A PUBLIC HEALTH PROFILE OF TANZANIA

Compiled September 2009
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PREFACE

This report has been prepared for those going to Tanzania as part of the leadership programme. It has been put together through by a small group of people keen on international public health. All volunteered their own time and without their contributions this report would have not been possible. I would like to thank

- Simon Bryant
- Sarah Carney
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for their invaluable contributions.

John Acres
September, 2009
INTRODUCTION

THE MILLENNIUM DEVELOPMENT GOALS - A PLANNED APPROACH TO IMPROVING THE HEALTH OF DEVELOPING COUNTRIES

1. The Determinants of Health,
2. Millennium Development Goals,
3. Millennium Villages
4. Settings Approaches

1. THE DETERMINANTS OF HEALTH

Tanzania starkly demonstrates the determinants of health in a way that is less clear to see in complex and highly developed Western societies. These determinants have been illustrated by Dalgren and Whitehead as follows:

The determinants of health


Unlike some of its neighbours e.g. the Congo, Rwanda, Tanzania has not years of continuous fighting and the murder of hundreds of thousands of its people. It has had a long period of relative peace. However, it shares many other characteristics of Sub-Saharan Africa in relation to the determinants of health, in particular poverty, its vulnerability to climate change and its lack of development.

The need to tackle the determinants of health lies behind the Millennium Development Goals, which currently underpin much of government policy.
2. MILLENNIUM DEVELOPMENT GOALS

At the Millennium Summit in September 2000 the largest gathering of world leaders in history adopted the UN Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out what have come to be known as the Millennium Development Goals. The date for their achievement is set as 2015.

The Summit acknowledged that whilst there have been many improvements in the world grinding poverty still exists beside unprecedented wealth and that progress in reducing inequalities has been slow. The goals address extreme poverty in its many dimensions - income poverty, hunger, disease, lack of adequate shelter, and exclusion. They also promote gender equality, education, and environmental sustainability.

The eight Goals are to:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce childhood mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

In 2002 the Millennium Project was commissioned to come up with a concrete action plan to achieve these goals. The goals were broken down into specific targets and each target has a set of indicators to measure whether the targets have been achieved (appendix 1). The Project's Report in 2005 “Investing in Development: A Practical Plan to Achieve the Millennium Development Goals” also came up with recommendations as to how the targets could be achieved (appendix 2).

Funding support was made clearer in 2002 through the Monterry Conference on Financing for Development, which agreed an international target of 0.7% of rich countries GNP to be allocated for development assistance. This was re-affirmed at the 2005 World Summit and the EU-15 countries have all committed themselves to achieving the 0.7% target by no later than 2015. Also in 2005 at the Gleneagles Summit, the G8 countries committed to provide $50 billion per year in Overseas Development Aid to Africa by 2010. For information about what the British Government is doing to support Tanzania, go to the website for the Department for International Development (DfID) http://www.dfid.gov.uk/. A brief description is also given in appendix 3.

3. MILLENNIUM VILLAGES

The millennium villages represent a settings approach (see below) to achieving the millennium development goals. The first millennium village was Sauri in Kenya in 2004 and the next in Koraro, Ethiopia. With funding from Japan a further 10 villages have been added. All are in reasonably well governed and stable countries in Africa and in areas of the highest rates of rural poverty and hunger. The organisation of it all is through a partnership between the UN Development Programme and the Earth Institute at Columbia University.
In view of the success of the approach, the programme is now being scaled up to include clusters around the original millennium villages. Funding for this is coming from an organisation called Millennium Promise, a non-profit organisation founded to help achieve the Millennium Development Goals.

Similar initiatives using the same principles exist in other parts of the world, though these are not formally part of the UN Development Programme.

4. SETTINGS APPROACHES

As long ago as 1977 the World Health Assembly agreed that the main social target of governments and of World Health Organisation (WHO) should be the attainment by all the peoples of the world by the year 2000 of a level of health that would permit them to lead a socially and economically productive life, popularly known as “Health for All by the year 2000”.

In 1979 the 32nd World Assembly launched the global Strategy for Health for all by the year 2000 by adopting a resolution that endorsed the Report and Declaration of the International Conference on Primary Care, held in Alma Ata, USSR, in 1978.

In 1981 WHO published its Global Strategy for Health for All by the year 2000. The strategy relies on concerted action in the health and related socio-economic sectors following the principles set out in the Alma Ata Report, a key one principle being that primary health care is crucial to achieving this.

(\url{http://whqlibdoc.who.int/publications/9241800038.pdf})

38 targets were identified, supported by indicators, which, if achieved, would demonstrate improvements in health and fewer inequalities in health. The programme was particularly influential in Europe and Government policies shifted to match the aspirations of Health for All. In England the Government paper “Health of the Nation” published in the early 1990s and the subsequent “Our Healthier Nation”, indicated how Health for All would be implemented in the UK.

(This is now an extensive database of indicators that allows progress to be measured and inter-country comparisons made. For more information go to \url{http://www.euro.who.int/hfadb}.)

Healthy Settings

The Healthy Settings movement came out of the WHO Strategy of Health for All and the approach was more clearly laid out in the Ottawa Charter for Health Promotion in 1986.

Building on the Ottawa Charter, the Sundsvall Statement of 1992 called for the creation of supportive environments with a focus on settings for health. In 1997, the Jakarta Declaration emphasized the value of settings for implementing comprehensive strategies and providing an infrastructure for health promotion. Today, various settings are used to facilitate the improvement of public health throughout the world.

A healthy setting is:
“The place or social context in which people engage in daily activities in which environmental, organizational, and personal factors interact to affect health and wellbeing.” (Source: Health Promotion Glossary http://www.who.int/healthpromotion/about/HPG/en/index.html

Or, put another way,

"Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love" (Ottawa Charter, 1986)

A setting is where people actively use and shape the environment; thus it is also where people create or solve problems relating to health. Settings can normally be identified as having physical boundaries, a range of people with defined roles, and an organizational structure. Examples of settings include schools, work sites, hospitals, villages and cities.

