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Countdown to 2015: State of MDG 4 in India and South Africa

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ABSTRACT

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At the International Conference on Primary Health Care in 1978, where the Alma Ata Declaration took place, all global leaders agreed upon achieving eight Millennium Development Goals (MDG) by 2015. This paper focuses on MDG 4, which aimed to reduce under-five deaths by two-thirds by 2015 in each country. In 2008 8.8 million under-five deaths were reported worldwide, of which 40% had occurred during the neonatal period. The main causes are pneumonia, diarrhoea, pre-term birth defects and birth asphyxia, with malnutrition as the underlying cause. WHO further identified the principal determinants that lead to child death as environmental, socio-economic and behavioural factors. It was found that children from poor households of low income, that lack basic sanitation and safe drinking water, were mostly denied their rights to regular access to quality health care. Moreover children whose mothers lacked basic education were less likely to reach the age of five than those whose mothers had basic education. Another challenge faced by global leaders is that one billion children worldwide do not have regular access to essential medicines. In sub-Saharan Africa 1 in 6 children die before they reach the age of five, followed by South Asia where 1 in 7 children die before the age of five. South Africa has made no progress to attaining their goal by 2015, whilst India has made some progress but not significant enough to achieve their goal at the current pace. Other countries have adopted a community-based approach to increase and expand health coverage. South Africa and India can reduce health inequalities by addressing the underlying causes and reducing the gaps that exist. It is also recommended that each government takes it upon themselves to empower all women, to ultimately improve child survival.

Keywords: Millennium Development Goal, Infant mortality, Essential medicines, South Africa, India

INTRODUCTION

It is the fundamental right of every human being to obtain the highest attainable standard of health.[1] It is therefore mandatory for every government to ensure that each and every person receives a means to health, including making provision for the availability, accessibility, safety and quality of healthcare services. Furthermore, Article 24 of the United Nations Convention on the Rights of the Child states that each child has the right to obtain the best health care possible, safe drinking water, nutritious food and a clean, safe living environment.[2] In an attempt to reaffirm these rights, at the International Conference on Primary Health Care held in 1978, where the Alma Ata Declaration took place, all governments worldwide expressed the urgent need to protect and improve the health of all people of the world. This declaration aimed at implementing Primary Health Care by 2000, an essential key in attaining "Health for All".[3] However as the new millennium approached it became evident that this goal could not be met by all governments concerned. This formed the basis on which global leaders agreed upon achieving eight Millennium Development Goals by 2015, which bound them to attempt to eliminate or reduce target global issues.[4,5] This review focuses on Millennium Development Goal Four (MDG4), which aims at reducing child mortality rates of children under the age of five by two-thirds between 1990 and 2015.[4-6]

The WHO has singled out certain aspects that form the underlying determinants of health. These are the social and economic environment, the physical environment, and a person's individual characteristics and behaviours.[7] In addition, the Human Development Index Report of 2011 also states that improvement to health care, education and a safe environment is undermined by the disparities in income distribution that is evident between different communities. The report further illustrates a correlation between health and socio-economic status.[8] These inequalities can pertain to people living in rural areas compared to those living in urban areas, and/or the poor versus the rich living in urban areas. Children that are marginalized or living in the world's remotest areas seldom have adequate access to basic health care, and their poor living conditions further retard their situation.[9] Moreover cities are becoming overcrowded as more people regard urbanization as a means to better living conditions and opportunities. As a result most of these migrants are forced to live in almost uninhabitable environments and fundamentally struggle to survive. Children born to these families are raised in slums or greatly remote and overcrowded areas where they are denied their right to access health care and obtain education.[10]

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GLOBAL ISSUES REGARDING MDG4

The mortality rates of children under five are significantly high, particularly in developing countries. There is a gap between the expectations and the current state of under-five mortality rates, which has yet to receive warranted attention. WHO states that 40% of under-five deaths occur in the initial 28 days of life and three-quarters of neonatal deaths take place in the first seven days of life.[11] A Countdown to 2015 Initiative was created in 2005 which sought to hold all leaders accountable for national progress to MDG4. The initiative identified 68 priority countries in which infant mortality rates were the highest and these were termed the countdown countries. Furthermore, to monitor progress of each government of the countdown countries, a review was compiled to determine development of each country concerned from 1990-2008. In this, the countries that had reduced their infant mortality rates to less than 40 deaths per 1,000 with an annual rate reduction of 4% or more were said to be on track to reaching their goal by 2015. Conversely, countries that had infant mortality rates that were higher either showed insufficient progress or no progress. Insufficient progress was an indication that their infant mortality rates were 40 or more per 1,000 live births with an annual infant mortality reduction rate of 1-3.9% from 1990-2008. The countries that illustrated no progress indicated that their infant mortality rates were 40 or more per 1,000 live births with an annual infant mortality reduction rate of less than 1 from 1990-2008.[12]

