

Research Newsletter

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*Assessing the Impact of MDG's on Child Survival:
The South African Context*

Editorial

By: Sabela G Petros

This Provincial Newsletter focusses on the impact of the Millennium Development Goals (MDGs) on child health, and how the Western Cape and South Africa have fared in achieving these goals. The Provincial Health Research Committee (PHRC) approached known and respected local authors with expertise in these areas to write articles for the newsletter. Each author was asked to address the topic from a specific angle. The articles make a very interesting read. Each presents information from a particular perspective and there is some overlap in the data and comment.

All authors without exception highlight the impact of interventions put in place by the South African government such as the prevention of mother to child transmission programme (PMTCT), vaccines against rotavirus and pneumococcus and, anti-retroviral therapy (ART) which together have all reduced child mortality and improved children's survival. Despite these efforts, South Africa (SA) lags behind in achieving the MDGs and will certainly not meet the fourth MDG goal for children by the end of 2015.

Some articles give an overview of the actions taken by the SA government to address children's issues and compare national achievements to countries of similar socio-economic status. Others compare provincial performance. The key article by *Sanders*

provides a concise and informative overview of the health status of children in SA and compares it to the performance of similar middle-income countries. The article by *Westwood*, on the other hand, discusses the long history of the international agenda to promote child survival, beginning with the 1978 Alma Ata declaration of 'Health for all by the year 2000'. The article by *Reynolds* is an interesting critique of the MDG project and argues that whilst these goals should apply to all countries, the targets were really intended for poor countries to achieve with finance from wealthy states.

"We're about every child's chance to survive and thrive - to have a childhood, quality health care, education and protection from harm. We believe no child should be left behind - or left out." - UNICEF

The article by *Sambo* based on her research, identifies challenges that still persist in underserved areas which undermine efforts to meet the MDG4. Other articles highlight the importance of immunisation coverage and the need for better SA data to manage child health. Importantly, all authors voice that in recent years positive gains have been made in child survival in South Africa and that the UN MDGs framework and targets could be used to better children's wellbeing going forward.

References for published data and articles are available from the authors in this issue.

CHILD SURVIVAL IN SOUTH AFRICA AND THE WESTERN CAPE: WHAT PROGRESS IN ATTAINING THE MDGs?

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Under-five mortality rates (U5MR) in South Africa remain disproportionately high in comparison with similar middle-income countries. The U5MR in Brazil dropped from 58 in 1990 to 14 per 1000 live births in 2013. In South

Africa there was a national rise in under-five mortality between the 1990s deaths to 2003-5 – from 50-60 deaths per 1000 live births to 70-80 deaths. Since then U5MR rates have dropped to an estimated 56 in 2009. Despite this turn around South Africa will not reach its MDG target of 20 by the end of 2015, being a third of the 1990 level.

Infant and child mortality in the Western Cape Province is far lower than the national average. Although child ‘health’ data, or more accurately ‘death and disease’ data, are the best in the country, even this province is unlikely to attain the national MDG4 target, despite a trend that shows improvement – especially in Infant Mortality (under 1 year) – over the past few years.

Table 1: Trends in IMR and U5MR in Western Cape districts, 2008-2011 Stats SA

| Districts | IMR per 1000 live births* (Stats SA) | | | | U5MR per 1000 live births* (Stats SA) | | | |
|-------------------|--------------------------------------|------|------|------|---------------------------------------|------|------|------|
| | 2008 | 2009 | 2010 | 2011 | 2008 | 2009 | 2010 | 2011 |
| Cape Winelands | 22.7 | 25.1 | 25.1 | 20.7 | 29.9 | 31 | 31.3 | 26 |
| Central Karoo | 44 | 40.5 | 33.4 | 34.4 | 58.4 | 51.5 | 43.6 | 41 |
| City of Cape Town | 21 | 21.7 | 22.2 | 17.1 | 25.9 | 26.2 | 27.4 | 21.6 |
| Eden | 23.2 | 23.6 | 18.9 | 19.7 | 29.1 | 28.2 | 23.5 | 23.8 |
| Overberg | 27.9 | 28.5 | 32.4 | 30.4 | 34.9 | 33.5 | 45.5 | 38.4 |
| West Coast | 28.2 | 23.2 | 29.9 | 22.3 | 33.8 | 26.6 | 35.1 | 28.2 |
| Western Cape | 22.3 | 22.7 | 23.1 | 19.1 | 27.7 | 27.5 | 28.6 | 24.1 |

(* rates calculated annually to include late registration of births)

Trends in child mortality, both nationally and in the Western Cape, reflect a rise in HIV prevalence amongst pregnant women in the 1990s and mother to child transmission of HIV with resultant mortality of infected infants. This high mortality rate declined in the mid 2000s following the national roll-out of the Prevention of Mother-to-Child Transmission (PMTCT) Programme in 2003, which began earlier in the Western Cape.

