Statistical Bulletin

Malawi: Health

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Measuring Service Delivery in Southern Africa Project

Study 3: Developing measures and methods for measuring progress towards service delivery targets

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Progress towards health goals

Key targets and indicators from the MDG (which are also contained in the Regional Indicative Sustainable Development Plan -- RISDP) have been clustered to review progress in the health sector in the four countries included in the study: Tanzania, Botswana, Malawi and South Africa. These include quality of service indicators such as skilled attendance at birth and a wide range of outcome indicators such as infant and child mortality rates.

The following Goals from the MDG are included:

Goal 4: Reduce child mortality
Goal 5: Improve maternal health
Goal 6: Combat HIV/AIDS, malaria and other diseases.

The table below illustrates the progress made towards goals related to the health sector and health outcomes drawn from the Millennium Development Goals.

Table 1. Malawi Health MDGs

Goal 4: Reduce child mortality	Target 4.1Children <5 mortality rate	
Goal 5: Improve maternal health	Target 5.1 Maternal mortality ratio	
	Target 5.2 Births Attended by Skilled Health Staff	
Goal 6: Combat HIV/AIDS, malaria and other diseases	Target 6.1 HIV Prevalence Rate (15-49 years old)	
	Target 6.6 Reported Cases of Malaria	
	Target 6.9 Tuberculosis prevalence rate	

KEY

0	No Progress in meeting target (0/10)
5	Some progress but will not meet MDG target (5/10)
10	Target will be met in 2015 (10/10)
	Insufficient Data

In addition, the Human Development Index (HDI) and Life Expectancy are reviewed. Projections from the data available on each of the 6 indicators reveal that one target, which is the target of reducing child under five mortality rate will be reached by 2015. this is a notable achievement and has been widely commended. Changes in HIV prevalence and tuberculosis prevalence rates has shown some progress but not at a sufficient pace to reach the MDG target.

No progress has been made in another two of these indicators (the maternal mortality ratio and births attended by skilled health staff). Finally with regard to malaria there is insufficient data to make a judgment.

In summary, on the basis of the projections of present trends only one of the three MDGs relating to health and the health sector will meet the target by 2015.

Country political and socio-economic context

Malawi is a densely populated country in southern Africa with an area of 118,484 square kilometres, of which 30% is water. Malawi is a landlocked country and has no access to the sea. Poverty is rampant in Malawi. Malawi is one of the poorest countries in the world and has a low level of household heads employed in the formal sector. As a result, local borrowing leads to large debts with negative impacts on public sector spending by government.

Health indicators for Malawi in the baseline year of 1990 are regarded among the worst globally because of high levels of illiteracy, poverty, and HIV/AIDS. The situation is exacerbated by the fact that there are insufficient human resources to meet the health crisis.

Political will to achieve goals

The commitment to improving access to essential health care services in Malawi is being achieved through the Malawi Growth and Development Strategy (MGDS). This is being achieved by intensifying investment in essential health care services, with special focus on human resources development and retention, procurement of essential basic equipment and drugs as well as the provision of infrastructure. The Ministry of Health is currently implementing health Sector Wide Approaches (SWAp) in collaboration with government counterparts, development partners and non state actors.

Evidence of drive to achieve these goals

The health sector has implemented several policy frameworks and strategies in order to achieve the MDGs as well as the Malawi Growth and Development Strategy. Some of the strategies are as follows:

- Implementation of Essential Health Package;
- Implementation of SWAp in order to develop and strengthen related health systems;
- Training of health workers such as Health Surveillance Assistants;
- Implementation of targeted nutrition support through community based therapeutic care;
- Increased availability and accessibility of antenatal services;
- Provision of ARVs and micronutrients;
- Implementation of HIV and AIDS workplace programmes; and
- Strengthen the capacity of CBOs to mainstream HIV in their activities.

Public participation, budgetary monitoring, civil society engagement

In order to achieve public participation, the government has decentralized health care to the local assemblies to empower district assemblies to make decisions, set priorities and implement policies with involvement of the community in the planning and implementation of health care delivery systems. Such reforms are aimed at providing hospitals with the power to prioritize spending on pertinent disease and community health problems. A mechanism has also been provided for district performance assessment and monitoring to support this local level planning.

