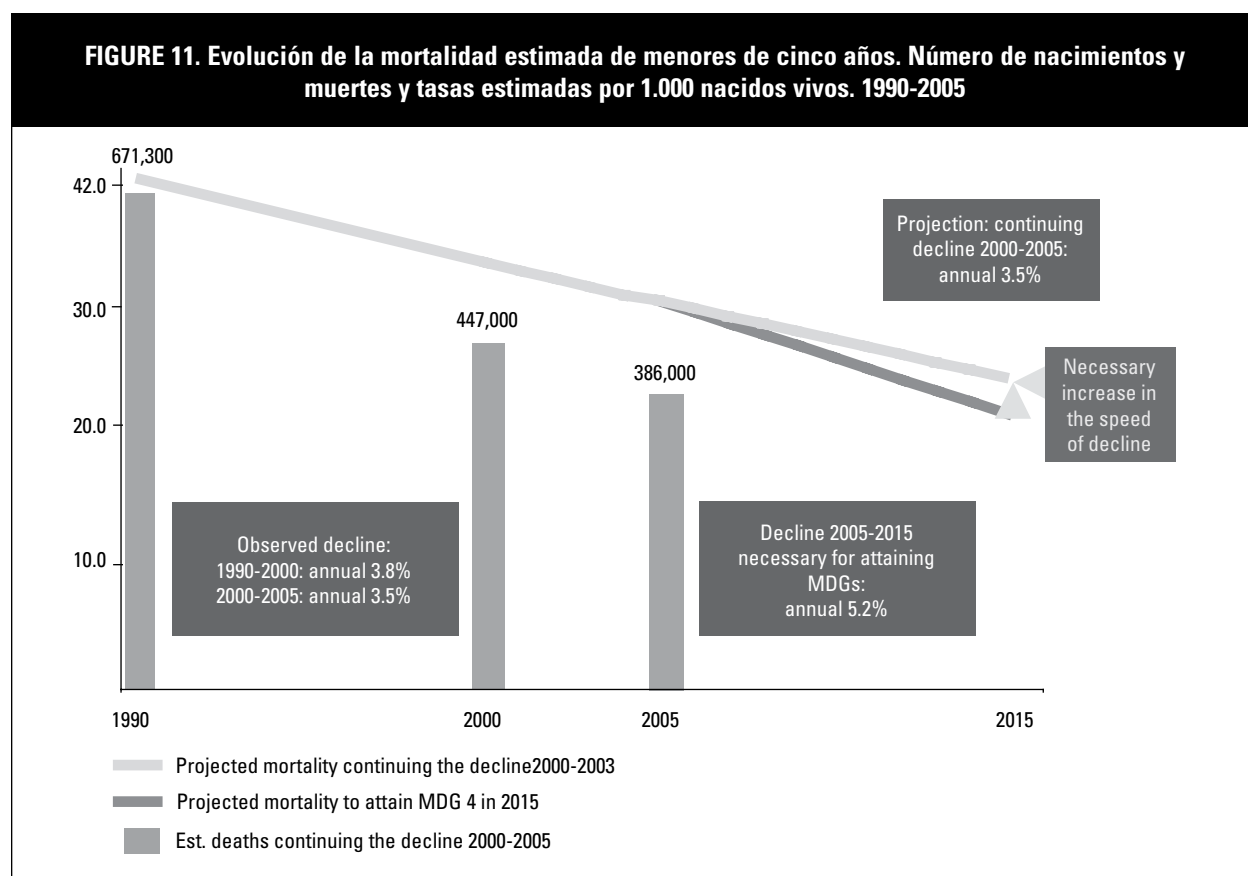
deaths in children under 5 between 1990 and 2005, taking the risk of dying in the first years of life from over 40 per 1,000 live births to a figure close to half of that.

Despite this significant progress, the rate of decline achieved in recent years is not sufficient to meet the countries' commitment in the Millennium Development Goals to achieve mortality in children under 5 that is of one-third of the 1990 rate by 2015 (Figure 11). Over the next 10 years, the rate of decline in under-5 mortality must increase to 5.2% annually, a figure 48% higher than the rate of decline recorded in the first five years of the 21st century. Thus, the reduction to which the countries committed themselves in the MDGs can be achieved only by accelerating the decline in the under-5 mortality rate. This will require not only sustaining efforts to date to apply the available interventions for the prevention and treatment of diseases and health problems but expanding their coverage to the most vulnerable population groups.

However, globally increasing the rate of decline in mortality in the Hemisphere is not the only challenge that the countries will face in the coming years, especially if meeting the MDG targets is to contribute to a simultaneous reduction in the gap between countries and population groups, thereby achieving more equitable health conditions in the Hemisphere.

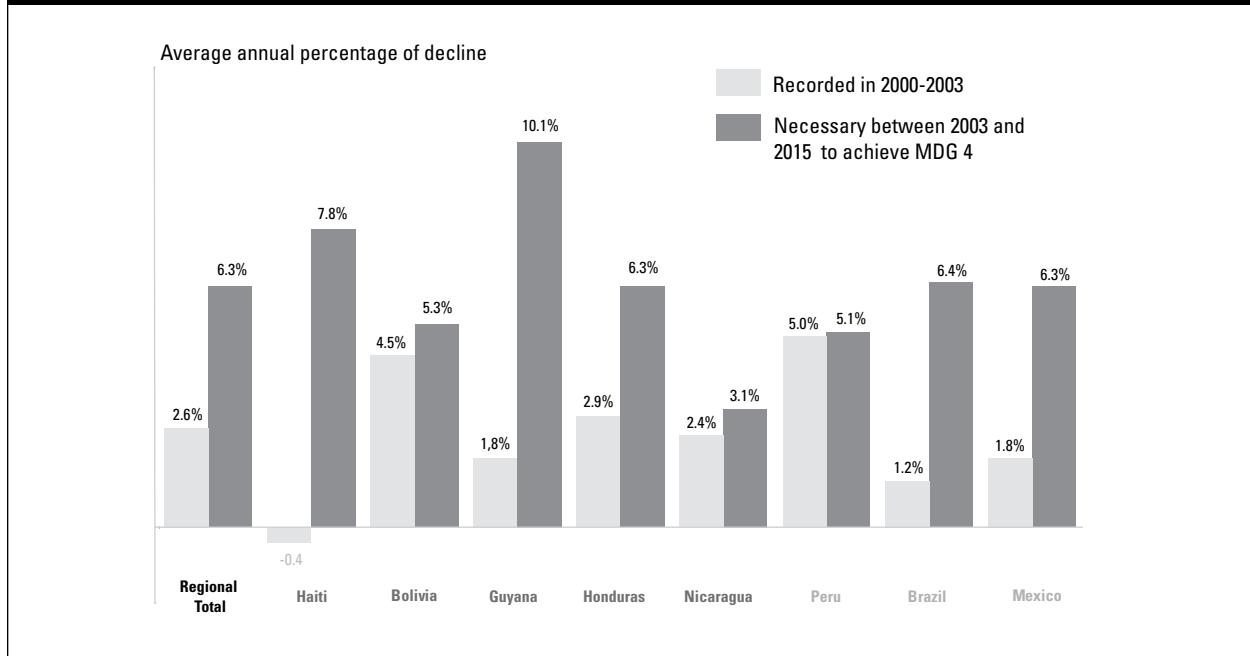
In recent years, a slower decline in under-5 mortality has been observed in many countries. Furthermore, the countries have shown similar rates of decline in under-5 mortality, and those with the highest mortality indexes did not always achieve the fastest rate of decline (Figure 12). None of these findings is compatible with meeting the MDG targets and achieving more equitable health status for children in the Region of the Americas.