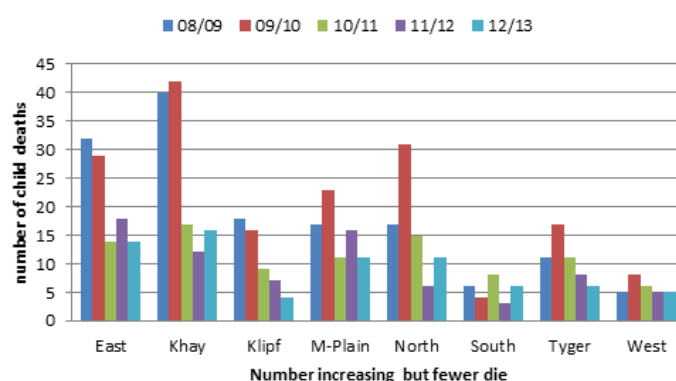


Figure 1: Trends in diarrhoea deaths

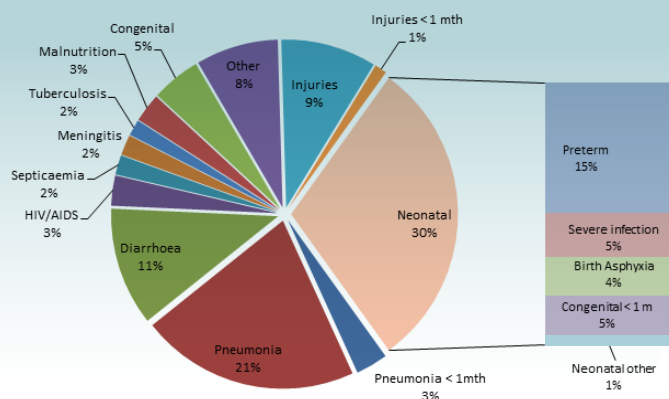


Figure 2: Causes of death in children under-5 years, Western Cape 2011

The chart above shows the proportional causes of under-5 deaths in the Western Cape in 2011. Neonatal causes (first month of life) account for 30% with half of these (15%) due to prematurity; pneumonia (including in neonates) accounts for 24%; and diarrhoea for 11%. However, HIV infection is likely to be underreported and remains a key – albeit declining – driver of under-five mortality both nationally and provincially. While malnutrition is not listed as a cause of death, it is a key risk factor and 35% of young children who died in hospital nationally between 2005 and 2009 were severely malnourished and a further 30% were underweight for age. Injuries account for about 11% of young child deaths with one-eighth of these due to homicide.

Child health, growth and development are dependent on families' social and economic status – 'social determinants' – as well as access to environmental services. These 'social determinants' impact directly on the child's health through illness and injury. Access to maternal and child health care services such as immunisation and PMTCT, are also critical as the majority of deaths from common conditions are preventable. Mortality statistics

do not reflect ill-health and disability related to chronic conditions and mental illness. These are difficult to quantify due to limited data.

The Need for a Primary Health Care Approach

Applying government's primary health care approach to child health, firstly, demands a focus on both basic health care – including prevention – at clinic/health centre, and community levels as well as addressing key social determinants. An example of the importance of social determinants in addressing diarrhoeal disease is the province's mixed outcomes. Improved access to primary medical care, especially through the establishment of rehydration corners in clinics, resulted in a sharp reduction in diarrhoea deaths.

However, failure to significantly address its environmental determinants, notably improved sanitation and provision of adequate amounts of clean water for hygienic purposes, means that incidence (number of new cases) remains unchanged. In other words just as many children get sick, despite rotavirus vaccination – which death only one of the causative organisms, but more are saved. The chart below show recent data for the Cape Metro.

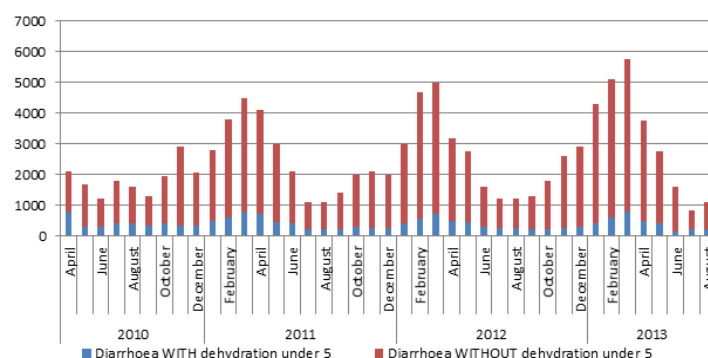


Figure 3: Diarrhoea in Cape Town (source Tony Westwood)

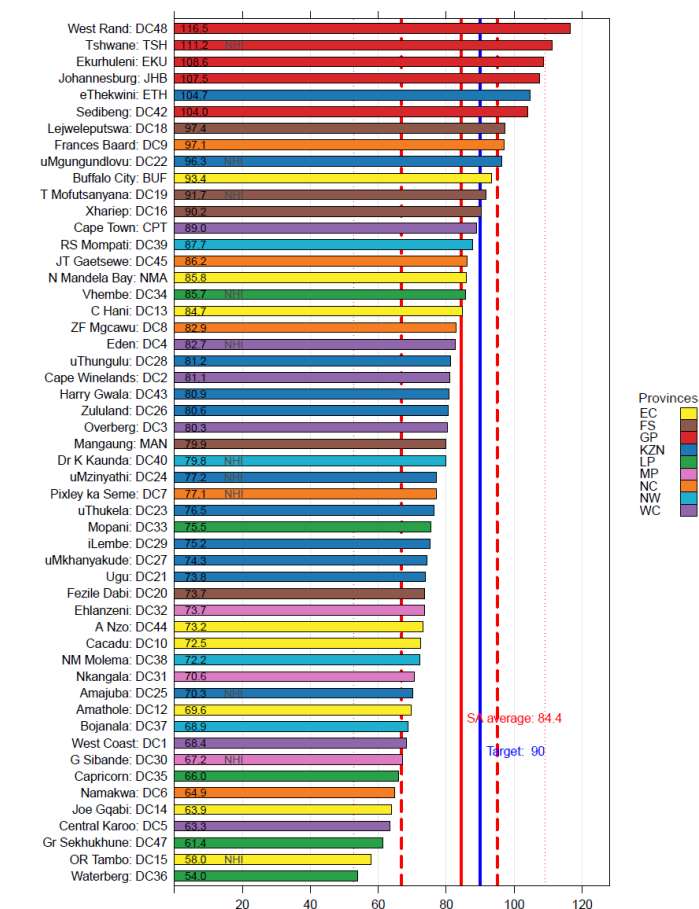
The contradiction illustrated in this example can be seen for other conditions such as diabetes, where treatment at primary care level is slowly improving, but an ‘obesogenic’ food environment is increasingly dominant.