The Malawi Health Equity Network (MHEN) was formed in 2000 that plays an advocacy role on health equity. The main objective of MHEN is to influence people-centred policy through the Parliamentary Committee on Health in the Malawi National Assembly. This Committee is one of the institutional mechanisms for promoting equity and the MHEN acts as a lobby of the committee.

Review: Health and human development

The focus in this bulletin is on the realisaiton of the MDG in the health sector. The indicators below are identified and projections are developed from existing trends against the measured goal. The data is checked against other datasets.

The indicators selected to measure progress are as follows:

- Births attended by skilled health, a proxy for universal access;
- Prevalence over the years HIV/AIDS as a proportion of the population;
- Prevalence over the years of HIV/AIDS as a proportion of young men/young women;
- Children with fever receiving anti malarial drugs;
- Infant Mortality Rate;
- Children under Five Mortality Rate;
- Maternal Mortality Rate;
- Life expectancy at birth, total (years)

This Bulletin reviews the progress made in selected indicators of health services and health outcomes in Malawi. To achieve cross-country comparability, indicators that are commonly available and that are being captured in the Millennium Development Goals (MDGs) are used, although not all related indicators for each country are available. These are then related to the goals and objectives set out in the MDGs and the Regional Indicative Sustainable Development Plan (RISDP). This study begins with an overall sense of human development and then examines the range of health indicators available.

The HDI has gained widespread international recognition as an indicator of social progress. No development index (other than the Gross Domestic Product per capita) has

been used so extensively - or effectively, in discussions and developmental planning as the HDI.

The HDI emerged as an attempt to put people back at the centre of development discussions and action plans. It has the advantage of being a simple composite measure to evaluate both economic development and improvements in human well-being. The HDI includes the following:

- Life expectancy at birth, as an index of population health and longevity;
- Knowledge and education, as measured by the adult literacy rate (with two-thirds weighting) and the combined primary, secondary, and tertiary gross enrollment ratio (with one-third weighting); and
- Standard of living, as represented by gross domestic product per capita at purchasing power parity.

Figure 1. Human Development Index for Malawi

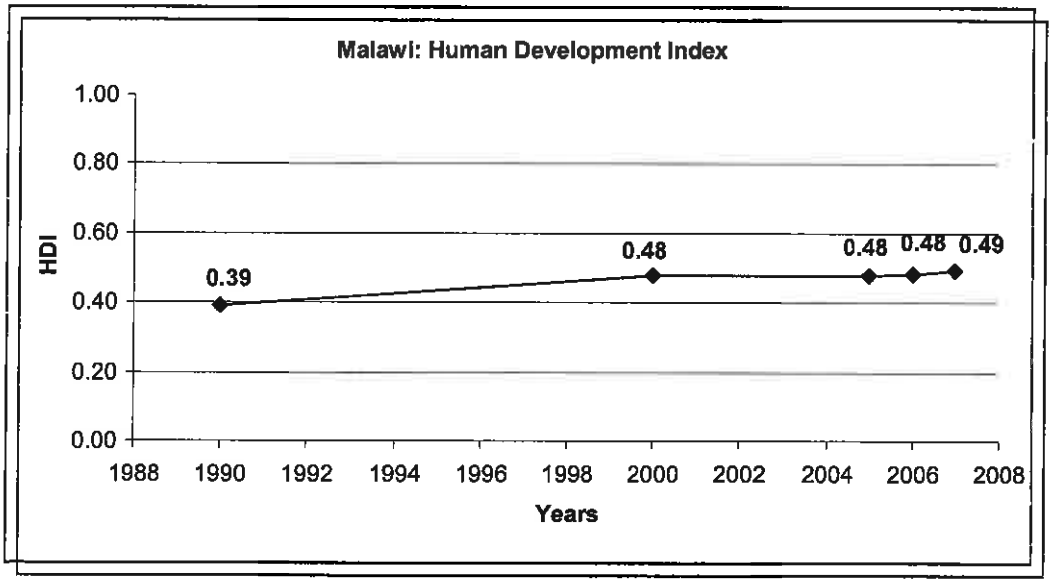

Table 2. Assessment of HDI over time

	1990	2000	2005	2006	2007
Malawi	0.390	0.478	0.476	0.484	0.493

Source: Human Development Reports, 2009

Analysis and comment:

The trend of the HDI in Malawi is slowly upwards showing slow but steady incremental change but without gathering significant momentum.