Settings can take many forms. Actions often involve some level of organizational development, including changes to the physical environment or to the organizational structure, administration and management. Settings can also be used to promote health as they are vehicles to reach individuals, to gain access to services, and to synergistically bring together the interactions throughout the wider community.

For more information, go to http://www.who.int/healthy_settings/en/

Settings approaches are particularly valuable when tackling health problems that required the involvement of several agencies. Examples of these in the UK include Healthy Schools, Healthy Prisons and Healthy Cities. The Health Cities project is probably be the most developed of all these.

**Healthy Cities:** The Healthy Cities initiative began in 1986 and was lead by the European Office of WHO based in Copenhagen. More than 1200 cities and towns from over 30 countries in the WHO European Region are now healthy cities. These are linked through national, regional, metropolitan and thematic Healthy Cities’ networks, as well as the WHO European Healthy Cities Network for more advanced cities.

The Healthy Cities approach seeks to put health high on the political and social agenda of cities and to build a strong movement for public health at the local level. The concept is underpinned by the principles of the Health for All strategy and Local Agenda21. Strong emphasis is given to equity, participatory governance and solidarity, intersectoral collaboration and action to address the determinants of health.

More information can be found at http://www.euro.who.int/healthy-cities
THE HEALTH ENVIRONMENT

THE COUNTRY

Geography, Climate, Water, Land and Food

Tanzania is situated in Eastern Africa between Kenya and Mozambique and has a long coastline on the Indian Ocean. It is bordered by three of the continent’s largest lakes, all of them freshwater. These are Lake Victoria (second largest freshwater lake in the world), Lake Tanganyika (second deepest lake in the world), and Lake Nyasa. (See appendix 4 for a political map of Tanzania.)

Tanzania is four times the size of the UK with an estimated population of 41 million (2009)¹ (UK 60,975,000 (2007)². It lies on an active fault line stretching from the north of the country to the south and tremors occur from time to time. The last significant earthquake occurred in 2007 in the region of the Kenya border, and was magnitude 6.0.

² http://www.statistics.gov.uk/cci/nugget.asp?id=6
The terrain consists of a narrow coastal plain in the east, a central plateau and highlands in the North and South. Tanzania contains the highest mountain in Africa, Mount Kilimanjaro, which has a permanent snow-cap and small glaciers. Except for the higher mountains, the whole country has a tropical climate. Above 3,000ft this is modified by a significant reduction of temperature, particularly at night.

Much of Tanzania is very sunny with many places averaging from seven to 10 hours of sunshine a day with fewer hours during the rainy season. Although weather on the coast is often rather oppressive because of the higher temperatures and the high humidity, conditions here are not persistently uncomfortable thanks to regular daily sea breezes. Inland, the lower humidity and cooler night temperatures mean that heat stress is rare although daytime temperatures are quite high and sunshine abundant.

**Climate and rainfall**

As in most other tropical countries the year is usually divided into the rainy and dry seasons, since the terms winter and summer have little meaning in respect of temperature. Over most of the country there is a single rainy season with the heaviest falls between November and April; the period May to October is dry and sunny.

The coastal region on the East is an exception to this in that it tends to have some rain in all months, with the main rain falling between March and May. Rain along the coast tends to be heavier and more reliable than most of the inland areas. The southern coastal district is occasionally affected by heavy rain and strong winds associated with tropical cyclones in the south Indian Ocean.

Rainfall increases a little, and also becomes more reliable, towards the west and around the shores of the three great lakes.

However, the annual rainfall inland is notoriously unreliable and much of it is very sporadic in both time and place.

**Water and its variable availability**

Tanzania has sufficient water resources to meet most of its present needs. Its surface water includes the three freshwater lakes, which cover around 7% of its land surface and there are big rivers flowing to the lakes. Underground water is also another important source of water for both urban and rural settlement areas.

However, despite capacity for the country as a whole being sufficient, clean water for drinking and water for irrigation is insufficient. For example,

- Water supply coverage is calculated to be 55%
- Sanitation supply coverage is calculated to be 33%

It is also not reaching the places where it is needed and recent Ministry of Water figures indicate that 70% of the rural population, and 30% of urban dwellers have no access to safe water.

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3 Source [http://www.wateraid.org/international/what_we_do/where_we_work/tanzania/](http://www.wateraid.org/international/what_we_do/where_we_work/tanzania/)
This variation is explained by

- differences in topography, rainfall pattern and climate. About one third of Tanzania receives less than 800mm of rainfall per annum and they are considered as arid or semi arid.
- a long dry season normally extending from June to October which has an effect of low river flows and drying of water reserves
- insufficiently developed use and management of available resources

Government policy on water aims at achieving equitable access to and adequate sustainable supply of clean safe water both in rural and urban areas within a distance of 400 meters from people’s homes. It focuses on participatory planning and cost-sharing in the construction, operation, and maintenance of community-based domestic water supply systems, and cost recovery for urban water supplies.

Agriculture

Land use

Tanzania has a surface area of 94.3 million hectares. Around 47% of the land is covered by forest and woodland. Meadows and pastures make up 40%, arable land 5% and permanent crops cover just 1%. The remainder is put to a variety of other uses.

Cultivable area is estimated to be 40 million ha, or 42% of the total land area. However, in 2002, only 13% of the cultivable area was actually cultivated, comprising 4 million ha of arable land and 1.1 million ha under permanent crops.

Agriculture is the foundation of the Tanzanian economy. It accounts for over 40% of the national income, three quarters of merchandise exports and provides employment opportunities to about 80 percent of Tanzanians. Agriculture in Tanzania is dominated by smallholder farmers (peasants) cultivating an average farm size of between 0.9 hectares and 3.0 hectares each.

Agriculture is mainly rain fed. Although available irrigatable land is 2.1 million ha, only 7% (150,000 hectares) is being cultivated under irrigation.