The second area demanding improvement is coverage of services at community and household level. Although the Western Cape maintains much lower case fatality rates for childhood infections than other provinces – as a result of more accessible and better facility-based treatment – it does not perform well in coverage of basic child health programmes such as immunisation. Cape Metro, for example, performs less well than several much poorer districts (see figure below). This requires attention.

Evidence from other low and middle-income countries demonstrates that increases in health care coverage can be accelerated by strengthening the community delivery platform. Improving our performance, not only in child health but also in other conditions, will require improved coverage at household level with community-based workers, who are also able to mobilise other sectors to address social determinants.

A further strategy requiring attention is advocacy. The Department of Health needs to engage with key sectors eg Trade and industry, Water Affairs and Roads, whose current policies are often responsible for an environment that is contradictory to health.

Figure 4: Immunisation coverage under 1 year by district, 2013/14



Percentage [Source:DHIS]



“Children are the future”

REVIEWING STRATEGIES AIMED AT IMPROVING CHILD SURVIVAL GLOBALLY AND IN SOUTH AFRICA

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From: Western Cape Health Department

Child survival has long been on the international agenda. The Alma Ata conference and WHO 'Health for All by the year 2000' commitment in the 1970s that emphasised the primary health care approach gave a context to this. A specific child survival agenda that emphasised universal access to health-promoting and protecting interventions summarised in the GOBI-FFF acronym arose from subsequent Bellagio conferences. In 2000, the compilation and universal acceptance of the Millennium Development Goals' (MDG) commitment brought together an intersecting developmental agenda that promised a better milieu for healthy childhoods through its poverty reduction, nutrition, educational and maternal health goals. Specific goals set for mortality reduction among children (MDG4) included a two thirds reduction in under-5 mortality by this year – 2015.

South Africa signed up to the MDGs. Concerningly, in the first few years of the millennium, child mortality in South Africa rose, fuelled by an unabated HIV pandemic. Research from the Medical Research Council's Burden of Disease (BOD) unit published in 2003 gave HIV/AIDS pride of place, accounting for 35% of under-5 mortality, mostly in infancy. Low birthweight at 12% was followed by the common infectious diseases of diarrhoea and then pneumonia. Together

two thirds of deaths were accounted for by these conditions.

Considerable political pressure backed by published research findings and reports such as 'Every Death Counts' that summarised the serious situation brought about significant governmental responses in the second half of the first decade of the millennium. At programmatic level, antiretroviral therapy sites and prevention of mother to child HIV transmission (MTCT) were rapidly scaled up, vaccines against rotavirus and pneumococcus (primary pathogens that cause diarrhoea and pneumonia respectively) were introduced. National ministerial advisory committees were set up in 2008 to address child and neonatal mortality. Breastfeeding received the boost with the Tshwane declaration, and subsequent legislation.

There is now clear evidence that child mortality has fallen rapidly in subsequent years, though probably not fast enough to satisfy MDG4. Reports compiled by the ministerial committee on mortality and morbidity in children, using Statistics South Africa (STATSSA), District Health Information System, and Child Healthcare Problem Identification Programme data show universal and significant reduction in infant and under-5 mortality, mainly through reduction in common infectious diseases including HIV/AIDS. Under-5 mortality in 2012 was around 40/1000 live births, well below its peak of above 60 a few years ago but far from the MDG of 20. Infant mortality rate for 2013 was 25/1000 live births (STATSSA); the Western Cape province's infant mortality has dropped below 20/1000.

Neonatal mortality, now an increasing proportion of under-5 child mortality as a

result of reductions in infective causes, is proving more stubborn. A modest reduction from 14 to 11/1000 live births has been achieved in recent years. Preterm birth is the dominant antecedent of neonatal mortality.

The focus on, the incentive of, and a stalling of progress towards MDG4 led to international research-based actions aimed at tackling the main causes of under-5 mortality in low and middle income countries. These initiatives include 'Every Newborn Counts' (early newborn deaths), 'Global Action Plan for Pneumonia and Diarrhoea', 'Countdown to Zero' (aimed at eradication of HIV MTCT),

and the WHO 'Marginal Budgeting for Bottlenecks' approach that reviews evidence to maximise the effectiveness of spending on essential health interventions.