Of the components of the HDI, only income and gross enrolment are somewhat responsive to short term policy changes. For this reason, it is important to examine changes in the HDI over time.

The Human Development Index trends portray an important story in that respect. Between 1985 and 2007 the HDI rose by 1.2% annually from 0.379 to 0.493.

Figure 2. Life Expectancy

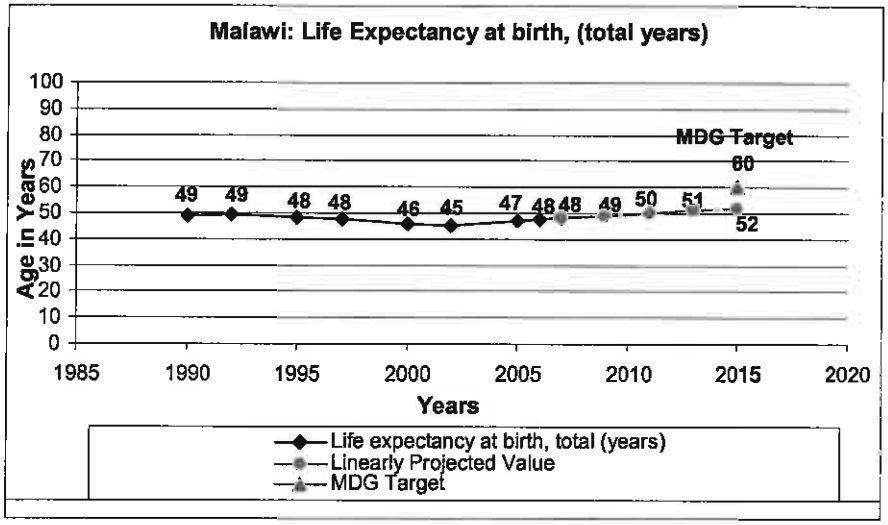

Table 3. Life expectancy at birth

	1990	1992	1995	1997	2000	2002	2005	2006	2007
Life expectancy at birth, years	49	49	48	48	46	45	47	48	48

Source: Millennium Development Goals Indicators
URL: http://millenniumindicators.un.org/unsd/mdg/Data.aspx

Life expectancy is one of the key components of the HDI. Malawi shows slow incremental increase over the recent period and a projection forward indicates that life expectancy could rise to 52, considerably shorter than 60 years, which is regarded as an international benchmark.

The life expectancy of 52 years is one of the lowest life expectancies in the world.

Maternal, infant / child mortality and life expectancy

The Millennium Development Goals and the RISDP identify child and maternal health as key indicators of potential improvement in human development. The indicators are fully aligned to infant or child and the proportion of reduction sought.

Goals related to health sector

Goal 4, Target 5: Reduce child mortality. Reduce by two thirds the mortality rate among children under five.
Goal 5, Target 6: Improve maternal health. Reduce by three quarters the maternal mortality ratio.

Child mortality rate

The MDG seeks to reduce the mortality rate among children under five by two thirds.