At the regional level, the rate of decline achieved during



Source: Estimates of the Child and Adolescent Health Unit (FCH/CA), based on data from the Health Situation and Trend Analysis Unit (AIS). Pan American Health Organization (PAHO). 2004.

FIGURE 12. Average annual rate of decline in mortality in children under 5 in the Region of the Americas. Comparison of observed values and the values established at the International Summits



Source: Estimates of the Child and Adolescent Health Unit (FCH/CA), based on data from the Health Situation and Trend Analysis Unit (AIS). Pan American Health Organization (PAHO). 2004.

the first quinquennium of the 21st century must more than double to meet the target set in the MDGs for 2015. Although at least one country in the Hemisphere has recorded a rate of decline similar to what it needs to meet the goal, in some countries the increase required in the coming years is five to seven times the rate achieved during the first quinquennium after 2000.

This situation is particularly bad in countries with higher mortality in children under 5, because, in order to bridge the gap that separates them from the rest of the Region, they must substantially increase the rate of decline in that group. Only this way can the proposed targets be met, not only at the hemispheric level but in each country, helping, moreover, to reduce the relative risk of newborns dying in one country versus another.

A comparison of what has happened in the countries, nevertheless, offers concrete examples of the success that can be achieved the implementation of prevention and treatment interventions, which have helped to achieve declines of up

to 5% annually in some countries. Taking these experiences and adapting them to the needs of the rest of the countries can help accelerate the decline in mortality in the coming years, especially in the higher-risk countries.

CHALLENGES AND OUTLOOK

The renewed commitment by the countries of the world to continue reducing maternal, perinatal, and infant mortality, as reflected in the targets set for 2015 as part of the MDGs, represents a confirmation of the priority assigned to child survival and healthy growth and development. This priority is also reflected in other international agreements and declarations such as the New Delhi Declaration on Maternal, Newborn, and Child Health; the World Health Organization's resolution on the Maternal-Neonatal-Child Health Continuum; and the formation of the Global Partnership for Maternal, Newborn, and Child Health (The Partnership).

In the Region of the Americas, moreover, these commit-

ments were bolstered with the presentation to the Directing Council of the Pan American Health Organization of the “Regional Strategy for Maternal Mortality and Morbidity Reduction” (2002), the presentation of the “Regional Strategy and Plan of Action on Nutrition in Health and Development, 2006-2015” (2006), and the document “Neonatal Health in the Context of Maternal, Newborn, and Child Health for the Attainment of the Development Goals of the United Nations Millennium Declaration” (2006).

These global and regional initiatives help to underscore the priority assigned to maternal, perinatal, and child health in the international and domestic agenda. They also lay the foundations for collaboration between the countries and international organizations that will accelerate the implementation of concrete plans of action to ensure that information and prevention and treatment measures reach the most vulnerable population groups, thereby helping to reduce the incidence and severity of the diseases and health problems that threaten child survival.

The Region of the Americas has a real opportunity to meet the targets set, although doing so will be a major challenge for the countries in the coming years. This favorable outlook for meeting the targets is based on the impetus achieved in the implementation of maternal and child interventions and health strategies over the past 25 years. This has made it possible to meet the goals set for 2000 by the World Summit for Children, which the countries committed to in 1990, and to strengthen primary health care as the linchpin for organizing health systems and reaching the most vulnerable population groups—a strategy that has been adopted as a model by the majority of developing countries in the Hemisphere.

The integration of interventions, which has resulted in the development of new models of care that go beyond approaches that focus on disease and foster an approach more geared to the evaluation of general health status, has led to more efficient use of resources for their implementation as well as for the care provided at the first level.

Based on these experiences and developments, in light of the process followed during the 1990s as part of the

regional initiative for achieving the Summit goals, most of the countries have developed plans and are designing and implementing national and local policies to improve intersectoral coordination, foster community participation, and make more efficient use of the available resources in order to focus them especially on meeting the maternal and child health targets set in the Millennium Development Goals.

In this regard, the experience with the implementation of the Integrated Management of Childhood Illness Strategy (IMCI) has been very beneficial. IMCI has both a health service and a community component, combined with broad institutional participation, especially by institutions devoted to the training of health workers (i.e., medical and nursing schools).

The IMCI experience has also been a real example of how to integrate interventions into a single strategy to reach the entire population. This has involved not only an expansion of the strategy’s geographical coverage but, through its continuous adaptation to the needs and realities of the countries and priorities, the addition of new components, that based on the epidemiological profile, have become key to improving child health and making the community an important player in the application, monitoring, and evaluation of results.

More recently, the IMCI strategy has also expanded and enhanced its role as the gateway to a life-cycle approach, promoting integrated care not only of children but mothers, women, and the family as well. In this way it is contributing to the design and implementation of an epidemiological surveillance system for maternal, neonatal, and child health that will generate greater knowledge about the local and national epidemiological situation and, thus, more efficiently channel the available resources to the greatest needs.

Even with these key opportunities for the Region to meet the MDG targets, the path to their achievement is not clear; significant obstacles must be surmounted.

It is important to keep stressing the need to move toward action, working to ensure that the knowledge and technologies that are already available are put within reach of the

entire population, especially the most vulnerable groups.

It is therefore ever-more imperative to engage the political will of national and local government in all the countries and ensure that it translates into the action and decisions that will guarantee the necessary resources and investment to make interventions and strategies for prevention, treatment, and the promotion of maternal, perinatal, and child health available to the population.

Efforts should also be made to ensure the use of sustainable approaches that will guarantee the continuity of the interventions and strategies, especially since meeting the commitments to improve maternal and child health requires their widest and most systematic application if the entire population is to be reached.

That continuity also requires the guarantee of skilled human resources for maternal and child care at all levels, but especially the first level of care and the community level, since a significant proportion of the Region's population still has no access to institutional health services.

Reorienting the health services through the renewal of primary health care (PHC) also poses a challenge for the coming years: broadening the vision of local personnel and health services to improve an approach that considers the multiple determinants of health and takes advantage of all opportunities for information and knowledge sharing, prevention, early detection, and treatment.

Finally, governments must take up the challenge of guaranteeing social protection in health for the population that will enable every mother and her family to enjoy all the benefits that prevention and treatment offer but at the same time improve their knowledge and practices to make them more active in maintaining their health and promoting development.

In the coming years, therefore, governments must emphasize the implementation of effective interventions and strategies that have had a demonstrable impact on maternal, perinatal, and child health. By targeting the expansion of these strategies to higher-priority geographical areas and

population groups, we can achieve the desired impact, not only in terms of reducing mortality and morbidity but of narrowing the gap between population groups.

