CHILD SURVIVAL: PROGRES TOWARDS MEETING MDG4

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Abstract

Few causes are responsible for the majority of under-five deaths in Ethiopia: pneumonia (28%), neonatal causes (25%), malaria (20%), diarrhea (20%), measles (4%) and AIDS (1%). To prevent these deaths, and to achieve Millennium Development Goal 4 (MDG4) ("to reduce by two thirds, between 1990 and 2015, the under 5 mortality rate"), it is necessary to ensure the implementation of cost-effective interventions that are listed in the National Child Survival Strategy.

There are examples of remarkable achievements in coverage increase within short time periods, including training of 30,000 Health Extension Workers (HEWS) in the last 4 years, rapid increase, from 1% in 2005 to 42% in 2007, in percentage of children under the age of five years who slept under a Long Lasting Insecticide-treated Nets (LLINs), and increase in coverage of Vitamin A supplementation from 45 % in 2005 to 91% in 2007. These successes can serve as benchmarks to scaling up of other interventions.

Among the major killers, the ones that are poorly addressed are childhood pneumonia and perinatal problems which are the leading causes of under-five mortality in Ethiopia. Realizing the continuum of care approach at delivery level and sustaining it over time, and searching for an alternative way of improving access to treatment of childhood pneumonia and essential newborn care, are crucial challenges for child survival in Ethiopia.

Furthermore, there is growing consensus that a primary bottleneck to achieving MDGs in low-income countries is health systems that are too fragile and fragmented to deliver the volume and quality of services to those in need. Major shortfalls are identified in the health workforce, lack of donor coordination, and week information systems. It is for this reason that the Health Sector Development Programme (HSDP) in Ethiopia is focusing on cost-effective health interventions and on health systems strengthening in order to achieve the dual goals of improving population health and reducing health inequalities.

1) Introduction: an historical perspective

Following the success of the 1979 International Year of the Child, in the early 1980's signs of hope were emerging for childrens' causes. The evolution of Basic Service and Primary Health Care (PHC) approaches gave the practitioners of child health and human development a new sense of purpose and in 1982 an initiative known as the "Child Survival Revolution" (later including child development) was launched (19). The "Child Survival Revolution" was initiated to promote Growth monitoring, Oral rehydration therapy, Breast feeding, Immunization, the provision of Food and Family planning. These interventions have collectively come to be known as "GOBIFF" (19).

Ethiopia was one of the first countries to implement these high-impact child survival interventions. The Ethiopian Expanded Programme on Immunization (EPI) was launched in 1980 but until recently coverage of all of the above key interventions, including EPI, remained very low.

Regardless of the fact that so many lives could have been saved with the implementation of such simple, high-impact interventions, around the mid-nineties, it was noticed that child mortality was not yet receiving

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enough attention. This was mainly because the world's attention had been, understandably, focused on the growing HIV pandemic and HIV associated opportunistic infections such as tuberculosis and the like. While progress in reducing under-five mortality has in many low income countries slowed, in others it has totally stopped declining and in some cases even regressed significantly (17;16).

Following the Lancet Child Survival publications in 2003 (4), the second global "Child Survival Revolution" was launched. In 2004, the National Child Survival Conference was organised in Addis Ababa. The Federal Ministry of Health (FMOH) and its partners all participated and in 2005 the National Child Survival Strategy was developed (6). The overall objective of this strategy was to reduce under five mortality by two thirds between 1990 and 2015 to achieve the Millennium Development Goal 4 (MDG4). Primarily, the National Child Survival Strategy focuses on the health sector, but important distant determinants of child survival, like reducing poverty, improving household food security, raising levels of maternal education and providing safe water and sanitation, are also recognized in the document.

The National Child Survival Strategy has been instrumental in the scaling-up of child survival interventions through the active participation of partners, relevant sectors and the community at large (6). This has wide implications also in terms of poverty reduction. In fact, the focus on child (and maternal) care provides more of a poverty orientation than reliance on other services, since the disease burden at an early age or at childbirth is particularly important among the poor. In fact, not only are death rates higher among the poor, compared to the rich, but the highest poor-rich mortality ratio is observed for complications of pregnancy and childhood infectious diseases (13).

2) Causes of mortality: what are Ethiopian Children dying from?

The Child Survival Strategy identifies the direct causes that are responsible for under-five mortality (Figure 1): pneumonia (28%), neonatal causes (25%), malaria (20%), diarrhea (20%), measles (4%) and AIDS (1%). Underlying conditions are also identified, manly malnutrition and HIV/AIDS (6).