The major constraint facing the agriculture sector is a falling agricultural workforce and poor land productivity due to application of poor technology and dependence on unreliable and irregular weather conditions. Both crops and livestock are adversely affected by periodical droughts. Irrigation holds the key to stabilizing agricultural production in Tanzania to improve food security.

Food

Although there is considerably more potential for food production, Tanzania produces around 95% of its food requirements and food crop production dominates the agriculture economy. 5.1 million hectares are cultivated annually, of which 85 percent is under food crops. Main food crops grown are maize, sorghum, millet, paddy, wheat, sweet potato, cassava, pulses and bananas. The main agricultural products exported are green coffee, cashew nuts and tobacco while the main agricultural products imported are wheat and palm oil.
Traditional foods such as millet are being replaced by maize and rice and Tanzania’s largest import, wheat. Staple foods now include rice, green vegetables with fish in coastal areas. In the country’s interior, green bananas, maize or millet is eaten with beans, fish or meat relish. In urban areas, a greater variety of foods are available, and in recent years, the import and availability of ‘Western’ foods and snacks in these areas has greatly increased, although these remain relatively expensive.

Food insecurity

Although

- only 13% of the cultivatable land is actually cultivated
- agriculture forms over 40% of national income and 85% of exports
- Tanzania produces 95% of its food requirements

it suffers a huge burden of chronic food insecurity, with 44% of children suffering from hunger and associated consequences (FAO 2004).

The reasons for this include:

- Depletion of farm labour from HIV/AIDS
- Low rainfall and lack of irrigation systems
- Crop pests and tick-born livestock diseases

In 2006, for example, a drought left approximately 3.8 million people in need of food aid. As a result, food production rates fell dramatically and farming communities already affected by drought were then no longer able to afford vaccinations for livestock leaving them vulnerable to tick borne diseases and farming communities at risk of losing their major livelihood.

The wet season occurs between November and March and this represents a critical period for food insecurity. Preparation of fields and intense weeding occurring at this time creates an increased need for food, but coincides with reduced food availability, as food stocks from the previous harvest begin to dwindle. In addition, inadequate transportation infrastructures hinder physical access to food in rural communities.

Nutrition

Many pregnant women are deficient in vitamin A and Iron, Iodine and folic acid. The need for an increased and diversified diet in pregnancy and education over the nutritional value of food is not always appreciated. Traditional taboos also exist, often related to the position of women in society, meaning that in some areas pregnant women are advised to eat less and restrict all fish and meat consumption in pregnancy. In Iringa, women of any age are reportedly denied protein rich eggs, fish and milk. (3) Intra-house food distribution doesn’t favour women during times of food restriction.

Although 19% of women are reportedly malnourished, 18% are overweight or obese. It is a widely held belief that to be fat symbolizes that you are rich and healthy and makes you attractive in the eyes of many Tanzanian men. In the light of the HIV epidemic ‘slim sickness’ this is even more so and is in stark contrast to the western female values.
a) Children

Child growth, as assessed by levels of underweight and stunting, is used as an indicator of the nutritional status of a community. Globally, around 180 million children under five years of age are stunted and approximately 80% of these live in Sub-Saharan Africa.

In Tanzania, around 17% of children under five are underweight and almost 45% of children under the age of five are stunted for age (defined as height-for-age measurement two standard deviations from the median). This is comparable to children in the neighbouring countries of Kenya and Mozambique.

The first two years of a child’s life have been identified as critical for growth and cognitive development and inadequate nutrition during this time can cause permanent damage leading to long term health consequences, poor education and decreased economic development. In Tanzania, undernutrition often appears early, with many of the children becoming underweight and/or stunted within the first 12 months of life.

Although only around 2% of children are exclusively breastfed until six months, around 55% of women continue to provide some breastfeeding until their child is two years old. Stunting occurs mainly because of the type of supplementary foods used. Carbohydrate based, thin, maize porridge contains little protein, nutrients or fat and is of low energy density. Educational programmes are now advising enriching this maize with beans, peanut paste and sardines.

Interventions that have found to be effective in improving child nutritional status include:

- educational campaigns to promote breastfeeding and appropriate complementary feeding – breastfeeding is practised widely in Tanzania, although only two percent are exclusively breastfed until six months (as recommended by the WHO)
- micronutrient supplementation
- treatment of severe acute malnutrition (SAM) – in clinical settings and more recently, at home
- provision of foods to reduce food insecurity

As with other Sub-Saharan countries, malnutrition is generally higher in rural areas than in urban environments. However, urban areas often have a greater variability in socio-economic and health inequalities which can lead to pockets of severe poverty, deprivation and inadequate nutrition.

More information about breastfeeding can be found at

http://www.who.int/features/factfiles/breastfeeding/en/
http://www.unicef.org/nutrition/index_24807.html

b) Adults

Approximately 10% of adults in Tanzania are underweight compared to 1.8% of adults who live in the U.S. In Tanzania, those who are underweight are more likely to be women living in rural communities.
c) Obesity

In contrast, the percentage of Tanzanian children under five years who are overweight is 4.9%. Obese adults make up 4.4% of the national population of Tanzania with a significantly higher percentage of obese adults living in urban communities. In the UK, around two-thirds of the population are classified as overweight.
THE POPULATION

Tanzania conducts a population census every ten years. Censuses and the 1991-92, 1996 and 2004-5 Tanzania Demographic and Health Surveys have been the only sources of demographic statistics in Tanzania. Civil registration is very patchy and incomplete, hence not been used as a source of demographic statistics.

According to the 2002 census, Tanzania had a total population of around 34 million. The age distribution of the population shows a dominance of young ages. The 2002 Population and Housing Census revealed that the proportion of children under 15 was 44 percent while the proportion for working population (age 15 – 64) was 52 percent and about 4 percent being 65 years or above.

Since 2002, it is estimated that the population has risen to be about 40 million in 2008.