Sustaining this process for the length of time necessary to meet the MDG targets will require the countries to reach an intersectoral and legislative consensus to guarantee that the health policies and resources necessary to accomplish this become State public policies. This will entail not only adopting plans that can span different government administrations, but addressing the need for the human and material resources to sustain them in the public sector's regular operating budget.

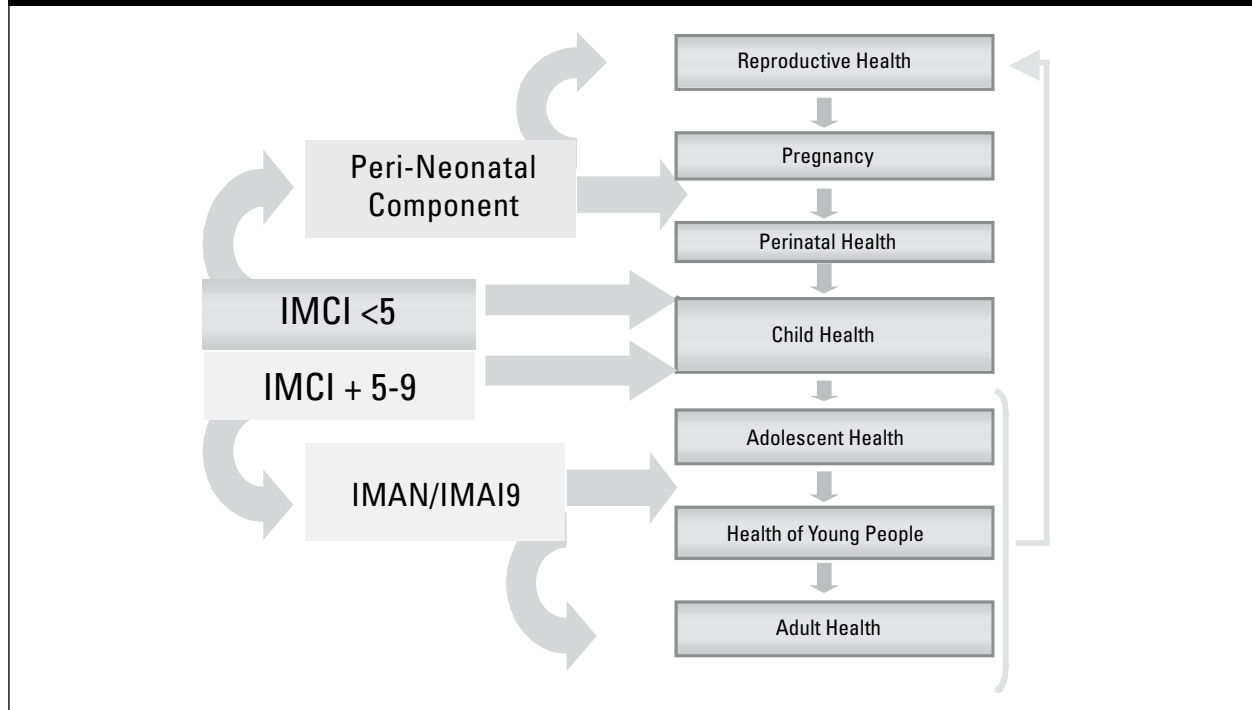
The use of sustainable approaches to improve maternal, perinatal, and child health status is essential in this context, as their implementation and expansion will be one of the main activities in the national plans of action in the coming years. Given the experience gained in the countries and the Region during the adaptation and subsequent implementation of the IMCI strategy and the need to continue strengthening the integrated management approach, the next steps should be geared to achieving a life cycle approach that links the various interventions and strategies with each other to offer continuous responses to the needs of each group.

Expanding the IMCI strategy to provide health care for children aged 5 to 9 and linking it with adolescent, adult, and perinatal health care strategies offers an opportunity for a more integrated response, especially through primary health care (Figure 13).

These integrated strategies will, in turn, strengthen health services and community actions that target the family, ensuring that care at every stage of life is an opportunity to promote health and detect potential signs of disease or problems that can jeopardize survival and healthy growth and development.

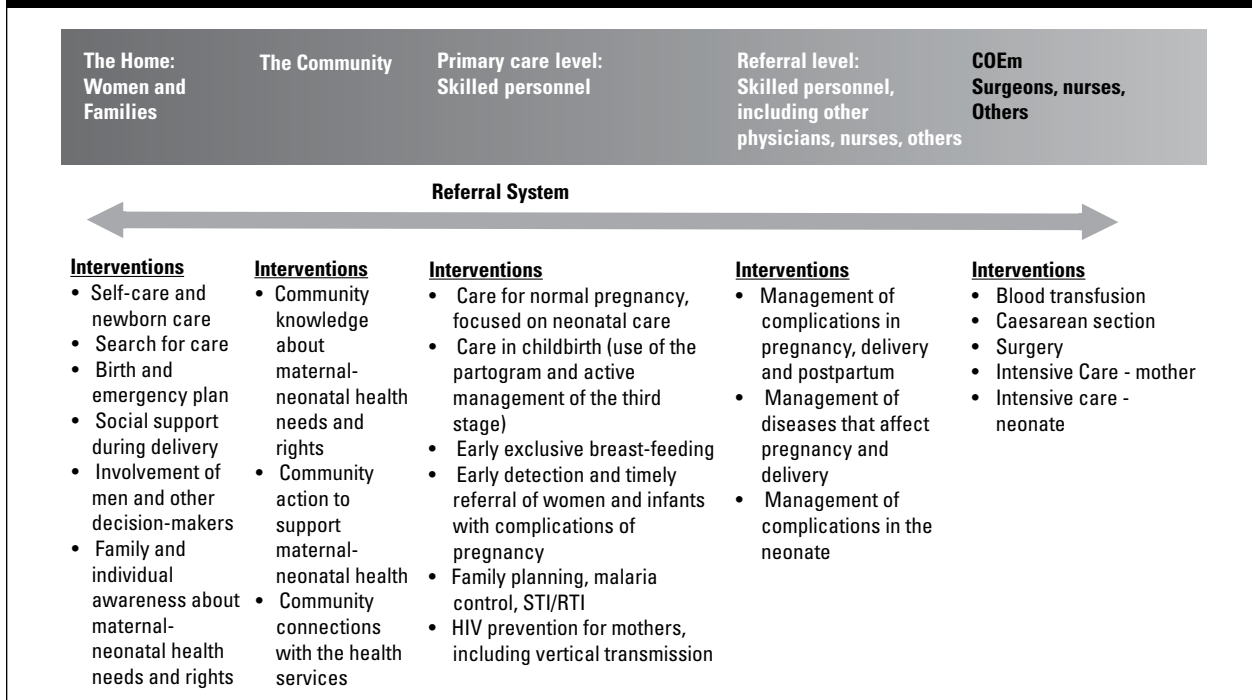
Implementing these strategies and the interventions that comprise them will also entail the intervention of different levels, including health institutions as well as in the community and family, offering an opportunity for active intersectoral and community participation (Figure 14). This will

**FIGURE 13. Sustainable approaches and integrated strategies throughout the Life Cycle:
A response to the new challenges**



Adaptation of the Introductory Module on Child and Adolescent Health. Child and Adolescent Health Unit, Family and Community Health Area(FCH/CA). Pan American Health Organization (PAHO). 2004 (in press)

FIGURE 14. A continuum of services and care under construction



strengthen the role of each family member and community in integrated care and health protection, giving them the information, knowledge, and practices they need to make informed decisions about their own health and that of their families, thereby helping to improve growth and development and reduce the risk of disease.