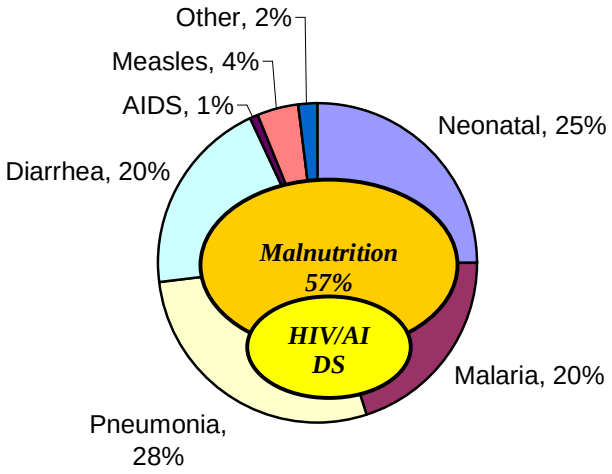
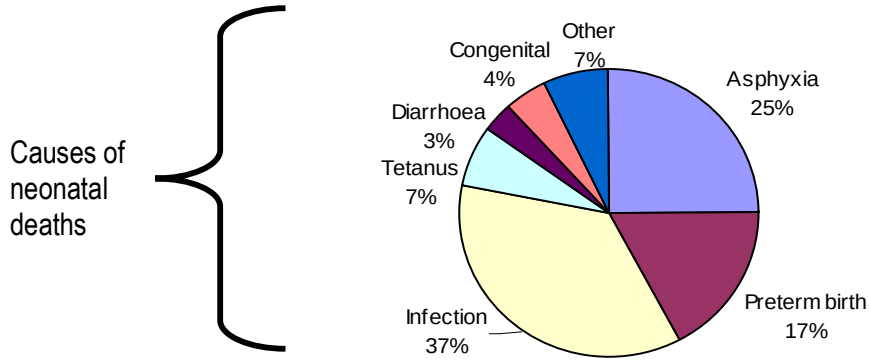


Figure 1. *Causes of under-5 deaths in Ethiopia (1).*

In Ethiopia, neonatal mortality contributes to about one fourth of the overall under-five mortality. Newborns die mainly due to infections, followed by perinatal asphyxia and prematurity/low birth weight (Figure 2).



Infections and tetanus account for 47% of neonatal deaths in Ethiopia

Figure 2. *Causes of neonatal deaths in Ethiopia (1).*

Fortunately, for each target condition there are both preventive and curative interventions that can prevent around 72% of deaths in under five children. To prevent these deaths and to achieve MDG4, it is necessary to ensure effective implementation of a limited number of interventions that are listed in the National Child Survival Strategy. In 2003, the Lancet child

survival series estimated that, with 99% coverage sufficient evidence for effect in prevention or treatment, it would be possible to prevent 65% of deaths
due to pneumonia, 55% of deaths due to neonatal complications, 91% of deaths due to malaria, 88% of deaths from diarrhea, 100% of deaths from measles, and 48% of those due to AIDS (12).

Achieving the MDG4 for child survival in Ethiopia demands focused and coordinated action to strengthen the health systems, improve nutrition and reduce inequities in access to effective interventions against all the diseases which kill under-five children (5; 20).

of the high impact interventions for which there is

3) Millennium Development Goal 4: where do we stand?

According to the Ethiopia Demographic and Health Survey carried out in 2005, there was an improvement in under 5 mortality rates, with a decrease from 165 to 123 per 1,000 live births between 1990 and 2005 (3). The plan is to decrease U5MR to 54 per 1,000 in the year 2015 to meet MDG4 (Figure 3).