Figure 3. Children Under Five Mortality Rate

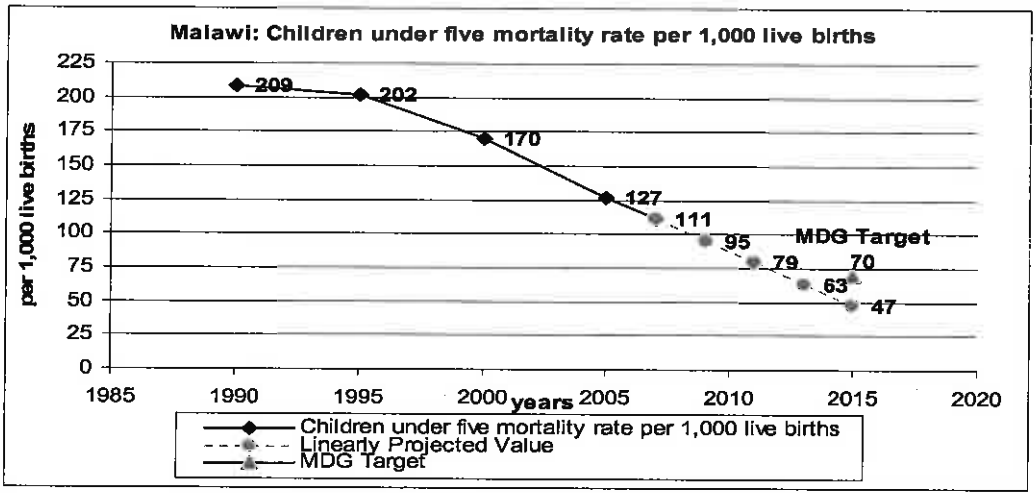

Table 4. Children under five mortality rates by year

	1990	1995	2000	2005	2007	2015
Children under five mortality rate per 1,000 live births	209	202	170	127	111	
MDG target = (209*2/3)-209						70

Source: Millennium Development Indicators
URL: http://millenniumindicators.un.org/unsd/mdg/Data.aspx

Analysis and comment:

The MDG target is to reduce the child mortality rate by two thirds from the baseline year of 1990; this sets a target of 70 per 1,000 live births to be reached by 2015. The forward projection of the data from 2007 does, however, indicate that at the current pace of change the under five mortality rate in 2015 should be 47 favourably below the target of 70.

The persistent decline in the under five mortality rate marked from 1995 can be attributed to intensified investment in essential health care services with special focus in human resource development.

The MDG in under-five child mortality is thus reached before 2015.

Maternal Mortality Rate

The MDG target in relation to the maternal mortality rate is to reduce the rate by three-quarters between 1990 and 2015.

Figure 4. Maternal Mortality Rate

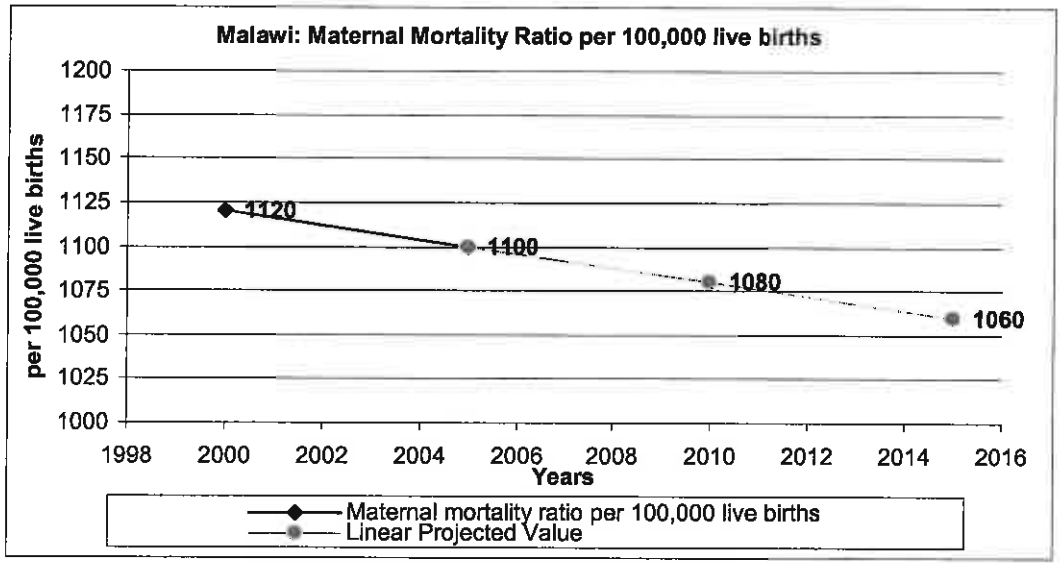

Table 5. Maternal mortality ratio per 100,000 live births

	2000	2005
Maternal mortality ratio per 100,000 live births	1120	1100

Source: World Development Indicators and Malawi Development Report 2003
URL: http://ddp-ext.worldbank.org/ext/DDPQQ/report.do?method=showReport
URL: http://www.undg.org/archive_docs/5547-Malawi_MDG_Report.pdf

Analysis and comment:

There has been a decline in the maternal mortality rate between 2000 and 2005; unfortunately there are two reasons why it is difficult to establish a trend, firstly the data for earlier years could not be sourced specifically to set the baseline figure for 1990 and

secondly the difference in the figures between 2000 and 2005 do not appear significant. The factors identified in potentially leading to this decrease are identified as follows:

- Government commitment to increase the availability and accessibility of antenatal services,
- Government commitment to strengthen the capacity of individuals, families, communities, civil society organizations to improve maternal and neonatal health.