In the coming years, the horizon of successes that can be achieved will continue to expand, as will the way in which they can be achieved. This will include not just the search for more equitable conditions in maternal, perinatal, child, and family health, but achieving the active participation of the family and community.

Adopting integrated care strategies that span the entire life cycle, promoting broader national and local adaptation that are adequate for the different needs of each place, guaranteeing they reach the populations that need them the most, and ensuring the monitoring, supervision, and evaluation of their results will help lay the foundations for more active and democratic participation by the people in health, within the framework of health as a basic human right.

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5. The Response of Texas Children's Hospital to Hurricane Katrina: Events and Lessons Learned

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INTRODUCTION

In August 2005, Hurricane Katrina formed in the Bahamas and swept across south Florida as a moderate Category 1 hurricane, leaving damage and several deaths in its wake. After passing through the area, it rapidly gathered strength as it crossed the Gulf of Mexico, turning into one of the strongest hurricanes ever recorded.

The damage and number of deaths from Katrina made it the costliest and deadliest hurricane in U.S. history. Of the hurricanes that made landfall in the Hemisphere, it was the sixth-strongest ever recorded, devastating vast areas of the United States' northern and central Gulf Coast.

The damages from Hurricane Katrina, in material and human terms, were greatest in New Orleans and along the Mississippi River, assuming catastrophic proportions in the former. In New Orleans, Katrina inflicted damage that resulted in the flooding of 80% of the city and major outlying areas, which remained under water for weeks.

At least 1,800 people lost their lives during the hurricane and the floods in its aftermath, making Katrina the deadliest hurricane since 1928. Estimates put the storm damage at US\$ 81.2 billion, making it also the costliest natural disaster in U.S. history.

Given the magnitude and severity of Katrina, the hurricane response posed a challenge to the entire health system. Especially important were the efforts to mitigate the impact of this natural catastrophe on children's health, since children are the most vulnerable to environmental risks.

Organizing the pediatric response to the hurricane entailed providing care not only for the thousands of people evacuated from the areas hit by the storm, but the hundreds of children interned in flooded pediatric hospitals in the cities stricken by this natural disaster, who had to be evacuated.

Texas Children's Hospital in Houston, Texas, headed the pediatric response to Hurricane Katrina in New Orleans and nearby areas, putting to the test its capacity to respond rapidly to a natural disaster of uncommon proportions. The response of Texas Children's Hospital to this medical and organizational challenge helped mitigate the hurricane's impact on child health, increasing the experience and ability of its professional and technical team to act in a mass emergency.

INITIAL CONSIDERATIONS

The imminence of Katrina's arrival on the Gulf Coast and the strength that it had gained after crossing south Florida were the first signal to the professional team at Texas Children's Hospital (TCH) of the need for a rapid response plan in case the hurricane caused damage requiring outside assistance.

This foresight that TCH might have to lend assistance during the catastrophe enabled it to provide a rapid response to the initial requests for assistance from the disaster area immediately after the levees that held back the waters of Lake Pontchartrain collapsed on 29 August 2005. Thus, the request for assistance from Tulane Hospital for Children was swiftly attended to, and 19 patients from its Intensive Care Unit (ICU) were transferred to TCH by helicop-

ter. That same day, the Federal Emergency Management Agency (FEMA), asked TCH to furnish transport and the transfer of 14 patients from the Children’s Hospital of New Orleans subsequently began.

However, the initial need to assist with the evacuation of hospitals hit by the flooding was soon to be complemented with a wider need: care for the thousands of people that lost their homes in the disaster and would be sheltered in the Houston Astro Arena and the Superdome.

This experience put TCH’s organizational and rapid response capacity to the test—capacity that had been exercised in previous years, since as a coastal city, Houston has had to contend with natural disasters for many years. A notable case was the one produced by Hurricane Carla, which killed over 1,000 people in Galveston and resulted in the use of the code *Carla* for all events that produce a hospital emergency. Code *Carla* activates a series of administrative and safety procedures that put the entire institution on an emergency footing.

MOUNTING THE RESPONSE: PREPARING THE FACILITIES

Activating *Carla* triggered two simultaneous responses: organizing TCH facilities to prepare it for treating the children from the evacuated hospitals, and mounting the care response for children from evacuated families—boys and girls who might or might not eventually require hospitalization. Both responses implied activities involving the physical infrastructure, the provision of essential medical supplies, and ensuring appropriate human resources.

The first response triggered by *Carla*, the internal organization of TCH facilities, also posed a challenge: it called for multiplying the available space for the care of hospitalized patients in response to the arrival of patients from evacuated hospitals located in the area hit by the hurricane.

- First, an estimate was made of the ***number of children evacuated from the affected hospitals that would require hospitalization***; this estimate would be used for deter-

mining physical space needs over and above the available space at TCH.

- Second, an ***intensive internal assessment of hospitalized patients was conducted to ensure the best use of hospital resources***. This resulted in a rigorous assessment of each patient to determine which could dispense with the use of mechanical respiratory assistance, which could receive care outside the intensive care unit, and which could be released for home hospitalization or outpatient care. This freed up beds at different levels of complexity, adding them to the extra beds that could be installed in every service during emergencies.
- Third, an ***internal survey of conditions in TCH was conducted and the response to the potential arrival of Hurricane Katrina or other hurricanes was defined***, designing internal evacuation programs, identifying the safest areas of the building, and checking the condition of the emergency generators, flood control systems, and the status medical supplies, food, and all the inputs necessary to keep TCH operating during an emergency.
- Fourth, an ***internal coordinating group*** was created, whose job was to set up the patient registry for the children transferred to TCH, the archive with their existing medical records, and the notification of their families, many of whom were not at the hospital where their child was a patient at the time of its transfer to TCH .

The second response also implied rapid decisions about providing appropriate physical space to meet a massive demand for care by thousands of families who, if unchecked, would descend on TCH, overwhelming its outpatient facilities. This led to the decision by TCH to create an outpatient facility in the Astrodome that would bring the care to the place where the families were being housed and prevent a massive influx of people at the TCH’s own facilities, enabling it to provide better care to all patients requiring hospitalization.

EVACUATION OF CHILDREN FROM HOSPITALS IN THE STRICKEN AREA

Effective evacuation of children from these hospitals called for organizing the logistics and operations of the

transport units, which involve the need for supplies and human resources capable of providing the best response to needs at the disaster site. The transfer units were viewed, moreover, as an opportunity to support treatment efforts at the disaster site; that is, they helped move essential basic supplies from TCH to the affected area.

In order to accomplish this, TCH transfer units were modified to increase their transport capacity. These units equipment usually contain three types of equipment, available 24 hours per day: neonatal equipment, pediatric intensive care equipment for distances of less than 60 miles, pediatric intensive care equipment for longer distances. These last two types of equipment require the fuel and supplies necessary for independent operation during the transfer, reducing the risk of having to interrupt operations for nonmedical reasons during the transfer of a gravely ill child.