Tanzania - age and sex distribution - 2002 census

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Both sexes</th>
<th>Males</th>
<th>Females</th>
<th>Sex Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Republic of Tanzania</td>
<td>34,443,603</td>
<td>16,829,861</td>
<td>17,613,742</td>
<td>95.5</td>
</tr>
<tr>
<td>0-4</td>
<td>5,664,907</td>
<td>2,830,545</td>
<td>2,834,362</td>
<td>99.9</td>
</tr>
<tr>
<td>5-9</td>
<td>5,130,448</td>
<td>2,573,993</td>
<td>2,556,455</td>
<td>100.7</td>
</tr>
<tr>
<td>10-14</td>
<td>4,443,257</td>
<td>2,233,401</td>
<td>2,209,856</td>
<td>101.1</td>
</tr>
<tr>
<td>15-19</td>
<td>3,595,735</td>
<td>1,761,329</td>
<td>1,834,406</td>
<td>96.0</td>
</tr>
<tr>
<td>20-24</td>
<td>3,148,513</td>
<td>1,402,077</td>
<td>1,746,436</td>
<td>80.3</td>
</tr>
<tr>
<td>25-29</td>
<td>2,801,965</td>
<td>1,309,661</td>
<td>1,492,304</td>
<td>87.8</td>
</tr>
<tr>
<td>30-34</td>
<td>2,229,046</td>
<td>1,087,599</td>
<td>1,141,447</td>
<td>95.3</td>
</tr>
<tr>
<td>35-39</td>
<td>1,669,873</td>
<td>824,338</td>
<td>845,535</td>
<td>97.5</td>
</tr>
<tr>
<td>40-44</td>
<td>1,348,508</td>
<td>669,549</td>
<td>678,959</td>
<td>98.6</td>
</tr>
<tr>
<td>45-49</td>
<td>984,823</td>
<td>478,522</td>
<td>506,301</td>
<td>94.5</td>
</tr>
<tr>
<td>50-54</td>
<td>883,820</td>
<td>428,501</td>
<td>455,319</td>
<td>94.1</td>
</tr>
<tr>
<td>55-59</td>
<td>590,667</td>
<td>290,117</td>
<td>300,550</td>
<td>96.5</td>
</tr>
<tr>
<td>60-64</td>
<td>604,956</td>
<td>287,502</td>
<td>317,454</td>
<td>90.6</td>
</tr>
<tr>
<td>65-69</td>
<td>439,671</td>
<td>213,635</td>
<td>226,036</td>
<td>94.5</td>
</tr>
<tr>
<td>70-74</td>
<td>377,852</td>
<td>180,246</td>
<td>197,606</td>
<td>91.2</td>
</tr>
<tr>
<td>75-79</td>
<td>221,354</td>
<td>113,205</td>
<td>108,149</td>
<td>104.7</td>
</tr>
<tr>
<td>80 and over</td>
<td>308,208</td>
<td>145,641</td>
<td>162,567</td>
<td>89.6</td>
</tr>
</tbody>
</table>

Tanzania’s age structure illustrates a high fertility situation for the past many decades, where many children form a broad base in the population pyramid. It is typical of developing countries with a high agricultural workforce.

The total fertility rate (TFR) has reduced from 6.1 in 1990 to 5.2 in 2007 (UNICEF), still nearly three times the UK rate of 1.8. Other sources suggest a lower TFR, of 4.46 in 2009 (CIA world factbook). The fertility rate has been consistently falling over the last few years, and is expected to continue to do so. (Total fertility rate is the average number of children that would be born per woman if women experienced the age-specific fertility rates of the year in question throughout their childbearing lifespan).

Overall population sex ratio male/female is 0.98. This is exactly equal to the UK sex ratio but slightly lower than average sex ratio for the world population (1.01). It is recognised that a high sex ratio (more males) is indicative of gender bias and sex selection in some parts of the world. Clearly, this is not the case in Tanzania.
Compare this to the UK population pyramid below, which has a smaller base and a central bulge.

**UK Population pyramid (census 2001)**

Source: Office of National Statistics
Density and Distribution of the population

Urban/Rural Distribution

The population is 2/3rd that of the UK, but it lives in a country that is four times the size of the UK.

Most of the population (77%) lives in rural areas, which, it has already been noted has least access to clean water supply. Just under a quarter of the population lives in urban areas (23%), which compares to almost three quarters (71.5%) in the UK (ONS 2001).

There is significant regional variation in urban/rural distribution; for Zanzibar alone, 40% of the population is urban, while the Dar es Salaam region has 94% urban population. As against this, Kagera has the highest rural proportion (94%) on the mainland while North Unguja (Zanzibar) has 98% rural population, highest in Tanzania as a whole. Tabora has about 13% urban and 87% rural population.

Ethnic Backgrounds

Tanzania is a country of significant ethnic diversity, with more than 120 ethnic groups, each of which speaks its own language. Approximately 95% of Tanzanians may be roughly classified as Bantu, a comparatively recent blend mainly of Hamitic and Negroid stocks.

The largest ethnic tribe is the Sukuma, representing 13% of the population, while all the other groups represent under 5% each. Interethnic conflict is not an issue in Tanzania unlike some other African nations, possibly because there are a great many groups and none predominates.

Language and Culture

Swahili (or Kiswahili) and English are the Official languages, although the 120 or more ethnic groups each speak its own language/dialect.

Muslims and Christians each account for 1/3rd of the population, the rest follow indigenous or traditional religions and beliefs. Other sources suggest a much higher proportion of Christians, about 50%. Current statistics on religion are unavailable, because religious surveys were eliminated from government census reports after 1967. The division can often be unclear, as many rural Tanzanians also adhere to traditional beliefs. Tensions have developed between Muslim and Christian communities in Tanzania, a problem that may threaten the unity between mainland and Zanzibar, as Zanzibar has 99% Muslim population. On the mainland, Muslim communities are concentrated in coastal areas, with some large Muslim minorities also in inland urban areas.