The MDG target is to reduce maternal mortality rates by three quarters between 1990 and 2015. The forward projection of the data from 2005 does indicate that at the current pace of change there is a decline from 1120 to 1060 deaths per 100,000 live births by 2015.

This is a slow rate of decline for a country which has a relatively high maternal mortality rate compared to the other three countries for the period under review. The conclusion is that there is progress being made but at an insufficient rate to bring the MDG in maternal mortality in sight.

Figure 5. Births Attended by Skilled Health Staff (% of total)

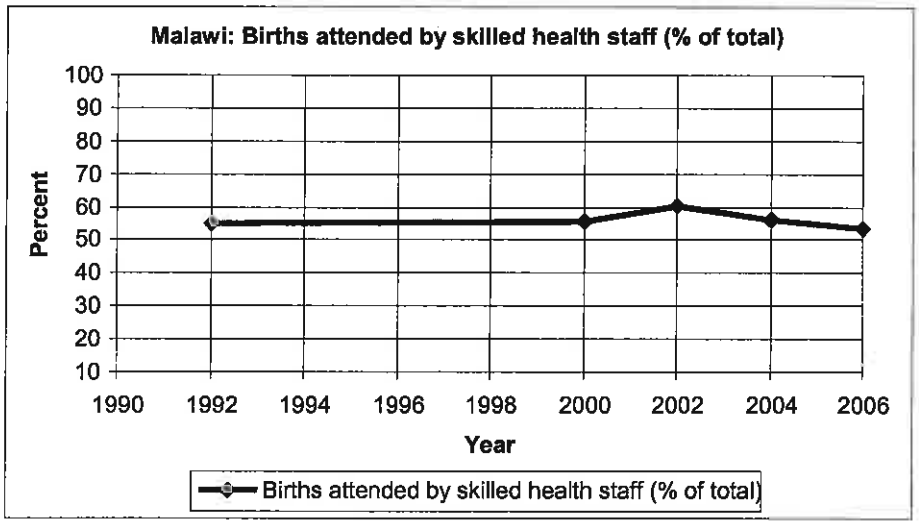

Table 6. Births attended by skilled Health Staff

	1992	2000	2002	2004	2006
Births attended by skilled health staff (% of total)	54.8	55.6	60.5	56.1	53.6

Source: World Development Indicators
URL: http://ddp-ext.worldbank.org/ext/DDPQQ/report.do?method=showReport

The MDG sets the target of all births being attended by skilled health staff. In Malawi the proportion of births being attended by skilled health staff has not significantly changed in the period 1992 to 2006.

The MDG in births attended by skilled health staff is very unlikely to be met.

Goals on specific diseases

The two sets of goals in the MDG and the RISDP are set out in Table 7 and focus on HIV/AIDS, malaria, and tuberculosis.

Table 7. MDGS in specific diseases

Selected MDG & RISDP Goals and Indicators
Goal 6a, Target : Have halted by 2015 and begun to reverse the spread of HIV/AIDS
Goal 6c, Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

In the following section, progress towards the reduction of HIV/AIDS, malaria and tuberculosis are reviewed.

Reduction in HIV/AIDS

The MDG sets out in Target 6a to halt and begin to reverse the spread of HIV/AIDS.