TCH also drew on its equipment and supply reserves, which proved invaluable in providing a rapid response to the catastrophe.

Finally, it required the reorganization of human resources so that trained teams in could be in good condition to carry out the transfers, guaranteeing the necessary rest for personnel. Here, it was very important to mount an efficient response to offers from volunteer health workers who immediately came to offer their assistance in the tragedy. Organizing the response to this situation was key, since volunteers cannot be used if their background and credentials cannot be verified.

Certain fundamental practical considerations had to be borne in mind when setting up the evacuation and transport systems:

- ***Coordination with the other pediatric hospitals*** that were providing assistance during the disaster was essential for mounting evacuation and aid efforts and not duplicating the efforts and work of the transfer team. This permitted a more efficient and coordinated response to the evacuation needs of pediatric hospitals in the areas stricken by Hurricane Katrina.
- ***The identification of locations to land airplanes and helicopters and their condition*** for participating in the transfer effort was also essential for guaranteeing the safety of the flights and the process as a whole. Such areas needed a control tower and, with other planes offering assistance and often arriving at the same time as volunteers, their safety had to be guaranteed to prevent the risk of plane crash. They also had to report on the availability of fuel and the need to assume that each flight must have the independence to come and go with the gasoline supplied locally.
- The ***safety of the transfer units***, given the acts of violence that occurred, including armed assaults on ambulances and helicopters that threatened the lives of the people involved in the effort to provide medical care. This required the organization of successive transfers to move patients from New Orleans to a command center with a mini-intensive care capability in Houma, Louisiana, along with the intervention of the National Guard and other security forces so that the transfers could be made.
- ***Use of the transfer units as an opportunity to transport provisions and supplies***, which meant loading the airplanes with medical supplies, water, and food to support the people on the ground who were giving aid.
- ***Organizing the response to the families of the children who were transferred***, also bearing in mind that some of them were not at the hospital at the time of the transfer. For this purpose a list of the patients transferred to TCH was drawn up and the original clinical history was obtained, not only to have the clinical and treatment data on hand but to obtain information to contact the family.
- ***Coordination of the return flights*** to ensure that the children were taken to the hospital indicated and to organize the arrival and care when the children reached each hospital.
- The ***response to the demands for public information*** from the numerous journalists seeking news about the situation, which in many cases hindered the work of the units involved in the transfer and admission of patients. This required intervention by the TCH public relations team and the preparation of four daily press releases, as

well as the designation of medical personnel responsible for ensuring the consistency of the information released by the hospital.

- The *response to the demands for information from families already at TCH*, who came to find out where their children were and needed information and help locating them, wandering around the hospital with photographs and posting them in the lobby and intensive care unit.

LESSONS LEARNED

Even with TCH's wealth of experience in providing disaster assistance, Hurricane Katrina tested not only the rapid response mechanisms that it already had in place but its ability to adapt, fine-tune and improve them while the programmed activities were under way. This latter situation posed the greatest challenge to TCH and required its staff to show flexibility and the necessary capacity for diversifying alternatives, without losing sight of the main objective: providing a timely and efficient response that would help to mitigate the damage to children's health caused by the hurricane.

Organizing and mounting TCH's response to the disaster caused by Hurricane Katrina yielded numerous lessons:

- **Be the first to respond**
- **Do the best you can**
- **Work with what you have**
- **Apply basic knowledge**
- **Keep things simple**
- **Be flexible**
- **Remember your friends**

Lesson No. 1: Be the first to respond

TCH's preparations even before the Federal Government requested its involvement were essential to the timeliness, quality, and efficiency of the response. The magnitude of the damage from impending natural disasters is often unknown, and the degree of preparedness for potential problems is key to providing a timely response.

In the case of Hurricane Katrina, the magnitude of the disaster had not been anticipated, and the need to evacuate thousands of people demanded an operation of major proportions. THC's preparations for providing assistance in this situation made it a first responder, reaching the scene of the events ready to offer an appropriate response.

This was possible thanks to THC's disaster contingency plans and also to the decision by the professional and technical team at the hospital to expand its plans, allowing it to be the first on the scene. These factors were responsible not only for enabling it to provide a rapid response but for the success that response, helping to save children's lives, mitigating the threat to their health, and reducing the cost of the response through programmed action that eliminated the duplication of efforts and optimized resources use.

Lesson No. 2: Do the best you can

The available resources must be organized so as to provide the best response. Given the need to tend to the children affected by Hurricane Katrina, TCH put its best resource at their service: trained health workers, highly motivated to prevent and limit the damage to children's health, who worked with the resources that they had.

The magnitude of the disaster, in fact, put all the provisions made to the test and rapidly demonstrated the need to multiply organizational efforts and supplies to provide complete coverage. However, the immediate assistance that was provided with the existing human and material resources—well organized and with the highest quality performance—turned out to be key to providing a timely response and reducing the harm from the catastrophe.

Many health services, institutions, and citizen's groups held back their response, awaiting resources, supplies, and materials that were not available in the initial stages of the disaster. TCH took the view that the best response is the one that gets there in time and provides the best quality possible—not the one that, though better in quantity and quality, does not get there when it is needed.

An immediate response, however, does not mean ignor-

ing quality—first, because standards for quality care are already guaranteed every day in the standard operations of the health teams; and second, because a guarantee of the highest quality response should be included in the mounting of every rapid response, if the goal is to have a positive impact in terms of containing harm, preventing complications, and providing appropriate treatment to all who need it.

After THC's immediate response in evacuating the pediatric hospitals hit by the flood, it had to organize care for the children of the thousands of displaced persons housed in Houston's Astrodome, providing the highest quality of care with the resources it had. It set up shop in an open area of the Astrodome, setting aside areas for registry and triage, ambulatory care, and a waiting area for the families, always mindful of ensuring the basic conditions for preventing infections and contagion. This meant organizing the available human resources and calling in additional personnel—retired hospital staff with the available credentials to become part of the effort. Vaccination tables were set up, nursing care was organized, and an orderly registration system was introduced.

Making the best of the resources at hand was therefore essential for responding to the emergency and was one of the keys to the pediatric care provided by TCH during the Hurricane Katrina disaster.

Lesson No. 3: Work with what you have

TCH's organization of the existing resources was also essential for mounting an efficient response to the needs created by the Hurricane Katrina catastrophe. It optimized the existing hospital resources by carefully reviewing the potential for vacating beds at different levels complexity and taking stock of the existing human and material resources to organize them for an appropriate response.

The decision to respond with the resources at hand put TCH on the first line of care, admitting patients evacuated from the hospitals hit by the flood and organizing pediatric outpatient care away from the hospital at the place where the majority of evacuated families were housed. Thus, a

small hospital and clinic were opened in the Astrodome, with care and treatment areas operating round the clock.

Working with the resources at hand, therefore, made it possible not to delay the response, using the existing supplies, materials, and personnel to rapidly intervene with the needed pediatric care. This decision also facilitated THC's immediate response to the pediatric hospitals in the area hit by the hurricane; even in Houston, it was the main strategy used in bringing care to the location where evacuated families were housed, permitting normal operations at TCH facilities, which would otherwise have been overwhelmed by the exponential increase in children and families to attend to.