Marital status

<table>
<thead>
<tr>
<th></th>
<th>Currently married</th>
<th>Informal unions</th>
<th>Never married</th>
<th>Divorced/ Separated/ Widowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>50%</td>
<td>5%</td>
<td>42%</td>
<td>5%</td>
</tr>
<tr>
<td>Women</td>
<td>60%</td>
<td>9%</td>
<td>23%</td>
<td>10%</td>
</tr>
</tbody>
</table>
In 2004-5 Tanzania Demographic and Health Survey. The numbers do not add up to 100% because of rounding up.

In UK, 50% of women and 52% of men were married (ONS, 2006).

**Education**

Education in Tanzania is compulsory for seven years, starting at age seven until children reach the age of 15 years.

The structure of the Formal Education and Training System in Tanzania constitutes two years of pre-primary education, seven years of primary education, four years of Junior Secondary (ordinary Level), two years of Senior Secondary (Advanced Level) and up to three or more years of Tertiary Education.

In 2004, the primary enrolment rate was 97%, and the net primary enrolment rate was 82%.

A key feature of Tanzania’s education system is the bilingual policy, which requires children to learn both Kiswahili and English. English is essential, as it is the language which links Tanzania and the rest of the world through technology, commerce and also administration. The learning of the Kiswahili enables Tanzania’s students to keep in touch with their cultural values and heritage.

Primary school fees have been eliminated in Tanzania since 2002, but there has been a lack of resources for additional teachers, classrooms, and books. This has led to primary schools becoming overwhelmed by the massive increase in children seeking to take advantage of free primary education.

Families must pay for books, uniforms, and for enrolment fees for children beyond form 2 (the equivalent of the second year of high school). There are also reports of children not attending school because of poorly paid teachers demanding money from them in order to be enrolled. It has also been reported that mass fainting is commonplace among schoolgirls, especially at girls’ secondary schools.

There are 28 higher education establishments in Tanzania with 20,912 attending in 2000. Tanzanians tend to go to university later than British students. The average start age is 24 due to later start of education. Of this age group only 0.3% attend university and women are in a minority making up 25-30% of the students.

**Employment**

An estimated 80% of the Tanzanian population is dependent upon the agricultural sector for income. Women constitute over 50% of the agricultural labour force, and do more than 50% of tilling, sowing/planting, weeding, harvesting and marketing.

Overall unemployment is about 12% (current UK unemployment is 7.8%), but is greater in urban areas and least in rural areas. Child labour is common, and just over 70% of children aged 5-17 years were found to be engaged in economic activities e.g. helping out on the farm, according to the Integrated Labour Force Survey 2006. Child labour is defined as work that is excessive or exposes the child

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5 [http://www.bc.edu/bc_org/avp/soe/cihe/inhea/profiles/Tanzania.htm](http://www.bc.edu/bc_org/avp/soe/cihe/inhea/profiles/Tanzania.htm)
to dangers, and according to this, about 20% of children are in child labour. Involvement in helping on their family farms, and thus contributing to family income is the main explanation for children's high economic activity level. A majority of children are in school, even if they are involved in economic activities.

**Income, the Economy and Employment**

Tanzania is one of the poorest countries in the world with around a third of people living below the World Bank poverty line. This particularly affects those living in rural households; there is a large disparity between urban and rural food poverty.

The per capita GDP is $1,100 (2007 est), compared to the UK's figure of $35,300 (2007, est). 36% of the population is below the poverty line.

The economy depends heavily on agriculture, which accounts for more than 40% of GDP and forms 85% of exports.

**Income and Poverty (Source world bank)**

36% of population below national poverty line (latest year available, 2001-07)

<table>
<thead>
<tr>
<th>STRUCTURE of the ECONOMY</th>
<th>1997</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (%)</td>
<td>46.8</td>
<td>45.3</td>
</tr>
<tr>
<td>Industry (%)</td>
<td>14.3</td>
<td>17.4</td>
</tr>
<tr>
<td>Manufacturing (%)</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Services (%)</td>
<td>38.9</td>
<td>37.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imports and Exports (US$ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total exports (fob)</td>
</tr>
<tr>
<td>Coffee</td>
</tr>
<tr>
<td>Cotton</td>
</tr>
<tr>
<td>Manufactures</td>
</tr>
</tbody>
</table>

| Total imports (cif)               | 1,099 | 1,270 | 3,661 | 4,321 |
| Food                               | 86    | 97    | 212   | 217   |
| Fuel and energy                    | 157   | 173   | 1,065 | 1,224 |
| Capital goods                      | 552   | 514   | 1,155 | 1,232 |

Agriculture in Tanzania employs 80% of the work force, whereas in the UK the figure is less than 1.5%.

In the UK the vast majority of the workforce (over 80%) is in the service sector with less than 20% is in industry.

---


7 Free On Board (...named port of shipment) means that the seller fulfills their obligation to deliver when the goods have passed over the ship's rail at the named port of shipment.

8 Cost, Insurance, and Freight (...named port of destination) means that the seller must pay the costs, freight, and insurance necessary to bring the goods to the named port of destination
Industry in Tanzania traditionally featured the processing of agricultural products and light consumer goods. The World Bank, the IMF, and bilateral donors have provided funds to rehabilitate Tanzania's out-of-date economic infrastructure and to alleviate poverty.

Mining and tourism are two other areas that are growing.

The Tanzanian government has been liberalizing trade and investment policies and trying to restructure and privatize publicly owned enterprises for the last two decades.

**Refugees, Conflict and Landmines**

Tanzania, as a signatory to the Mine Ban Treaty, completed the destruction of its stockpile of antipersonnel mines in July 2004, ahead of the 1 May 2005 deadline.

Tanzania’s main link to the landmine problem is the refugee population entering from neighboring countries, although a few nationals have reportedly been killed or injured in the border areas. There is no evidence that mines have been planted inside Tanzania; however, mine survivors from Burundi and the Democratic Republic of Congo are found in Tanzania. Tanzania borders countries in the west that have witnessed violent conflicts and, historically, Tanzania has hosted refugees for over three decades, from Uganda, Rwanda, DRC and Burundi. The number of refugees by Government count was 630,000 in 2004.
MEASURES OF HEALTH

Overview

Tanzania enjoys generous aid and debt relief, and has also achieved many years of good economic growth (7.1% in 2008) (1). However, Tanzania is in the bottom 10 percent of the world’s economies in terms of per capita income (1) and there are large differences in income between urban and rural populations with poverty concentrated in rural communities.