In 2008, approximately 8 million deaths of children under the age of five were reported globally compared to the 12.4 million reported in 1990. 40% of the infant mortality rates reported in 2008 occurred during their first month of life.[12] An estimate of 22,000 infant deaths per day was reported in 2009, which is about 12,000 less infant deaths than in 1990.[6,12] The Countdown Report further stated that of the 68 countdown countries, only 19 were on track to achieving MDG4, and of these 17 had reduced their child mortality rates by 50% since 2000. Of the 49 countries that were not on track, only 12 had progressed slightly in achieving their goal. The main causes of infant deaths reported are due to pneumonia, which accounts for 18% of under-five deaths, diarrhoeal diseases for 15%, pre-term birth defects at 12% and birth asphyxia which accounts for 9%. Malnutrition was identified to be the underlying cause in more than a third of the mortality of children under the age of five years.[4,12] Other causes that were identified in selected countries/regions are neonatal sepsis, HIV/AIDS, vitamin A deficiency, tuberculosis and measles.[4,11,13]

The challenges many countries face in providing health care services for all include the heavy burden of poverty, and inadequate access to proper sanitation and safe drinking water, a trend that places children at greater risk of illness, under-nutrition and death.[10,14] In some cases, these risks are more prevalent in urban areas than in rural areas. Past research illustrates that some children living in urban poverty fare as badly as or even worse than those living in rural poverty in terms of under-five mortality. These environments tend to be overcrowded and unsanitary, leading to the transmission of diseases such as pneumonia and diarrhoea, two of the most prevalent causes of under-five deaths. Furthermore outbreaks of measles, tuberculosis, etc are also predominant in these areas. Also in most cases, mothers who are poor usually have low levels of education or no education and therefore lack important information pertaining to the health of their children.[11,15] A lack of awareness may lead to negligence regarding child immunization and proper breastfeeding, which may challenge infant survival. Moreover health services for the poor tend to be of lower quality, as health care professionals are limited and access to essential medicines is restricted[10-15].

Accessibility to essential medicines remains a challenge in many developing countries to date.[16] Many of the diseases that are causing the high infant mortality rates can be prevented or treated if access to simple affordable medicines is made universal; however in the public sector access to WHO priority medicines for infants is limited due to poor availability of these medicines.[17] It was in this context, amongst others, that members of the UN agreed on attaining Global Partnership for Development by 2015 (MDG8)[16]. This partnership was formed to assist national efforts in achieving MDGs through direct assistance and by creating an enabling economic environment for development.[16,18] The UN countries aimed to improve aid to the least developed countries. Furthermore negotiations were carried out at the World Trade Organization (WTO) to deliver on the Doha Development Agenda, which aimed to achieve development of the international trade system through lower trade barriers and revised rules.[18,19] Of greater importance, major efforts were made to increase the accessibility of medicines as their costs remain unaffordable in many developing countries. In spite of these attempts, to date approximately a third of the world's population in remote areas needs to essential medicines are still not met.[20] Therefore the MDG gap task force challenges global leaders and stakeholders to increase their efforts in realizing the potential of the global partnership for development. Furthermore the UN is initiating a broader framework in order to hold all partners accountable. In this, all governments are accountable for managing monetary policies to maintain sustainability and an enabling economic environment. On the other hand, international leaders need to monitor the world's progress towards 2015 and ensure that the

global partnership for development is adequate and reaches all communities.[18]

WHAT IS HAPPENING IN SUB-SAHARAN AFRICA AND IN SOUTH-EAST ASIA?