The quest to reduce young child mortality is far from over in South Africa. Recent BOD data suggest that child mortality is levelling off, following the initial onslaughts against infectious causes. Much still needs to be done using these MDG4-inspired tools, and through tackling the poverty and inequity that still ravage children across the nation.



ARE THE MDGS RELATING TO HEALTH ACHIEVABLE IN SOUTH AFRICA?

By: David Coetzee,
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From: University of Cape Town

A United Nations Millennium summit was held in 2000 with the aim of developing a programme to eradicate poverty and improve health. South Africa as a member state of the United Nations agreed to eight development priorities called Millennium Development Goals (MDGs), that set specific targets to be attained by 2015. The targets give specific areas and are indicators of country performance towards achieving the goals.

The eight MDGs were to:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empowering women
4. Reduce child mortality rates
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases,
7. Ensure environmental sustainability
8. Develop a global partnership for development.

The MDGs identify a range of issues that are believed contribute to advancing a country's socio-economic standing and in South Africa the MDGs were embodied in the government's Medium Term Strategic Framework (MTSF) 2009-2014, which guides planning and resource allocation.

It is significant that health status and three

goals were identified – MDGs 4, 5, and 6. These focus on maternal and child health as well as major infectious diseases affecting developing countries. South Africa's progress towards achieving MDGs through assessing meeting targets are presented.

MDG 4: Reducing child mortality rate

The overall health of children is reflected in child mortality rates and hence the main MDG target for improving child health is to reduce the child mortality in 1990 by two thirds by 2015. Child mortality is the number of children dying before their fifth birthday per 1000 live births. It is estimated that the child mortality rate was approximately 60 per 1000 in 1990 in South Africa. It was lower in the Western Cape but there is a lack of accurate data. According to the rapid mortality surveillance report 2012, the child mortality rate in South Africa, decreased from 56 in 2009 to 41 per 1 000 in 2012.

| MDG 4 Goal | Current status South Africa | Current status Western Cape | Progress towards target |
|--|---------------------------------|----------------------------------|--------------------------|
| Reduce child mortality to 20 per 1 000 by 2015 | 41 per 1000 (2012) ² | 23 per 1 000 (2012) ³ | Unlikely to achieve goal |

MDG 5: Improving maternal health

It is recognized that improvements in maternal health is key to child health and globally maternal health requires attention. The major target of this goal is to reduce the maternal mortality in 1990 by three-quarters by 2015. Maternal mortality is the number of women dying while pregnant or within 42 days of termination of pregnancy from a cause related to pregnancy per 100 000 live births. The best proxy for maternal mortality in South Africa is the 'Institutional Maternal Mortality Rate' which was 150 per 100 000 in 1990. The rate

increased during the 1990s largely due to non-pregnancy related HIV infections, before decreasing again in the late 2000s.

| MDG 5 Main Goal | Current status South Africa | Current status Western Cape | Progress towards target |
|---|-------------------------------------|------------------------------------|--------------------------|
| Reduce maternal mortality to 38 per 100 000 by 2015 | 154 per 100 000 (2013) ⁴ | 71 per 100 000 (2013) ⁵ | Unlikely to achieve goal |

Other MDG 5 goals include:

- Increasing the proportion of births attended by a skilled health attendant.
- Improving the couple year protection rate, which is the proportion of couples who are protecting themselves against conception.
- Decreasing the number of births to women 15 to 19 years of age, the adolescent birth rate.
- Increasing antenatal care coverage.
- Decreasing the unmet need for family planning.

Some of these goals may be achieved in South Africa.

MDG 6: Combat HIV/AIDS, malaria and other diseases

This MDG deals with the challenges of HIV and TB and malaria where these are endemic. The first major goal is to decrease HIV prevalence in persons 15 to 24 years of age to levels lower than the 9.3% identified in the first household sero-prevalence survey undertaken in 2002 in South Africa. Infections in this age group are a good indicator of the rate of new infections in the population.

Others indicators relating to HIV include:

- Increasing condom use at last high-risk sex.

- Increasing the proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS.
- Increasing the proportion of population with advanced HIV infection with access to antiretroviral drugs.

The second major goal under this MDG is to decrease the incidence, prevalence and death rates associated with tuberculosis.

| MDG 6 Goals | Current status South Africa | Current status Western Cape | Progress towards target |
|---|--------------------------------------|-------------------------------------|--------------------------|
| Reduce HIV prevalence in 15-24 year olds to <9.3% by 2015 | 7.1% (2012 HSRC survey) ⁵ | 4.4% (2012) ⁵ | Achieved goal |
| Decrease incidence of TB to <253 per 100 000 | 618 per 100 000 (2012) ⁶ | 821 per 100 000 (2012) ⁶ | Unlikely to achieve goal |

Other MDG 6 goals relevant to South Africa include:

- Increase proportion of tuberculosis cases detected and cured under DOTS (Directly Observed Treatment Short Course).
- Decrease prevalence and death rates associated with malaria.

It is unlikely that South Africa will achieve the major MDG targets. Importantly, there is a lack of data to measure many of the other goals accurately. Many commentators argue that a number of the goals are unachievable and too simplistic. In addition we need to question whether the evaluation of eight separate goals reinforces a vertical approach and fails to recognize the inter-relatedness of development goals. The framing of a 'post-MDG' framework to galvanise efforts to promote global development needs to learn from this experience.