Lesson learned No. 4: Apply basic knowledge

Pediatric care in catastrophes exposes health workers to a series of known situations that can properly be addressed with the knowledge and clinical, diagnostic, and therapeutic practices customarily found in outpatient facilities. A series of complementary prevention measures, basic hygiene among them, are needed to reduce the risk of disease and contagion in populations living in close quarters. A number of other situations are also anticipated in populations displaced by a disaster—situations that can potentially jeopardize the health of the general population and children alike.

Using this knowledge, sinks were immediately installed in the care area, thus reducing the risk of the spread of disease.

The use of basic knowledge from clinical practice, semiology, and treatment, as well as epidemiology, is essential for mounting the care response for children in this case, children in the population evacuated during the Hurricane Katrina disaster.

This knowledge made it possible to organize care, taking the main health problems found in the child population tended to into account; these problems coincided with those described in the literature on this type of situation

and included diarrheal diseases and other gastrointestinal disorders, respiratory diseases, skin infections, and the exacerbation of or crises in existing diseases such as asthma, diabetes, or heart problems.

Thus, the application of basic knowledge, both epidemiological and clinical, was essential in organizing the material and human resources and preparing them to provide care for the problems that were more likely to require attention, saving time and essential resources to enable TCH to provide a more efficient response and facilitate broader coverage of care.

Lesson learned No. 5: Keep things simple

An efficient response to an unexpected situation that overwhelms the customary capacity to provide care calls for keeping things as simple as possible. Thus, using the existing knowledge, it is essential to organize the response, gearing it to the needs most likely to emerge and organizing it as simply as possible.

Use of the basic contents of the IMCI (integrated management of childhood illness) strategy—especially the warning signs that it recommends watching for in the initial contact with children, was key to the early identification of children who were seriously ill or whose condition was at risk of worsening, and to determining the priority of care.

Thus, use of a simple but highly efficient strategy to provide a quality response in pediatric health care was fundamental to making efficient use of resources, reducing the unnecessary use of complementary diagnostic techniques, and rationalizing the use of drugs and other treatment measures.

Lesson learned No. 6: Be flexible.

Since care in disasters is subject to unexpected events and predictable changes in those events, flexibility is essential for a rapid and efficient response.

In mounting its emergency response to Hurricane Katrina, TCH had to contend with many unexpected situations that required changes in the initial plan and rapidly make

decisions along the way to adapt to an ever changing scenario.

One example of this was its response to a diarrhea outbreak. Although how to deal with diarrhea in displaced populations is part of the core knowledge in epidemiology, TCH had to adapt the care it provided to evacuees to the need for containing the spread of the illness. The use of the oral rehydration guidelines of the Pan American Health Organization/World Health Organization (PAHO/WHO) was as essential as the rapid identification of the causative microorganism: norovirus, the only germ isolated among the cases studied.

The standards applied to contain the spread of the outbreak were the recommended ones for such cases: oral rehydration for case management, isolation of new cases for 48 hours, the distribution handwashing gel, and emphasis on appropriate handwashing, especially among health workers.

Lesson learned No. 7: Remember your friends

Given the magnitude of the Hurricane Katrina disaster and the effort required to mitigate its effects and furnish the necessary care to the pediatric population, individual responses are inadequate; coordinating efforts and enlisting the help of everyone who can one way or another contribute to a joint response is essential to success.

In this respect, TCH spearheaded a joint response developed over the years through continuous coordination of activities, plans, and programs with numerous partners. These friends supported the work of TCH and channeled their efforts, support, and contributions to the organization of the response, resulting in the essential pediatric care required by the hurricane victims.

Remembering the need partners when mounting a response to disasters and becoming actively involved in the coordination of efforts and wills is essential for improving the quality and breadth of the response to a disaster of the magnitude of Hurricane Katrina.

FINAL CONSIDERATIONS

TCH's response to Hurricane Katrina involved a commitment by its entire staff to mitigating the impact of this catastrophe on the health of children in New Orleans as best as possible. It also implied the organization of material and human resources to guarantee the customary care that TCH affords its user population, providing appropriate quality, timely care for evacuees on both an outpatient and inpatient basis. As a result, many children benefited from TCH services (Figure).

Achieving these outcomes was a task that relied on the provisions already found in TCH's disaster contingency plans and on the technical skills, commitment, and motivation of its entire staff. Both of these factors were pivotal in organizing resources as efficiently as possible way to mount a timely, high-quality response that helped to guarantee the best pediatric health care and mitigate the impact and harm caused by the hurricane.

FIGURE. Summary

Total Admissions of New Orleans Residents to TCH (8/30/05- 11/30/05)	233
Peak New Orleans Patients Census on One Day at TCH	51
Total ER Visits of New Orleans Residents to TCH (9/6/05- 11/30/05)	876
Total Visits to AstroArena Clinic	3520
Peak Number of Visits to AstroArena Clinic in One Day	304
Peak Number in Cots With IV's in AstroArena	103

6. Conclusions and Recommendations

CONCLUSIONS

The IMCI-TAG considers of great importance the increase in life expectancy of the peoples of the Americas recorded in recent decades, taking particular note of the role played by the reduction in under-5 mortality, and especially infant mortality, in this achievement. It also believes that the specific interventions for the control of diarrheal and respiratory diseases, as well as those that have subsequently been added as essential to the IMCI strategy, have shown the potential for producing change in the countries to improve the health status of children throughout the Hemisphere.

Nevertheless, it points out that despite these great strides, neither the increase in life expectancy nor the reduction in child mortality has been distributed uniformly among and within the countries; on the contrary, in many cases, the gaps have been growing. Especially troubling in this context is the contrast in mortality between children in urban and rural areas and between the general population and indigenous groups and populations with higher levels of poverty.

The IMCI-TAG also stresses the importance of changes in the child mortality profile, with the simultaneous existence of infectious diseases and malnutrition with other problems and diseases of the perinatal period, congenital malformations, tumors, unintentional injuries, violence, and obesity, among other conditions. This new epidemiological scenario is largely the result of a combination of environmental and social determinants that together jeopardize the health of children and their families, the situation of the communities in which they live, and the organization and delivery of health services.

The IMCI-TAG believes that, in addition to contributing to an expansion in the coverage of interventions for dis-

ease prevention and control and the promotion of healthy children, IMCI has strengthened the integration of health services and community activities, the view of the family as essential to survival and healthy growth and development, and the priority of extending care throughout the life cycle.

The IMCI-TAG therefore believes that IMCI has enormous potential for responding to the challenges associated with the new epidemiological profile, offering simple guidelines based on the available scientific evidence for the prevention and treatment of disease and for health promotion, and acting as the gateway to prevention, treatment, and health promotion services for children and adolescents, women, and the family.