Under-five mortality rates remain the highest in sub-Saharan Africa where 1 in 6 children die before they reach the age of five; this is followed by South-East Asia where under-five mortality is 1 in 7 children. Sub-Saharan Africa accounts for 11% of the world's population yet bears half of the world's child deaths. Although there has been a slight reduction in infant mortality rates, if the current state of under-five mortality rates in sub-Saharan Africa does not change, most of the countries in this region are unlikely to meet MDG4 by 2015.[16] Furthermore countries that experience conflict have higher risks of child death due to the unstable infrastructure and weak health systems.[21,22] Most of the countries in this region with the highest under-five death rates have undergone recent conflict.[22] The five major challenges to infant survival in sub-Saharan Africa are child birth complications, newborn illness, childhood infections, malnutrition and HIV/AIDS. HIV/AIDS alone accounts for approximately 210,000 child deaths every year, a burden which is mostly evident in Southern Africa. The greatest proportion of deaths occurs in the neonatal period where the three main causes are infections, intra-partum-related conditions and pre-term births, accounting for 88% of newborn deaths.[23]

South-East Asia consists of a number of countries which are greatly impoverished and bear a significant fraction of the global disease burden. This region alone accounts for two-thirds of the world's malnourished children. In three of the countries in this region, the infant mortality rate exceeds 65 infant deaths per 1,000 live births.[24] In South-East Asia unsafe drinking water, poor sanitation and poor hygiene are important risk factors for many infectious diseases, especially diarrhoea. Diarrhoeal diseases cause greater morbidity and mortality than any other communicable disease after respiratory infections. Although the region had reduced infant mortality rates significantly in earlier decades, the pace at which infant mortality has reduced in recent years has slowed down. This is attributable to the fact that the governments failed to address the issue. The region accounted for 40% of global infant mortality.[25]

SOUTH AFRICA AND ATTAINING MDG4

According to the World Bank, South Africa is ranked an upper middle-income country.[26] It generates a Gross Domestic Product of $10 400 per capita, of which health expenditure is allocated 8.5%.[27] However, for a country of its economic growth its infant mortality rates are alarmingly high. In 2006 the under-five mortality rate in South Africa was reported to be 69 deaths per 1,000 live births, which was a 15% increase from 1990. According to the human resources strategy for the health sector, the under-five mortality rate further increased to an alarming 104 deaths per 1,000 live births in 2007.[28] Furthermore South Africa has shown no progress to attaining MDG4 by 2015, as the latest statistics show that since 1990 its under-five mortality rate continues to be above 40 deaths per 1,000 live births.[5,11,29] 2009 Statistics are illustrated in Table 1 below. In order to reach MDG4 on time, South Africa has to improve its healthcare system dramatically. One of the factors that undermine attaining an equal healthcare system is the allocation of the health expenditure: in 2008 the public sector took up only 38% of the national health expenditure yet catered for 35 million people whilst the private sector absorbed the rest but catered for only 7 million people.[30] To date rural areas are inhabited by 46% of South Africa's population, but only 12% of doctors and 19% of nurses were available to provide health services to these inhabitants.[31] Also the public sector provides care to approximately 85% of the children nationally, but only a third of paediatricians are available in the public sector.[29]

INDIA AND MDG4

In comparison, India is ranked a lower middle income country according to the World Bank.[26] It has a population of 1,198,003,000, and generates a GDP of US$3,200 per capita of which 4.2% is allocated to health.[32,33] Although infant mortality in India accounts for 20% of the world's infant deaths, its infant mortality rate has decreased from 115 under-five deaths in 1990 to 63 per 1,000 deaths in 2010[33]. In spite of the improvement in child mortality over the years, India still continues to have a large number of infant deaths. According to the countdown report in 2010, India has shown insufficient progress since 1990,[12] thus it has to make significant progress to get on track to reach its 2015 goal. The disease burden is exacerbated by substandard housing, insufficient standards of water, sewage, waste management systems and a poor public health infrastructure. The disparity of the distribution of health care professionals between the public sector and the private sector further undermines the health care system. Education of the mother also plays a vital role in child survival, as in India there is a significant difference in skilled attendance at birth between women with education and those without. More women who have an educational background (83%) are assisted by a skilled attendant at birth, whilst only 25% of women with minimal or no education are attended to by skilled personnel during birth.[34] Furthermore in India there is a widespread preference for sons that influences the attitudes and behaviours of the society towards female unborn babies and infants resulting in foeticide and/or infanticide. India has the highest levels of excess female infant mortality, which exceeds male infant mortality by 43%.[35] Table 1 shows the health profiles of SA and India.