CHILD SURVIVAL IN SOUTH AFRICA: HOW ARE WE FARING?

By: Debbie Bradshaw,

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From: Medical Research Council (MRC-SA)

The Millenium Development Goals (MDGs) targets have served to motivate countries to reduce child mortality by 2/3rds of the level in 1990 by 2015. In South Africa, the AIDS pandemic coupled with a lack of good quality health statistics, made it difficult to engage with the health related MDGs until fairly recently. The 1998 South African Demographic and Health Survey provided the first reliable estimates of child mortality for the country and revealed that child survival was actually worsening rather than improving. AIDS denialism at the time made it extremely difficult to mount an appropriate health care response and interventions to prevent mother-to-child transmission of HIV in the public sector. This had to be enabled through court action by civil society.

The first national burden of disease study highlighted the major causes of death in children but the information appeared to fall on deaf ears. This was followed by the 'Every Death Counts' report, based on facility based death audits and the burden of disease estimates. The 'big five' causes of death – HIV, complications of pregnancy and childbirth, newborn illnesses, childhood illnesses and malnutrition – among children were clearly identified and a call for action was made. The call was echoed in 2009 in the *Lancet* series on Health in South Africa which stressed the potential impact of available interventions to reduce child mortality. Under the leadership of the new Minister of Health, Dr Aaron Motsoaledi, maternal and child health has now received greater priority.

The rapid mortality surveillance system, originally set up by the Medical Research Council to demonstrate the emerging

impact of HIV/AIDS on adult mortality, now provides regular estimates of the trends in the mortality of children under-5 years by adjusting for known bias in the data. The figure below shows that since 2003, there has been a reversal in the increase of child mortality rates. Extensive roll-out of ART and the prevention of mother-to-child transmission programme have likely contributed to this, as will as the introduction of the rotavirus and the pneumococcal vaccines, which by 2010 had reached coverage rates of 66% and 64% respectively. However, the surveillance reveals a disconcerting trend for the past 3 years with the national infant mortality rate stagnating at 29 per 1 000 live births and the under-five mortality rate at 41 per 1 000 live births. On the other-hand, even though there is uncertainty about the level, neonatal mortality rates have continued to improve, gradually, since 2009 and are now at 11 per 1 000 live births.

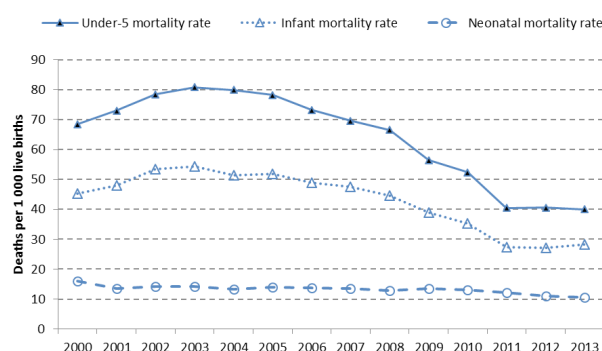


Figure 5 Childhood mortality rates for South Africa, 2000-2013 [Source: Dorrington et al, 2014]

The childhood mortality rate in South Africa remains higher than that experienced in other middle income countries. Achieving the MDG4 target for child mortality is unlikely but is no longer as impossible for South Africa as it once seemed. Concerted efforts will be required to improve the quality of maternal and newborn care, prevent early cessation of breast feeding and further improve the environmental factors that influence child health to reach this target.

LESSONS LEARNT FROM THE MILLENNIUM DEVELOPMENT GOALS INITIATIVE

By: Louis Reynolds,

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From: People's Health Movement (PMH-SA)

This year marks the deadline for the Millennium Development Goals (MDGs). To achieve our key child survival target for MDG4 we must reduce our under-five mortality rate (U5MR) to 20 deaths per 1000 live births within the next few months.

This is very unlikely despite rapid progress since 2003 (following the introduction of the Prevention of Mother-to-Child Transmission of HIV programme). In 2012 our under-five mortality was 46 (from the baseline of around 60 in 1990). While the PMTCT programme was the key intervention, the introduction of vaccines for pneumonia and diarrhoea have also contributed.

The main causes of the persistent young child mortality remain pregnancy and childbirth complications, newborn conditions and childhood infections such as diarrhoea and pneumonia. Malnutrition is a key contributing factor to many deaths, though it is not listed as a cause of death.

The underlying causes of these causes, in turn, are firmly rooted in South Africa's development trajectory and the material conditions within which people live – the social determinants of health (SDH). These include economic factors such as poverty, inadequate housing, inadequate access to clean water and sanitation, household food insecurity, and lack of education. Inequality is a major determinant, over and above poverty. These are all profoundly political issues. But if we don't address them urgently we will not achieve the quality of child health and welfare that is possible in an upper middle income country.

Key lessons from the MDG experience

While the MDGs theoretically applied to all

countries, the targets were really intended for poor countries to achieve with finance from wealthy states. They failed to consider the underlying causes of poverty and inequality. They ignored gender inequality. Nor do they mention human rights. They assume that 'development' concerns the poor only and is not an issue for the rich. Furthermore, they do not address the intersectoral nature of human development, which recognises that factors in one sector, e.g. housing, impacts on health. These failures are intrinsic to the framework of neoliberal globalisation, which focuses on single problems without dealing with underlying social and economic conditions giving rise to health inequities. A key positive lesson is that global initiatives can provide mechanisms for holding governments accountable and lead to focused action for change.