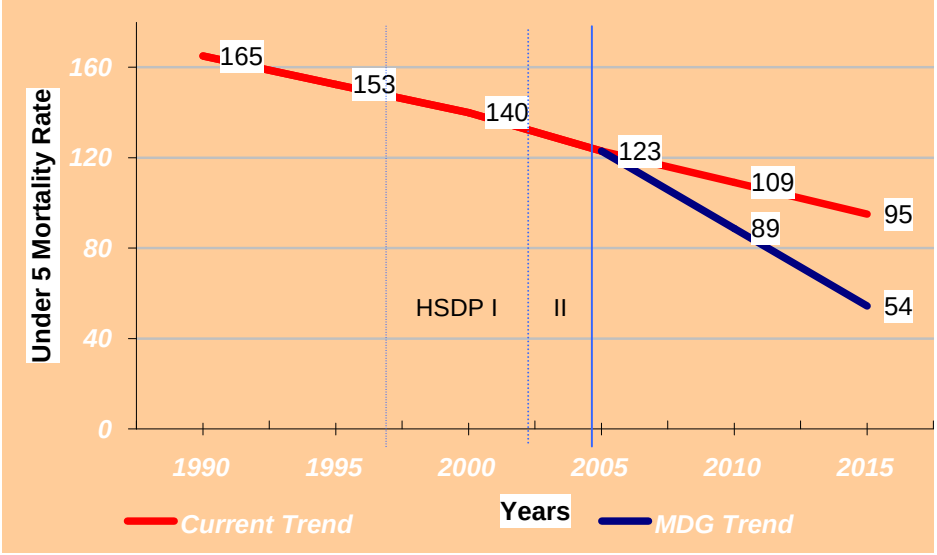


Figure 3. *Trend in under 5 Mortality Rate in the period 1990-2005 and projections until 2015 in Ethiopia.*

4) Opportunities to achieve MDG4: implementation of child survival interventions

An integrated approach is in place in order to achieve MDG 4, with:

Focus on the community: Ethiopia is investing a lot in the Health Extension Program (HEP) to reach the poorest of the poor with basic and essential life saving care by focusing mainly on the mothers, newborns and children of the rural population. HEP institutionalizes and standardizes the village health-care delivery system to empower care-takers, families and communities to take care of their own health. It

Child Survival Strategy: HSDP III is incorporated as the *de facto* health component of the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (15). Maternal and Child Health (MCH) are major focuses of HSDP III, with Child Survival Strategy being a major component of HSDP III.

Availability of Experienced Programs: there are experienced programs relevant to child health in Ethiopia, including EPI, Integrated

5) Benchmarks: scaling-up is possible

Through proper and rational utilization of available opportunities in the country, it is possible to scale up the implementation of high impact child survival interventions. These are some examples of successes and remarkable achievements in coverage increase within short time periods that can serve as benchmarks to

increases access and utilization of most of the high impact preventive and curative interventions which are listed in the National Child Survival Strategy.

Accelerated Expansion of Primary health Care: within the context of HSDP III, the FMOH has initiated an accelerated expansion of PHC services. This new initiative aims to accelerate physical infrastructure expansion, a base for improving access to basic health care services in rural Ethiopia. Besides physical infrastructure expansion, the initiative also entails an increase in the number of health professionals mainly at primary health care unit level.

Management of Neonatal and Childhood Illnesses (IMNCI), Nutrition, Safe Motherhood and Malaria control programs.

Partnership for Maternal, Newborn and Child Health (PMNCH):
there is a growing partnership between the Government, UN organizations, bilateral partners, Private institutions and Non-Governmental Organizations for Child Survival.

scaling up of other interventions. These include training of 24,600 HEWs within a period of 3 years, and rapid increase in percentage of children under the age of five years who slept under Long Lasting Insecticide-treated Nets (LLINs) from 1% in 2005 (3) to 42% in 2007 (10). Furthermore, through the Enhanced Outreach Strategy, it has been possible to scale up bi-annual supplementation of Vitamin A from the 2005 baseline level of 45 % to 91% in 2007 (Figure 4).