Table 1: Health profiles of India and South Africa

Indicator	India	South Africa
Total Population (1,000s)	1,198,003	50,110
GDP per capita ($)	3,200[3]	10,400[4]
Health expenditure as a % of GDP	4.2	8.5
No. of doctors (per 10,000)	6	7.7
No. of nurses/midwives (per 10,000)	13	40.8
Life expectancy at birth	Country: 65 Regional: 65 Global: 68	Country: 54 Regional: 54 Global: 68
No. of under-5 deaths in 2009 (per 1,000 live births)	Country: 66 Regional: 59 Global: 60	Country: 62 Regional: 127 Global: 60
% of under-5 deaths	Rural: 94 Rural: 57	Urban: 61 Urban: 51
% infant mortality reduction rate 1990-2000 (estimate)	± 50	0
Births attended by skilled HCPs	Rural: 37% Rural: 85%	Urban: 73% Urban: 94%
Measles immunizations in 1-year olds	71%	62%

A comparison between the health systems in India and South Africa shows that although the percentage of health expenditure in India is half that in South Africa in 2009, there is not a significant difference in the number of deaths of children under five

WHAT HAS WORKED SO FAR?

Certain interventions have been used in some countries to improve access to health, especially to the marginalised population. Some countries have made use of trained community health care workers to deliver curative interventions to children whose parents have limited or no access to health care facilities to ultimately improve child survival. This community-based approach has been implemented in Ethiopia and Uganda, and it has been shown to be effective in Nepal for the management of pneumonia. Furthermore, to tackle the shortage of health care professionals, trained special task forces have been employed to take on the role of performing certain specialised tasks such as carrying out caesarean sections, a solution which has shown to have low morbidity and mortality in Mozambique and Malawi.[12] Brazil initiated a nation-wide, tax-based, unified health system which excluded user fees in 1988. The Brazilian government also introduced family health teams of doctors, nurses and community health workers in the poorest areas of the country which led to a Primary Health Care system that was fundamentally universal. Multiple integrated health sector initiatives were also implemented which comprised immunisations, HIV control and breastfeeding promotional activities,[12,37] all of which have improved access to health care in Brazil. Bangladesh took on a women-empowerment approach, in which women groups and female education were initiated coupled with greater access to health care through selective outreach by community workers to remote areas.[12] In India during the polio outbreak, where 500 polio cases were reported on a daily basis, a polio eradication campaign was launched. Since the start of this campaign four million children's lives have been saved[10]. The campaign reached an astounding 40-80 million children a year, most of whom were living in high risk areas for polio virus transmission, such as overcrowded areas with poor sanitation, poor access to toilets and poor breastfeeding and nutrition rates.[10] The success of this campaign illustrates that it is possible to ensure equity in availability to health care, even in the poorest and most remote areas which are mostly densely populated.

WAY FORWARD FOR INDIA AND SOUTH AFRICA

At the Regional Consultation on Social Determinants of Health held in Colombo in October 2007, participants from different countries in South-East Asia expressed the need to increase forums for the exchange of information from each country. It was evident from the proceedings held during the consultation that each country could learn much from others on strategies to deal with health related issues. This holds for South Africa, India and the rest of the world's developing countries.[24]

The health sector in both countries is expected to reduce health inequalities. By improving overall access to health services through financing and provision of services, and aiming towards universal coverage, socioeconomic inequities for use of the health system and accessibility of

health care may be reduced. The aforementioned can be achieved by securing political commitment to social and economic policies that strengthen equity, and by securing increases in government expenditure on the health sector. To address these health inequities the underlying causes such as wealth, education, occupation etc need to be tackled first.[24] To accomplish health care delivery for all infants a sustained and dedicated leadership is vital in each of the countries.

Furthermore, the link between female education and child survival that is evident suggests that both countries need to adopt a woman empowerment role. This can be achieved through providing and promoting education for women of all ages and encouraging women to form self-help groups, especially those that are greatly marginalised[38]. As a result infant mortality rates may decline due to better incomes and more information on better child care. Moreover governments need to reinforce policies to eliminate all forms of discrimination against females, applicable to both countries. Laws that restrict any violation of rights of women and children should be put in place. For these laws to have a great impact, they need to reach the remotest areas, thus it is important to raise awareness of the existence of these laws by developing socially and culturally appropriate information, education and communication. There is also a need to provide information pertaining to the dangers of unsafe infant health practices.[34]

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