The vulnerability of the rural poor is also increased by

- rising food prices
- rising healthcare costs
- high disease prevalence
- a weak rural healthcare system (1)

Recent population growth, alongside the burden of HIV/AIDS has hindered poverty reduction strategies.

Table 1:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>39,459,000</td>
</tr>
<tr>
<td>Gross national income per capita</td>
<td>980 USD</td>
</tr>
<tr>
<td>Life expectancy at birth m/f (years)</td>
<td>50/51</td>
</tr>
<tr>
<td>Healthy life expectancy at birth m/f</td>
<td>40/41</td>
</tr>
<tr>
<td>Probability of dying under five</td>
<td>118</td>
</tr>
<tr>
<td>Probability of dying between 15 and 60 years m/f</td>
<td>518/493</td>
</tr>
<tr>
<td>Total expenditure on health per capita</td>
<td>45 USD</td>
</tr>
<tr>
<td>Total expenditure on health as % of GDP</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Source: WHO, 2009

Despite strategies developed in the 1990s to reduce poverty, Tanzania has been unable to achieve much progress in poverty reduction. It is, therefore, unlikely to meet the Millennium Development Goal (3) - to halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day

There has been steady progress towards achieving some of the other health-related MDGs such as universal primary education and combating HIV/Malaria (4). However, the rapidly increasing population and high incidence of poverty is likely to compromise successes.

Data is unreliable but maternal mortality in 2005 has been estimated at 950 per 100,000 births (see table 2) and no progress appears to have been made since
1996. Partly because of HIV/AIDS, life expectancy (the broadest indicator of health status) is extremely low in Tanzania - 51 years in 2006. Although the prevalence of HIV/AIDS has stabilised since 2001, it remains as high as 6.2% (table 2). Other major contributors to the low life expectancy are the high child mortality rate due to the burden of infectious disease and malnutrition, and the high Maternal Mortality Rate. Reversing these trends is critical for improving health status.

Table 2: (1)

<table>
<thead>
<tr>
<th>Human Development, Millennium Development Goals [*]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population below income poverty line ($1,25 a day)</td>
</tr>
<tr>
<td>Adult literacy rate (% ages 15 and older) (1999-2006)</td>
</tr>
<tr>
<td>Life expectancy at birth (2006)</td>
</tr>
<tr>
<td>Net primary enrolment ratio (%) (2005)</td>
</tr>
<tr>
<td>Ratio of girls to boys in primary education (2005)</td>
</tr>
<tr>
<td>Children reaching grade 5 (% grade 1 students) (2004)</td>
</tr>
<tr>
<td>HIV prevalence (% ages 15-49) (2005)</td>
</tr>
<tr>
<td>Under-five mortality rate (per 1,000 live births) (2005)</td>
</tr>
<tr>
<td>Maternal mortality ratio (per 100,000 live births) (2005)</td>
</tr>
<tr>
<td>Seats in parliament held by women (% of total) (2008) [6]</td>
</tr>
<tr>
<td>Internet users (per 1,000 people) (2005)</td>
</tr>
</tbody>
</table>


Socio-economic development and health status are co-dependent. Large improvements in health status cannot occur without addressing the fundamental problem of poverty, access to clean water, sanitation and the many other determinants of health. As table 2 shows, in 2006, 45% of people were without access to safe water. Conversely, high morbidity and mortality affect all aspects of the economy, including labour productivity, saving rates, the quality of public services, and the education of future generations (3). In addition, those on low income cannot afford the many direct and indirect costs of formal healthcare. These include user fees, transport, medical & treatment costs, time-off work and unemployment. This reduces their ability to access and utilise available healthcare.

So, national health indicators reflect the poor socio-economic situation in Tanzania and poor health conditions are a major impediment to economic growth and both a primary factor and a result of severe poverty.
MORTALITY

Life Expectancy

Using life expectancy figures, the average Tanzanian could have expected to have another 29 years of life if they had been living in the UK. The average life expectancy in Tanzania of 50 years whereas in the UK it is 79.

Although there has been a slight improvement since the year 2000, it has only been by one year.

Women have a very slightly longer life expectancy than men. (Table 1)

Table 1

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th></th>
<th></th>
<th>2006</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>All</td>
<td>M</td>
<td>F</td>
<td>All</td>
</tr>
<tr>
<td>Tanzania</td>
<td>48</td>
<td>49</td>
<td>49</td>
<td>50</td>
<td>51</td>
<td>50</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>75</td>
<td>80</td>
<td>78</td>
<td>77</td>
<td>81</td>
<td>79</td>
</tr>
</tbody>
</table>

Source: WHO Mortality Country factsheet 2006

Why do people die? The main causes of death

HIV/AIDS is by far and away the biggest cause of mortality and years of life lost in Tanzania and makes up 29% of all deaths. Between them, HIV/AIDS, lower respiratory infections and malaria are responsible for around half (51%) of all deaths and are responsible for a similar proportion (52%) of years of life lost. (Table 2)

This is in marked distinction from the picture in the UK where these conditions are responsible for only just over 11% of deaths and 6% of years of life lost. HIV/AIDS and malaria between contribute only a tiny proportion of all deaths in the UK.
Causes of Death