Figure 6. HIV Prevalence Rate for people aged 15-49 years old

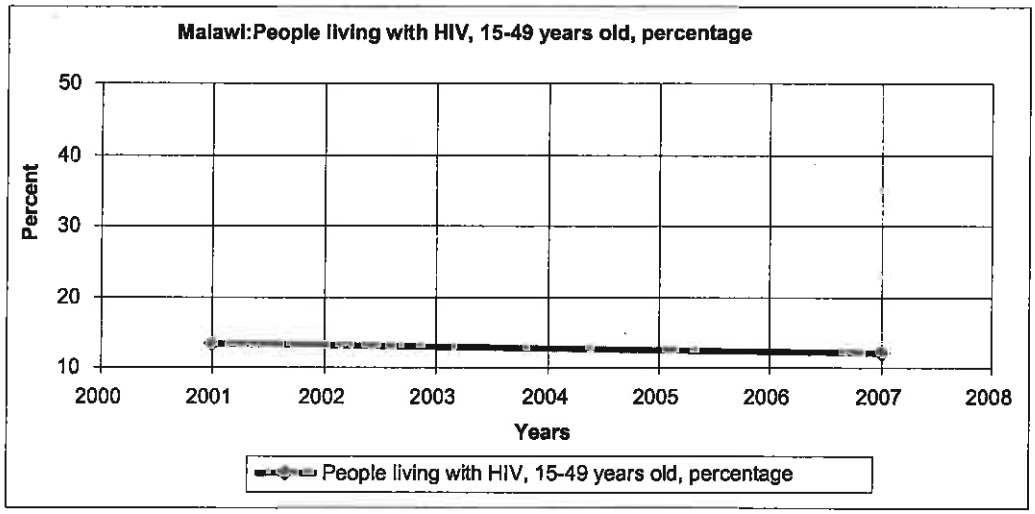

Table 8. Prevalence over the years of HIV/AIDS as a proportion of the population

	2001	2007
People living with HIV, 15-49 years old, percentage	13.3	11.9

Source: Millennium Development Goals Indicators
URL: http://millenniumindicators.un.org/unsd/mdg/Data.aspx

Analysis and comment:

In Figure 6 the trend in the prevalence rate is presented. This indicates a slight decline over the period 2001 to 2007 as is evident in Table 8 from 13.3 to 11.9% among the population 15-49 years of age.

In the late 1980s the Ministry of Health started monitoring the prevalence of HIV among women attending antenatal clinics. At that time the prevalence rate was approximately 2% and this rose to 26% by 1998. This rate had dropped to 12% in 2007. This can be attributed to the number of mechanisms that were put in place in response to HIV and AIDS by the Malawi government.

Access to Anti-Retroviral Treatment (ART) is limited in Malawi. Malawi is among the 20 countries identified by the World Health Organization (WHO) as having the highest unmet need for ART, with 150,000 people in need of ART. As of June 2005, 18,000 - 23,000 people were receiving ART which represents between 11-14% of those in need.

Table 9. Prevalence over the years of HIV/AIDS as a proportion of young men/young women

	2007
Prevalence of HIV, female (% ages 15-24)	8.4
Prevalence of HIV, male (% ages 15-24)	2.4

Source: World Development Indicators
URL: http://ddp-ext.worldbank.org/ext/DDPQQ/report.do?method=showReport

The trend in the progress of the pandemic can best be established by reference to the prevalence among young people. In Table 9 the available data is presented; this establishes a considerable difference in prevalence between male and female but, unfortunately, later data is not available after 2007 to establish a trend.

In Malawi there has been a slight reduction in the HIV prevalence rate among those aged 15-49 years and, unfortunately, later data is not available. The MDG target is to halt and reduce HIV/AIDS; halting the infection could be regarded as reducing new infections to insignificance and reducing HIV/AIDS as significantly reducing the level of existing infections. These two issues are closely associated.

In Malawi the levels of new infections are not reported but the level of infection is declining slightly. The conclusion is thus that the trend in the MDG target is in the right direction but that the target will not be reached.

Malaria

Malaria has been described as one of the major contributors to infant and adult mortality in Africa. Despite this, assembled estimates of malaria-specific mortality rates from different sites in Africa vary enormously. The MDG has set out a target of halting and reversing the incidence of malaria.

Table 10. Death Rates associated with Malaria

Year	Death Rate (%)
1998-2000	3.6
2006	5.0

Source: Malawi MDG Reports (2007, 2008)

The death rates associated with malaria increased from 3.6% in 1998-2000 to 5% in 2006.

This increase is explained as being due to high resistantance to the drug Fansidar SP being developed by the malaria parasites. In 1998-2000 about 8% of the population in Malawi had access to malaria treatment; this figure had increased to 17% in 2004. In 2006, 20% of the population had access to malaria treatment and it is estimated that 35.4% will have access to malaria treatment by 2015. It is expected that this trend will reduce the death rates associated with malaria by 2015.