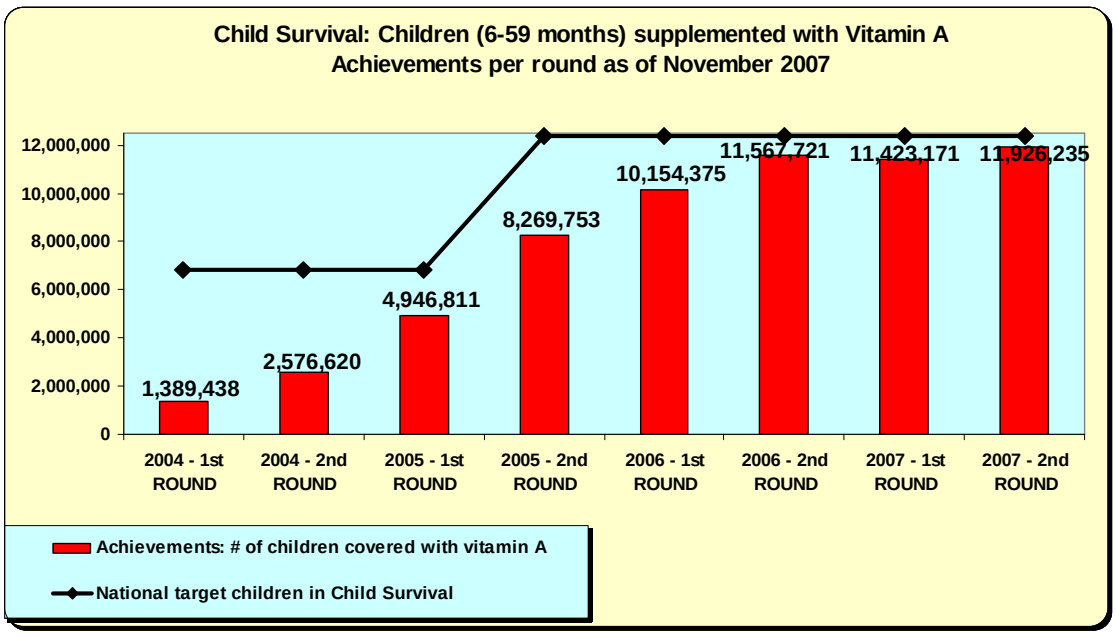


Figure 4. *Coverage in Vitamin A supplementation among children aged 6-59 months in Ethiopia during the period 2004-07.*

To realize the continuum of care that starts from the household and continues up to the facility level, the Family Health Department (FHD) of the Federal Ministry of Health (FMOH) launched the case management IMCI training in 1996 and, following that, community IMCI was adopted by a national workshop in 2001.

In 2004, 36 % of the Health Centers had at least one health worker trained in IMCI (5). Assessment, classification and management of early neonatal problems were incorporated into the formal IMCI training guideline in 2006 and since then IMCI was renamed as Integrated Management of Newborn and Childhood illnesses (IMNCI). According to the March 2008 IMNCI annual review meeting report of the FHD, 60% of the Health Centers have at least one person trained in IMNCI (11). On the other side, Community-integrated IMNCI (C-IMNCI) coverage has shown a significant increase from 2 woredas in 2004 to 180 woredas in 2008 (11).

In the past five years, immunization coverage is also showing an increasing trend. In 2003, DPT3 coverage was 50 % and in 2007 the Pentavalent coverage reached 73% (8). Most importantly, the introduction of *Haemophilus influenzae* type b (Hib) vaccine in 2007 had brought a paramount benefit to prevent childhood pneumonia and meningitis in under five children (9).

6) Lessons learned and way forward: more of the same is not enough

Recent evidence suggests that, based on current trends, many low-income countries are unlikely to achieve the MDG health target by 2015 (21). This is despite the fact that there are a growing number of cost-effective interventions, as well as increasing international assistance for specific disease control programmes. There is growing consensus that a primary bottleneck to achieving MDGs in low-income countries is health systems that are too fragile and fragmented to deliver the volume and quality of services to those in need (18). Major shortfalls are identified in the health workforce, lack of donor coordination, and week information systems as critical challenges to achieving MDGs. It is for this reason that HSDP in Ethiopia is focusing on cost-effective health interventions and on health systems strengthening in order to achieve the dual goals of improving population health and reducing health inequalities.

Training a sufficient number of health professionals and construction of an adequate number of health facilities in a very short time are some of the grand achievements of the FMOH. However, the anatomy alone may not take us to the destination until and unless it is complimented with the physiology. The health workers that we have trained until now must have the necessary knowledge and skills to fulfill their jobs, and, equally, health facilities should be equipped and supplied with essential items. Moreover, there should be regular and continuous supervision to achieve the ultimate goal of child survival.

Among the major killers, the ones that are poorly addressed are childhood pneumonia and perinatal problems which are the leading killers of under-five children in Ethiopia. According to the 2005 EDHS, only 4.9% of pneumonia cases have had access to antibiotic therapy and, from the same source, skill delivery coverage was also alarmingly low, with only 6% of total deliveries being conducted by a skilled attendant (3).

The Child Survival Strategy identifies Health Extension Program as an important vehicle that carries most high impact child survival interventions to the community. At this juncture, the potential of HEWs to implementing most of the child survival interventions is not fully exploited. There are multiple reasons for this, including problems related to competency, shortage of supplies, lack of regular supportive supervision, and lack of community ownership.

Therefore, the conclusion is that achieving MDG4 in Ethiopia is feasible, but demands addressing the following serious concerns:

- Mobilizing adequate amounts of resources to fully implement the Health Extension Program;
- Realizing the continuum of care approach at delivery level and sustaining it over time;
- Searching for an alternative way of improving access to treatment of childhood pneumonia and essential newborn care, which are the two major killers of the under five children: this may include provision of community-based pneumonia and neonatal infection treatment;
- Strengthening Monitoring and Evaluation, which is the life blood of the child survival strategy to track progress towards the goal and to ensure quality of service rendered to the community.

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