The MDGs hide inequities. Because targets are set as averages, improvements in some groups can lead to apparent 'success' without any progress among disadvantaged populations. It is highly likely that inequalities in health outcomes are increasing, both within and between countries.

After the MDGs

United Nations Summit to adopt the post-2015 development agenda is scheduled for the 25-27 September. What are the key issues to consider?

The People's Health Movement (PHM) would like to see a commitment to human rights, equity, justice, sustainable development, peace and security, and respect for ecosystems. The new framework should move away from imposing a top-down approach to development and build people's capacity to control their own future. The post 2015 agenda needs to include better and more democratic governance structures and confront political domination by corporations, including privatization of health care. Community participation is essential.

Universal Health Care should be located within a framework that addresses economic, cultural and political conditions that facilitate equitable access without barriers – health cannot be seen as separate from its social determinants.

THE ASSOCIATION BETWEEN DOMESTIC HYGIENE AND DIARRHOEA IN CHILDREN UNDER TWO YEARS IN KHAYELITSHA

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From: Western Cape Government: Health, Health Impact Assessment (HIA)

A safer and healthier future for all children is central to the Millennium Development Goals (MDGs). The 4th MDG has an indicator of a reduction of the under-5 mortality rate by two thirds from the year 1990 by the end of 2015. But most developing countries in sub-Saharan Africa including South Africa are way-off target in meeting this child health goal. While the number of under-five deaths has halved since 1990, 6.55 million children worldwide still die every year, mostly from preventable diseases including diarrhoea. South Africa's target is to reduce this rate to 20/1000 live births. It is heartening that a 66% reduction in rotavirus diarrhoea hospitalisation in the first 2 years after the introduction of rotavirus vaccine in 2009 was achieved. However, children still die from preventable conditions. As 2015 is last year of the MDG project, it is an important moment to assess how South Africa is fairing in addressing key risk factors compromising children's health.

A case-control study was conducted in Khayelitsha, Cape Town in 2012 at child care facilities amongst children less than two years to explore socio-economic factors associated with childhood diarrhoea. The study enrolled 100 cases of children with any diarrhoea and 100 with no diarrhoea as controls. A structured, pre-tested questionnaire was used that assessed anthropometric, child care and demographic factors, as well as hygiene

and environmental factors. An observational checklist collected information on domestic hygiene and municipal services at the homes of cases and controls.

The study found that children with and without diarrhoea had similar anthropomorphic profiles – weight-for-age, weight-for-length, and length-for-age. As children with diarrhoea were recruited from clinic or community day centre settings, it was not possible to distinguish between mild diarrhoea and severe or chronic diarrhoeas. It is possible that this could account for the lack of association between diarrhoea and malnutrition. The study found that children in day care or cared by family/relative during the day were twice more likely (OR=2.79; 95% CI=1.25-6.2; p=0.012) to have diarrhoea than children cared for by their mothers during the day. It also found a marginally significant association between socio-demographic and environmental factors and diarrhoea - factors such as maternal age and children with mothers or caregivers who reported sanitation problems were more likely to have diarrhoea than children with mothers who did not report toilet problems (OR=2.21; 95% CI=0.91-5.40; p=0.081).

This study shows that household socio-economic status and hygiene practices do compromise children's health. In Khayelitsha children not in the care of their biological parents, especially their mothers are at a high risk of diarrhoea. Similarly, poor sanitation facilities, maternal age, domestic and environmental hygiene are a risk to children's health. The study suggests that domestic hygiene and safe food handling, health promotion in the community focussed on sanitation, safe water and environmental control should be prioritized to limit the risks of an important cause of childhood morbidity amongst children less than 2 years. In addition, supporting mothers to care for their children, together with environmental interventions and the Rotavirus vaccine could improve the health profile of children in the Khayelitsha community, and contribute towards achieving MDG4 by the end of 2015.



SOUTH AFRICA HAS NOT REACHED THE MDG4 GOAL.

By: Gregory Hussey ,
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In 2000 the 189 United Nations member states, including South Africa, and 23 international organizations committed their countries to a new global partnership to reduce extreme poverty and set out a series of time-bound targets, with a deadline of 2015, that have become known as the Millennium Development Goals (MDGs).

The MDGs specified targets for addressing extreme poverty in its many dimensions including income poverty, hunger, disease and adequate shelter, while promoting gender equality, education, and environmental sustainability. They also address basic human rights of each person to health, education, shelter, and security. The internationally agreed framework of 8 goals and 18 targets was complemented by 48 technical indicators to measure progress towards the MDGs.

- Goal 1: Eradicate Extreme Hunger and Poverty
- Goal 2: Achieve Universal Primary Education
- Goal 3: Promote Gender Equality and Empower Women
- Goal 4: Reduce Child Mortality
- Goal 5: Improve Maternal Health
- Goal 6: Combat HIV/AIDS, Malaria and other diseases
- Goal 7: Ensure Environmental Sustainability
- Goal 8: Develop a Global Partnership for Development

MDG4 specifically aims to reduce the global under-5 child mortality (U5CM) by two-thirds in 2015 compared to 1990.