RECOMMENDATIONS

- 1) ***IMCI-TAG in the context of the maternal-newborn-child-adolescent continuum:*** Expand the work of IMCI-TAG members in the framework of the maternal-newborn-child continuum in light of the new epidemiological challenges faced by the countries for improving children's health status; the key role of the family and community in achieving the survival and healthy growth and development of children; and the need to increase the integration of interventions and strategies, strengthening the life cycle approach.
- 2) ***Sustainability of IMCI:*** Support the countries in achieving the sustainability of the family and maternal and child health programs through which the IMCI strategy is implemented. Enlist their commitment to adopting the administrative and governmental measures necessary for ensuring they have the resources to expand their activities and achieve universal coverage and adequate quality, emphasizing the accessibility of these activities to the most

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- vulnerable groups; and promote a commitment by professional, academic, and scientific associations through their governmental, nongovernmental, and private institutions, to maintaining, strengthening, and expanding these programs and their activities.
- 3) **Support for the family health approach:** The members of IMCI-TAG reiterate their support for Resolution CD44.R12 on family and health, since they take the view that the most important decisions affecting quality of life and health of children are made in the family. In this regard, they stress the importance that the community component of IMCI be a fundamental tool for improving the family's ability to raise children and promote and protect the health of its members.
 - 4) **The IMCI strategy and achievement of the Millennium Development Goals:** Promote institutionalization of the IMCI strategy in the Ministries of Health and Social Security agencies of the countries through the Pan American Health Organization, highlighting the role that the strategy can play in achieving the Millennium Development Goals, both those specifically aimed at improving child health and those related to maternal health, the control of emerging diseases, and improving nutritional status.
 - 5) **The role of IMCI in disasters:** Encourage the adoption of IMCI as a key strategy for providing care in natural disasters and move forward with the development and design of materials that complement its current contents to adapt it for the response needed to prevent and control the diseases and health problems of children and families in these situations and emergencies caused by new diseases and other health threats.
 - 6) **Contribution of IMCI to the prevention of fetal deaths:** Stress the priority of fetal mortality in the Hemisphere and the need to work with CLAP and other technical programs of PAHO/WHO to improve knowledge of the magnitude, distribution, and characteristics of fetal mortality in the Region and individual countries. Strengthen the role of IMCI in the prevention of fetal deaths, improving its coordination with other interventions for women's education and health and maternal and family health.
 - 7) **Introductory module on family and community health for existing IMCI training courses:** With CLAP and other technical programs of PAHO/WHO, develop training materials for health workers to introduce them to family and community health (introductory modules for existing training courses). These materials will serve as a framework for IMCI and other complementary prevention, treatment, and health promotion strategies and interventions, with special attention to the education of general or family practitioners. Special priority should be given to the maternal-newborn-child health continuum and the family health approach, encouraging its use by health workers involved in the care of women in general and pregnant women, children, and adolescents.
 - 8) **Continuing and distance education in IMCI activities:** Advance the design and use of new technologies and educational strategies for health workers, especially noting the role that distance learning can play in accelerating universal access to the IMCI strategy, and guarantee continuing education that keeps trained staff up-to-date on new advances, results, and developments of the strategy.
 - 9) **Research on the implementation and impact of the IMCI strategy:** Improve coordination with academic and scientific institutions, especially medical schools, nursing schools, and schools of health public, providing them with materials for integrating the strategy into obstetrics, gynecology, and pediatrics and promoting epidemiological and operations research for child health and research on the results of implementing the IMCI strategy. This will help increase the evidence on its impact and improve knowledge about child health status and its determinants.
 - 10) **IMCI at medical and nursing schools:** Increase and expand the use of the IMCI strategy in medical and nursing schools in the Hemisphere to improve the performance of students in their last year of school, in their rural or social service, and extending its use to all health units covered by these institutions.
 - 11) **Students as promoters of key practices in IMCI:** Promote initiatives that encourage the participation of local student groups as promoters of the key practices for child survival, growth, and development and that increase coverage of the care provided by IMCI—all
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- this under the supervision and control of the ministries of health, the Municipios, and other levels of care, in coordination with academic training institutions.
- 12) **Presence of the IMCI strategy in health check-ups:** To prevent missed opportunities in local primary care facilities for promoting application of the IMCI strategy in healthy baby check-ups, check-ups for children over 5, care in adolescence, and preconception and prenatal check-ups. In addition, under this strategy, the IMCI-TAG recommends that check-ups for new mothers be routinely combined with healthy baby check-ups, coordinating the dates of the visits according to the mutual need of the mother and child for health check-ups.
 - 13) **Inclusion of the IMCI strategy in the countries' basic package of benefits:** Assist the ministries of health in integrating the IMCI strategy into programs and services of the social security system and medical and health insurance cooperatives, including it among their basic benefits, along with other interventions and strategies that promote the health of women, mothers, and families.
 - 14) **Basic requirements for treating obstetric and neonatal birth emergencies and childhood illness emergencies:** To help reduce maternal-neonatal morbidity and mortality, the IMCI-TAG suggests that IMCI, in coordination with programs and groups working to improve the health of women in general and pregnant woman in particular, cooperate in strengthening activities to disseminate and implement the requirements for "essential obstetric and neonatal conditions" suggested by WHO to effectively deal with maternal-neonatal birth emergencies in all institutions (public and private) that provide care in childbirth, emphasizing access by the most vulnerable population groups.
 - 15) **Review of key practices:** Review the key practices for the survival and healthy growth and development of infants and children, adapting them to the new approaches of the IMCI strategy and adding them to other interventions and strategies focusing on the maternal-newborn-child-adolescent continuum; and explore new mechanisms for sharing and disseminating these practices to health workers and the general public.
 - 16) **Communicating the health situation and disseminating information on IMCI activities:** Continue improving strategies and activities for communicating information on child health status in the Hemisphere; progress in the implementation of the IMCI strategy; the results obtained in the Hemisphere in the countries and groups within the countries; the challenges ahead and the key practices recommended to encourage all the population to get involved in improving the health of children and families.
 - 17) **Monitoring of indicators:** Support the countries in improving the mechanisms for monitoring key indicators used in evaluating progress toward the attainment of the Millennium Development Goals in child health and incorporate complementary process and outcome indicators. Include measurements of effectiveness, efficiency, and satisfaction, promoting intersectoral involvement in measurement and analysis, with special attention to community participation.
 - 18) **Monitoring and evaluation:** Disseminate information to the countries on experiences in the monitoring and evaluation of neonatal health (for example, Bolivia's), promoting the use of regional capacity to improve monitoring and evaluation mechanisms and guarantee that the information is used for action aimed at giving the most vulnerable groups access to the strategies.
 - 19) **Increasing funding to implement the IMCI strategy:** Expand strategic partnerships with institutions and regional, national, and local groups as a mechanism to increase the funding for programs that employ the IMCI strategy, with special consideration for those that have participated in the various stages of IMCI implementation in the past; and promote active participation by IMCI-TAG members in the coordination with these institutions.
 - 20) **Formulation of cooperation plans and cooperation that help strengthen activities to expand IMCI:** Identify key areas for strengthening and expanding IMCI, as well as institutions and organizations that can consider them in their agenda. Hold coordinating meetings with IMCI-TAG members to formulate cooperation plans and projects that will strengthen activities to expand IMCI and attain the MDGs in child health.
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7. Annexes

Purpose and Objectives of the Meeting

BACKGROUND

One third of the way into the period agreed on for attaining the Millennium Development Goals in infant, child, and adolescent health, the countries are faced with the challenge of accelerating the decline in mortality and extending the benefits of disease prevention and treatment measures and the promotion of healthy lifestyles to the entire population. Having verified the widening gap between countries, the Region of the Americas must also address its commitment to achieving a faster decline in infant mortality rates in countries and population groups where mortality levels remain high, close to those recorded over 50 years ago in the developed countries of the Hemisphere.