From the data available it can be concluded that the target of halting and reversing the incidence of malaria has not been achieved and is unlikely to be achieved by 2015 as the trend is in the wrong direction. Unless there is a high level intervention this trend is likely to persist. Unfortunately since data is not captured in terms of the reported cases of malaria a conclusion cannot be reached about the trends in malaria infection. Although the rise in the death rate associated with malaria implies a higher number of cases this cannot be established from the data available. The conclusion is thus that there is insufficient data to determine whether the MDG will be reached.

Tuberculosis

The MDG sets out the target of halting and reversing the incidence of tuberculosis.

Figure 7. Tuberculosis prevalence rate per 100,000 population

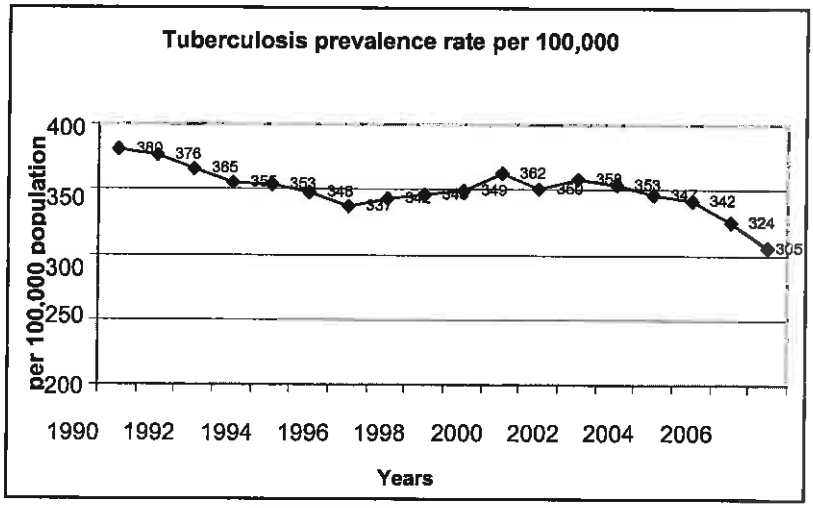

Table 11. Tuberculosis prevalence rate

Tuberculosis prevalence rate per 100,000 population	1990	1992	1994	1996	1998	2000	2002	2003	2004	2005	2006	2007
	380	365	353	337	345	362	358	353	347	342	324	305

http://mdgs.un.org/unsd/mdg/Data.aspx

Analysis and Comment:

The MDG sets out the objective of halting and reversing the rate of tuberculosis infections. In the Figure 8 above, the following trend is evident of a decline in the prevalence rate in the 1990s which then flattens out and a further decline only taking place again after 2000.

Tuberculosis (TB) continues to be a public health problem in Malawi. This is attributed to HIV incidence. However, Table 11 reveals that TB cases are actually stabilizing. This is attributed to the treatment success rate which has risen to 78 percent in 2006, after averaging 72 percent between 2002 and 2005.

The Figure indicates that the course of the disease has been slowed but it is difficult to conclude that the disease has been reversed even though there is a decline in the

prevalence rate. This concludes that progress has been made but is insufficient to reach the MDG.

Table 12. Death Rates Associated with TB

Year	Death Rate(%)
1990	10
1995	19
1998	22
2005	16
2007	13

Source: Malawi MDG Reports (2007, 2008)

The increase in death rates associated with TB from 1990-1998 evident in Table 12 has been explained as due to patents being co-infected with HIV and AIDS. However, the death rates declined from 22% in 1998 to 13% in 2007. The decline is attributed to the implementation of the DOTS strategy (Directly Observed Treatment Short course) which is the internationally recommended strategy which has been recognized as a highly efficient.

From the data available it can be seen that the target of halting and reversing the incidence of tuberculosis has not been achieved and is unlikely to be achieved by 2015 unless there is high levels of intervention as the data indicates an increase and potential leveling off of incidence. Therefore it can be concluded that the trend appears to be moving in the right direction but that insufficient progress is being made to achieve this target by 2015.