Globally, significant progress has been made in reducing child mortality. In 2012, 6.6 million children under-5 died, compared with 12.6 million in 1990 – a decline of 47%, from an estimated rate of 93 deaths per 1000 live births to 48. The rate of decline has also accelerated in recent years – from 1.2% per annum during 1990-1995 to 3.9% during 2005-2012. Despite this improvement, the world is unlikely to achieve the MDG target of a two-

thirds reduction in 1990 mortality levels by the year 2015 i.e. a rate of 31 per 1000.

Africa-wide, U5CM reduced from 177 deaths per 1000 live births in 1990 to 98 deaths in 2012. This translates into a 45 percent reduction against the target of the two-thirds reduction. The continent is still the region with the highest U5MR globally accounting for almost half of the total child deaths before the age of five. This is related to the educational attainment of mothers, empowerment of women, their level of access to health systems, income, nutrition, the prevalence of HIV and other vaccine preventable diseases and high rates of neonatal deaths, which in many areas account for close onto 50% of all U5CM. Many of these issues are also covered in the other MDGs listed above.

Despite the uncertainty around the estimates of child mortality in South Africa because of the incompleteness of vital registration and the quality of data routinely collected in the South African health system most authorities suggest that we have made some progress particularly in the last decade. The U5CM rate has declined from 61 in 1990 to 44 in 2013 – only a 28% reduction!

Reason for this slow decline include the delay in implementing comprehensive PMTC programs, the slow roll-out of HAART for children and delays in introducing life-saving immunisations such as rotavirus and pneumococcal vaccines. Given the recent significant progress in reducing mortality we could hopefully, with ongoing improvement in health, social and developmental services, SA may meet the MDG4 goal by the end of the current decade.

However, we have to be mindful that recently we have had a major measles epidemic nationally and is a significant outbreak of diphtheria in the KZN province. This suggests that all may not be well with our health services. In addition other problems such as failing infrastructure and inadequate staffing of health facilities may impact negatively on child health and development, negating the positive gains made in child survival over the last few years.

REDUCE CHILD MORTALITY, IMPROVE IMMUNIZATION COVERAGE AND DATA QUALITY

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From: University of Stellenbosch

The Millennium Development Goals (MDGs) are an attempt to improve health globally by setting targets for priority health and poverty related indicators. This brief review discusses some of the indicators and progress made in child survival and immunization coverage in South Africa, and notes that routinely collected data on MDG 4 indicators has limitations due to issues of data quality and uncertain population denominators. Thus we supplement this data with information from the 1998 Demographic and Health Survey (DHS), estimates of the Burden of Disease Unit of the South African Medical Research Council (MRC) which are based on the DHS and other reliable data sources, StatsSA and selected research studies.

Child mortality

The global target set for Millennium Development Goal 4 is to reduce child mortality by 2015 by two-thirds of the 1990 rate. The DHS reported a national decline in the Under-5 mortality rate (U5MR) from 88 per 1000 live births in the 1988 DHS to 59 in the 1998 DHS (Table 1). Subsequent MRC estimates reflect a further national decline in U5MR and Infant Mortality Rates (IMR) between 2002 and 2013. The U5MR and IMR in the Western Cape after an initial increase post 1998, have begun to decline in recent years.

Table 1: Rates and Estimates of Mortality (1988-2013)

| INDICATOR (Target per 1000 live births) | 1988 | 1998 | 2002 | 2007 | 2010 | 2011 | 2013 |
|--|------|------------------|---------------|------|------|------|------|
| | DHS | DHS ¹ | MRC Estimates | | | | |
| National U5mortality Rate | 88 | 59 | 74 | 72 | 52 | 40 | 41 |
| W Cape U5mortality Rate | | 13 | | | 29 | 24 | |
| National Infant Mortality Rate | | 45 | 50 | 49 | 39 | 27 | 29 |
| W Cape Infant Mortality Rate | | 8 | | | 23 | 19 | |

The MRC's second national burden of disease report notes that recent declines in infant mortality are *"largely due to a reduction in mortality from HIV/AIDS"*, and progress on the MDGs requires *"a more focused approach ... to tackle deaths from neonatal conditions, diarrhoeal disease and lower respiratory infections, while prevention of mother-to-child transmission programmes should be strengthened towards the goal of eliminating paediatric HIV/AIDS."*

Some uncertainty around the estimates of child mortality persists as vital registration of births and deaths is incomplete and complicated by a high HIV prevalence. A more updated DHS is therefore urgently needed to validate the estimates in child mortality.

Immunization Coverage

As immunizations are one of the most cost effective strategies to reduce child morbidity and mortality, we briefly review national and Western Cape progress in achieving immunization coverage in Table 2. The data for 2009 and 2014 are based on routinely collected data which overestimates immunization coverage numbers, compared to survey data of 1998, 2006, and 2013.