Broader implementation of the IMCI (integrated management of childhood illness) strategy in recent years, its closer links with other interventions and strategies for the promotion and protection of women, mothers, children, and the family, and the steady increase in community participation in a joint effort with the health services, as part of the commitment to child survival, growth, and development have helped sustain the successes of the 1990s and project them into the 21st century. They have also made clear the priority of considering activities targeting children part of the efforts to improve health throughout the life cycle, and of systematically involving the family and the community not only in the activities themselves, but in their design, planning, monitoring, and evaluation.

These important advances have put front and center the growing need to integrate efforts in child and family health at all levels and to design broader, more effective mechanisms for generating knowledge and practices that promote child survival and healthy growth and development.

The *Technical Advisory Group on IMCI (IMCI-TAG)* has played a major role in this expansion and coordination. It

has become a permanent discussion forum for sharing ideas, initiatives, and projects, which over the past five years have contributed to the steady growth and expansion of the IMCI strategy, in terms not only of its coverage in the Hemisphere but its components and associated interventions.

The next five years will be a key period for consolidating the progress made and accelerating the decline in child mortality throughout the Americas to achieve mortality in children under 5 no greater than one-third of the 1990 figure. Guaranteeing that this stems from a greater drop in mortality in the less developed countries of the Hemisphere and that it therefore contributes to greater equity in the distribution of the benefits of health interventions is an even greater challenge; as will be guaranteeing the conditions that promote healthy growth and development throughout the life cycle to those who survive.

In this context, the analysis and discussions proposed for this *Fifth Meeting of the Technical Advisory Group on IMCI (IMCI-TAG)* will make it possible to address key issues that will enable us to make the tools that we have for improving child and family health rapidly accessible to the most vulnerable population groups and to continue expanding IMCI as an essential strategy for improving child and adolescent health within the context of family health.

MEETING OBJECTIVES

1. Provide an update on the status of the IMCI strategy in the Americas and on the expansion of its coverage and contents to strengthen its role in health care and health protection throughout the life cycle.
2. Identify and analyze the key aspects that can help accelerate expansion of the IMCI strategy in the countries, with emphasis on reaching the most vulnerable population groups, in coordination with the various sectors and

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- actors involved in child health care and with active community participation.
3. Propose lines of action, activities, and plans that will strengthen implementation of the IMCI strategy in the countries and improve the monitoring and evaluation of achievements in order to identify progress in attaining the MDGs.
 4. Analyze IMCI's contribution to improving family health and propose plans and activities that encourage people to view it as a strategy that incorporates other interventions and activities for health protection and health care.

Agenda

DAY 1: TUESDAY, 16 MAY 2006

- 8:00 – 8:15 Transfer to Texas Children’s Hospital
- 8:15 – 9:00 Breakfast and Welcoming Remarks: Mr Mark Wallace, President, Chief Executive Officer, Texas Children’s Hospital – Administration Board Room.
- 9:00 – 9:15 Transfer to the Conference room– Sam Fomom Room - CNRC Building
- 9:15 – 9:30 Inauguration and Introduction of the participants
Dr. Gina Tambini, Area Manager, Family and Community Health, PAHO/WHO.
Dr. Yehuda Benguigui, Chief, Child and Adolescent Health Unit, Family and Community Health Area, PAHO/WHO
Dr. Fernando Stein, Texas Children’s Hospital, Houston, TX, USA. .
- 9:30 – 10:00 Description of the mechanics of the meeting, designation of the coordinator and rapporteur, and adoption of the agenda.
- 10:00 – 10:30 Presentation: “Family and Community Health as Pivotal to Equity in Health in Americas.” *Dr. Gina Tambini, Area Manager, Family and Community Health, PAHO/WHO.*
- 10:30 – 11:00 Presentation: “Progress, Challenges, and Outlook for Improving Child and Adolescent Health Status in the Americas: Role of the IMCI Strategy in the Context of the Maternal-Neonatal-Child Health Continuum.”
Dr. Yehuda Benguigui, Chief, Child and Adolescent Health Unit, Family and Community Health Area, PAHO/WHO
- 11:00 – 11:15 Break
- 11:15 – 12:00 Working group: “Advocacy to promote the IMCI strategy and potential for integrating interventions for child and family health protection and care.”
- 12:00 – 12:30 Plenary Discussion
- 12:30 – 14:00 *Luncheon*
- 15:00 – 15:30 Formulation of recommendations for advocacy to promote the IMCI strategy in the context of the family and community health.
- 15:15 – 15:45 Break
- 15:45 – 16:30 Working group: “Putting the IMCI strategy and its neonatal component on the public agenda: From child survival to healthy growth and development, from child health to family and community health; The integrating potential of the strategy”

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| 16:30 – 17:00 | Recommendations for giving greater visibility to IMCI on the public agenda. |
| 17:00 – 17:15 | Return to Hotel |
| 18:30 – 21:00 | Dinner hosted by Texas Children’s Hospital - TBD |

DAY 2: WEDNESDAY, 17 MAY 2006

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| 8:00 – 8:15 | Transfer to Texas Children’s Hospital |
| 8:15 – 8:45 | Breakfast. |
| 8:45 – 9:00 | Audit of the process of the meeting. |
| 9:00 – 9:30 | Presentation: The Response of Texas Children’s Hospital to Hurricane Katrina. Dr. Fernando Stein. Texas Children’s Hospital, Houston, TX, USA |
| 9:30 – 10:15 | Working group: “Analysis of the IMCI strategy and its potential for integrating with other interventions to improve health throughout the life cycle: activities and plans to strengthen its integration and expansion”; the Maternal-Newborn-Child Health Continuum. |
| 10:15 – 10:30 | Break. |
| 10:30 – 11:00 | Recommendations for strengthening the expansion of IMCI in the context of other prevention, protection, and family and community health care interventions and strategies. |
| 11:00 – 12:45 | “Scaling-up”:Expanding the coverage of IMCI and its components in the health services and community. |
| 12:45 – 13:45 | Luncheon. |
| 13:45 – 14:15 | Working group: “Strategic partnerships and mobilization of resources to support the IMCI strategy in the Americas: Strengthening and expansion in the next decade.” |
| 14:15 – 15:00 | Formulation of recommendations. |
| 15:00 – 15:15 | Break. |
| 15:15 – 15:45 | Conclusions and recommendations. |
| 15:45 - 16:45 | Reading, discussion, and approval of the final report. |
| 16:45 – 17:00 | Closure: Dr. Fernando Stein, Baylor College of Medicine, TCH; Dr. Gina Tambini, Area Manager, Family and Community Health, and Dr. Yehuda Benguigui, Chief , Child and Adolescent Health Unit, Family and Community Health Program—Pan American Health Organization. |

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