Top ten causes of death, all ages, United Republic of Tanzania, 2002

<table>
<thead>
<tr>
<th>Causes</th>
<th>Deaths 000s (Tan)</th>
<th>% (Tan)</th>
<th>UK %</th>
<th>% (Tan)</th>
<th>UK %</th>
</tr>
</thead>
<tbody>
<tr>
<td>All causes</td>
<td>583</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>166</td>
<td>29</td>
<td>&lt;1</td>
<td>29</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td>67</td>
<td>12</td>
<td>&lt;1</td>
<td>11</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Malaria</td>
<td>56</td>
<td>10</td>
<td>&lt;1</td>
<td>12</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td>31</td>
<td>6</td>
<td>&lt;1</td>
<td>6</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Perinatal conditions</td>
<td>24</td>
<td>4</td>
<td>&lt;1</td>
<td>5</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>18</td>
<td>3</td>
<td>&lt;1</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>16</td>
<td>3</td>
<td>10</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>14</td>
<td>3</td>
<td>20</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Syphilis</td>
<td>11</td>
<td>2</td>
<td>&lt;1</td>
<td>2</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td>10</td>
<td>2</td>
<td>&lt;1</td>
<td>2</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Source: Death and DALY estimates by cause, 2002
http://www.who.int/entity/healthinfo/statistics/bodgddeathdalyestimates.xls
and World Health Statistics, 2006

Adult Mortality

The chances of dying between the ages of 15 and 60 years in Tanzania are six times greater than they are in the UK. In 2006 the mortality rate/1000 in Tanzania was 504 as compared to 80 in the UK.

In Tanzania adult women have a slight advantage over men in terms of their overall mortality rates (Table 3). However, the mortality rate for adult Tanzanian women is around eight times that of women in the UK. The mortality rate for adult Tanzanian men is five times that in the UK.

The figures for Tanzania have changed little since the year 2000.

Table 3

| Adult Mortality Rates/1000 for men, women and both combined in Tanzania and England in 2000 and 2006 |
| (As defined by probability dying between the ages of 15 and 60 years per 1000 population.) |

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Tanzania</td>
<td>532</td>
<td>498</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>108</td>
<td>67</td>
</tr>
</tbody>
</table>
Children Under 5

In 2005 the mortality rate in under 5’s was 122/1,000, compared to the Africa figure of around 168/1,000. (Human Development Report, 2007/2008, UNDP)

The trend has been slowly downward (see below) and this has continued with a rate in 2006 of 118/1000. This is still a significant distance from the MDG target of 55 by 2015, but if the trend continues it is possible this might be achieved.

It will be noted that even the MDG target of 55/1000 is still nine times higher than the rate in the UK of 6/1,000 in 2006.

Source: WHO Mortality Country factsheet 2006  

Figure 1

![Graph showing mortality rates]

Sources: WHO mortality database and World Health Statistics

Causes of death in children under 5 years

In Tanzania, most (27%) deaths in children under 5 occur in the neonatal period. If this early life period is survived, then malaria (23%) or pneumonia (21%) and diarrhoea (17%) are the greatest risks with HIV/AIDS (9%) following on behind.

*Note: In relation to malaria, in 2005, 16% of under 5s were recorded as sleeping under insecticide treated nets. (World Health Statistics:  
http://apps.who.int/whosis/data/Search.jsp?countries=%5bLocation%5d.*

In the UK, by comparison, of the deaths that do occur in under 5s, most (44%) are in the neonatal period. Diarrhoeal diseases outside the neonatal period cause 10% of deaths and pneumonia only 2%. Figures for both malaria and HIV/AIDS are too low to make any contribution. (Table 4)
Table 4

Causes of death in children under 5

Distribution of causes of death among children under 5 years of age in Tanzania and the UK, 2000-2003

<table>
<thead>
<tr>
<th>Causes</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tanzania</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Total deaths</td>
<td>100</td>
</tr>
<tr>
<td>Neonatal causes(a)</td>
<td>27</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>9</td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td>17</td>
</tr>
<tr>
<td>Measles</td>
<td>1</td>
</tr>
<tr>
<td>Malaria</td>
<td>23</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>21</td>
</tr>
<tr>
<td>Injuries</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
</tr>
</tbody>
</table>

(a) Includes diarrhea during neonatal period
(b) Sum of individual proportions may not add up to 100 due to rounding

Sources: WHO Mortality Country Fact Sheets
http://www.who.int/whosis/mort/profiles/mort_euro_gbr_unitedkingdom.pdf

Inequalities in under 5 death rates

Although those in the lowest wealth quintile and those living in rural as opposed to urban areas have death rates that are slightly higher (1.2 times higher) the education level of the mother seems more important in influencing the chances of a child under 5 dying. A child born to a mother in the lowest level of education has a 2.6 times greater chance of dying than a child born to the most educated.

Under 5s mortality ratios for highest and lowest quintiles, Tanzania, 1999

<table>
<thead>
<tr>
<th>Mortality Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest:Lowest</td>
</tr>
<tr>
<td>Wealth/ assets (Highest/lowest)</td>
</tr>
<tr>
<td>Male:Female</td>
</tr>
<tr>
<td>Urban/Rural</td>
</tr>
<tr>
<td>Mother’s education quintile (Highest/lowest)</td>
</tr>
</tbody>
</table>

(Rates per 1,000 are for the 10 year period preceding the survey, http://www.who.int/whosis/mort/profiles/mort_afro_tza_tanzania.pdf)
Deaths at different ages under 5 years

Figure 2 shows the breakdown in mortality in the different age groups after birth. There has been little change in the distribution over time and the period around the time of birth is particularly precarious as roughly two thirds of deaths occur at birth or within a month of birth.

Under-5 mortality, age specific mortality rates

Neonatal Deaths

Neonatal deaths account for 27% of deaths in under 5’s. The three main causes of neonatal death in Tanzania are:

- Severe infections 29%  (UK = 7%)
- Birth asphyxia 27%   (UK = 10%)
- Preterm birth 23%  (UK = 56%)

Others include congenital abnormalities (7%), Diarrhoeal diseases (3%) and neonatal tetanus (3%). Source: WHO Mortality Country Fact Sheet, Tanzania http://www.who.int/whosis/mort/profiles/mort_afro_tza_tanzania.pdf

Note: These figures refer to the year 2000. In 2007, 88% of neonates were protected at birth against neonatal tetanus and 83% of one year old had been immunized with 3 doses of diphtheria, tetanus toxoid and pertussis.
WOMEN'S HEALTH

1. MATERNAL MORTALITY

In many countries of the world the Maternal Mortality Ratio is difficult to measure due to the lack of death certificate data as well as a lack of basic denominator data. Baseline vital statistics are also not available or are unreliable. The recent World Health Organisation publication “Beyond The Numbers” (http://www.who.int/reproductive-health/publications/btn/) reviewed maternal deaths and disabilities to make pregnancy safer. It contains a more detailed examination and evaluation of the problems in both determining a baseline MMR or interpreting what it actually means in helping to address the problems facing pregnant women in most developing countries.