Appendix 1

Table 13. MDG targets related to health

Health	Health	Potential	Additional indicators
1	Target 4a: Reduce by two thirds the mortality rate among children under five	10	Human Development Index
2	Target 4.2 Infant mortality rate reduce by two thirds	10	Life expectancy
3	Target 5a: Reduce by three quarters the maternal mortality ratio	10	
4	Target 5.2 Births attended by skilled health personnel	10	
5	Target 6a: Halt and begin to reverse the spread of HIV/AIDS	10	
6	Target 6c: Halt and begin to reverse the incidence of malaria and other major diseases	10	
7	Target 6.9 Tuberculosis prevalence rate	10	

Definitions:

1. Children (under five) Mortality Rate

The under-five mortality rate (U5MR) is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of five if subject to current age-specific mortality rates.

A live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life—such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles—whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered a live birth.

Source: Millennium Development Goals Indicators

URL:http://millenniumindicators.un.org/unsd/mdg/Metadata.aspx?IndicatorId=14&SeriesId=0

2. Children with fever receiving anti malarial drugs

Percentage of children aged 0-59 months with fever in the two weeks prior to the survey received any anti-malarial medicine.

Source: Millennium Development Goals Indicators

URL: http://unstats.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=646

3. Infant Mortality Rate

The infant mortality rate is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of one if subject to current age-specific mortality rates.

A live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life—such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles—whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered a live birth.

Source: Millennium Development Goals Indicators

URL:http://millenniumindicators.un.org/unsd/mdg/Metadata.aspx?IndicatorId=14&SeriesId=0

4. Life Expectancy

Life expectancy at birth is the average number of years a newborn infant would be expected to live if health and living conditions at the time of its birth remained the same throughout its life. It reflects the health of a country's people and the quality of care they receive when they are sick.

Source: The World Bank Group

URL: http://www.worldbank.org/depweb/english/modules/social/life/index.html

5. Maternal Mortality Ratio

The maternal mortality ratio (MMR) is the annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of

pregnancy, irrespective of the duration and site of the pregnancy, for a specified year (expressed per 100,000 live births).

Source: Millennium Development Goals Indicators

URL:http://millenniumindicators.un.org/unsd/mdg/Metadata.aspx?IndicatorId=14&SeriesId=0

6. Prevalence Rate for Malaria

Prevalence of malaria is the number of cases of malaria per 100,000 people. Death rates associated with malaria refers to the number of deaths caused by malaria per 100,000 people.

Source: Millennium Development Goals

URL: http://www.mdgasiapacific.org/node/43

7. Prevalence Rate for HIV adults (15-49)

An estimate of the percentage of adults (aged 15-49) living with HIV/AIDS. The adult prevalence rate is calculated by dividing the estimated number of adults living with HIV/AIDS at yearend by the total adult population at yearend.
Source: NationMaster
URL: http://www.nationmaster.com/graph/hea_hiv_aid_adu_pre_rat-hiv-aids-adult-prevalence-rate

8. Proportion of births attended by skilled health personnel

Births attended by skilled health staff are the percentage of deliveries attended by personnel trained to give the necessary supervision, care, and advice to women during pregnancy, labor, and the postpartum period, to conduct deliveries on their own, and to care for the newborns.
Source: The World Bank Group
URL:http://extfeeds.worldbank.org/extfeedbuilder/ContentMdk?mdk=21543411&source=DEC&format=HTML

9. Tuberculosis Prevalence Rate

Tuberculosis prevalence refers to the number of cases of TB (all forms) in a population at a given point in time (sometimes referred to as "point prevalence"). It is expressed as the number of cases per 100,000 population. Estimates include cases of TB in people with HIV. TB is an infectious bacterial disease caused by Mycobacterium tuberculosis, which most commonly affects the lungs. It is transmitted from person to person via droplets

from the throat and lungs of people with the active respiratory disease. In healthy people, infection with Mycobacterium tuberculosis often causes no symptoms, since the person's immune system acts to "wall off" the bacteria. The symptoms of active TB of the lung are coughing, sometimes with sputum or blood, chest pains, weakness, weight loss, fever and night sweats. Tuberculosis is treatable with a six-month course of antibiotics.

Human Immunodeficiency Virus (HIV) is a virus that weakens the immune system, ultimately leading to AIDS, the acquired immunodeficiency syndrome. HIV destroys the body's ability to fight off infection and disease, which can ultimately lead to death.

Source: Millennium Development Goals Indicators
URL: http://mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=617