Table 2: Immunisation coverage based on the 1998 DHS and routine coverage figures

| Immunization coverage in % | BCG | DTP3 | Polio 3 | Measles 1 | Measles 2 | All* |
|----------------------------|-----|------|---------|-----------|-----------|------|
| South Africa DHS 1998 | 98 | 74 | 73 | 84 | | 64 |
| Corrigall 2006 | 99 | 81 | 81 | 93 | 60 | 76 |
| Western Cape 2009 | | 104 | | 79 | 60 | |
| WHO-UNICEF SA 2013 | 84 | 65 | 62 | 66 | 53 | |
| Western Cape 2014 | | 95 | 95 | 91 | 74 | 88 |

*All: The child has received BCG and 3 doses of DTP, polio and measles vaccines by 12 months

Based on this data, there is insufficient reliable evidence of improvement in the immunization coverage in the Western Cape. Given the uncertainty about the coverage levels and the low uptake of the measles booster dose, periodic measles outbreaks are likely. A well-planned DHS is needed to validate routine immunization coverage and to inform planning of the immunization programme in the Western Cape and South Africa.

Improving immunization coverage to achieve

MDG 4

South African health managers identified the main challenges to achieving immunization coverage goals as insufficient knowledge of vaccines and immunization, public attitudes and health systems constraints. A recent survey in the Western Cape and Kwazulu Natal about multiple immunization injections found that caregivers of infants had very limited knowledge about immunisations, and that there was insufficient communication by health service providers to caregivers. Providers and caregivers felt that more

communication was needed about the injections and that mechanisms to reduce the pain experienced by infants had to be implemented.

Interventions identified by a systematic review which may improve immunization coverage in low and middle income countries include health education (in communities, facilities and homes), reminders and regular immunization outreach sessions. A report on case studies in Africa further identified six common drivers of routine immunization coverage improvement as:

1. Community-centred health workers delivering vaccination through health facilities, outreach services, *and* home visits.
2. District, local government and community groups plan and deliver immunization services, raise awareness and develop strategies to reach all children.
3. Regular reviews of data with open discussion about achievements and shortcomings.
4. Assess community needs and conditions and adapt services accordingly.
5. Investments made in routine services to increasing coverage.
6. Health departments and development agencies working together to improve services.

Summary

The Western Cape has made limited progress in achieving MDG4 largely due to preventable infectious diseases in children. A stronger focus on implementing strategies to improve immunization coverage supported by reliable data could contribute to further reducing child morbidity and mortality.

CONFERENCES AND PUBLIC HEALTH NEWS :

Conferences:

- 1) **5th Provincial Health Research Day** to be on the 5th November 2015. Enquiries: Health.Research@westerncape.gov.za
- 2) **9th Action Learning, Action Research (ALARA)** and 13th Participatory Action Research World Congress, When: 4-7 November 2015. Venue: St. George Hotel and Conference Centre, Centurion (Pretoria), South Africa. URL: <http://www.alarassociation.org/pages/events/alara-world-congress-2015>
- 3) **9th World Congress on Developmental Origins of Health and Disease** When: 8-11 November 2015. Venue: Cape Town International Convention Centre, South Africa. URL: <http://www.dohad2015.org/>
- 4) **18th International Conference on AIDS and STIs in Africa**. When: 29 November to 4 December 2015. Venue: Rainbow Towers Hotel & Conference Centre, Harare, Zimbabwe URL: <http://icasa2015zimbabwe.org/overview/icasa-2015-background/>
- 5) **6th Child Health Priorities Conference: Walk the Talk**. When: 3-5 December 2015 Venue: University of KwaZulu-Natal, Pietermaritzburg Campus, South Africa Contact: infochpc2015@gmail.com

News:

- 1) **A New Online Rational Medicines Use Module** will be offered by the University of the Western Cape Schools of Public Health and Pharmacy, in collaboration with the SIAPS, Prof Richard Laing (BUSPH and ex-WHO) and other partners. This 15-credit online masters-level module will run from July-November 2015. For information on module and application details see: <http://www.uwc.ac.za/Faculties/CHS/soph/News/Pages/NEW-Online-Rational-Medicines-Use-Module.aspx>
- 2) **SOPH Study While You Work:** Applications for 2016 now open - Masters in Public Health, Postgraduate Diploma in Public Health and PHD in Public Health For more information and details on how to apply consult SOPH website at: <http://www.uwc.ac.za/faculties/chs/soph>
- 3) **Emerging Public Health Practitioner Award:** The South African Health Review Emerging Public Health Practitioner Award is offered to South African candidates under the age of 35 to submit a chapter dealing with public health or policy in South Africa for publication in the South African Health Review see: <http://bulletin.hst.org.za/it.php?>
- 4) **Perinatal deaths in South Africa, 2011-2013:** Statistics South Africa (Stats SA) has identified a need to publish statistics on perinatal deaths. This information is based on administrative records captured on death notification forms collected from the South African civil registration system maintained by the Department of Home Affairs (DHA). See: <http://bulletin.hst.org.za/it.php?>
- 5) **Foundation for Professional Development** offers courses on health management development, see: http://www.foundation.co.za/FPD/about-fpd/business_school.html



Western Cape
Government

Health

THE VALUES:



Caring

To care for those we serve and work with.



Integrity

To be honest and do the right thing.



Accountability

We take responsibility.



Responsiveness

To serve the needs of our citizens and employees.



Competence

The ability and capacity to do the job we were employed to do.



Respect

To be respectful to those we serve and work with.



Innovation

To be open to new ideas and develop creative solutions to challenges in a resourceful way



Better Together

The Western Cape Government has a duty to provide opportunities. Citizens have the responsibility to make use of them.