Maternal mortality in Tanzania is very high and recorded as having increased during the 1990s from 770/100,000 live births to 1,500/100,000 live births in 2000. The most recent figures for 2005 indicate that this is now 950/100,000 maternities. (Figure 1)

This compares with a rate in England of 7/100,000 maternities between 2003 – 2005.

Figure 1

Source: WHO Mortality Country factsheet 2006
Source: Abortion in Tanzania
World Health Statistics for 2005 figure http://apps.who.int/whosis/data/Search.jsp
The survival of women in childbirth reflects the overall development of a country and whether or not the health services are functioning. Worldwide, despite a decline in the abortion rate between 1995 and 2003, the proportion of unsafe abortions remains the same.

**Abortion in Tanzania**

Abortion is restricted by law in Tanzania. However, it is thought to be widespread. It includes much illegal abortion, which is thought to be one of the leading causes of maternal mortality.

**NOTE**: By definition, statistics on illegal abortions are difficult to obtain. The impact of this in countries where illegal abortion rates are believed to be high is to render the estimates for maternal mortality rates less certain.

The grounds on which abortion is permitted in Tanzania are:

- **To save the life of the woman**: Yes
- **To preserve physical health**: Yes
- **To preserve mental health**: Yes
- **Rape or incest**: No
- **Foetal impairment**: No
- **Economic or social reasons**: No
- **Available on request**: No

**Additional requirements:**

- Two physicians must certify that the abortion is necessary in order to preserve the life of the pregnant woman.
Antenatal Care and Skilled birth personnel

Attendance by skilled birth personnel helps to reduce maternal mortality. Around 62% of maternities in Tanzania had at least four antenatal visits in 2004 (World Health Statistics). 43% of deliveries involved skilled birth personnel.

However, a woman is around twice as likely to have a skilled birth attendant during birth if she is

- Educated
- Wealthy
- Lives in an urban area

### Proportion of women having a skilled birth personnel during birth

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Highest</th>
<th>Lowest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>88.6%</td>
<td>39.9%</td>
</tr>
<tr>
<td>Wealth</td>
<td>89.5%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Urban</td>
<td>83.3%</td>
<td>47.6%</td>
</tr>
</tbody>
</table>

What works to reduce maternal mortality

The main elements of a programme to reduce maternal mortality were set out in the 1999 Joint Statement of the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), and The World Bank. These were based on 12 years of implementing Safe Motherhood Programme – please see appendix 5. They identified three key areas of action:

1. **Social status of women**

   Empowering women to make choices in their reproductive lives with the support of their families and communities.

2. **Attended skilled delivery**

   All deliveries should be overseen by skilled attendants and essential care should be available when obstetric complications arise.

3. **Preventing unwanted pregnancies**

   Women need to be able to choose if and when to become pregnant, through ensured access to voluntary family planning information and services.

For more information about maternal mortality and the Millennium Development Goal that relates to this, please see appendices 1 and 4.
2. CERVICAL CANCER


Although cervical cancer is a preventable disease, it still remains a major burden on resources in sub-Saharan Africa. Countries in this region have some of the world’s highest age-standardized death rates from cervical invasive cancer. This is particularly so in Tanzania.

In stark contrast to the position in the UK, mortality in women from cervical cancer is the by far and away the most important cause of cancer death, the crude rate being 4 times that for the next most important cause, breast cancer. (Table 1)

Table 1

<table>
<thead>
<tr>
<th>Type of cancer</th>
<th>Annual incidence rate/100,000 women</th>
<th>Annual crude mortality rate/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix</td>
<td>40.6</td>
<td>32.5</td>
</tr>
<tr>
<td>Breast</td>
<td>12.4</td>
<td>8.8</td>
</tr>
<tr>
<td>Kaposi’s Sarcoma</td>
<td>6.7</td>
<td>8.3</td>
</tr>
<tr>
<td>Each of all other cancers</td>
<td>2.9 or less</td>
<td>2.6 or less</td>
</tr>
<tr>
<td>Lung</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Standardized rates have been estimated using the direct method and the World population as the reference. Data sources: IARC, Globocan 2002.

When the crude rates are standardised for age it becomes clear that the rate in Tanzania is higher than any of the other East African countries. Tanzania has an all age standardised incidence rate of 68.6/100,000 population with Zambia being the next highest with a rate of 53.7/100,000. (Rates are standardized using the direct method and the World population as reference.)

The rates of cervical cancer (both incidence and death) are also higher than the average for East Africa (crude mortality rate 20.6/100,000) and much higher than the world average (crude mortality rate of 8.9/100,000).

Tanzania has a population of around 11 million women ages 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 7,515 women are diagnosed with cervical cancer and 6,009 die from the disease. Cervical cancer ranks the most frequent cancer in women in Tanzania, (Table 1) and the most frequent cancer among women between 15 and 44 years of age.
Factors contributing to cervical cancer

The Human Papilloma Virus (HPV) is a necessary cause of cervical cancer, but other cofactors are also required for progression from cervical HPV infection to cancer. Long-term use of hormonal contraceptives, high parity, tobacco smoking, and co-infection with HIV have been identified as established cofactors; co-infection with Chlamydia trachomatis and herpes simplex virus type-2, immunosuppression, and certain dietary deficiencies are other probable cofactors. Genetic and immunological host factors and viral factors other than type, such as variants of type, viral load and viral integration, are likely to be important but have not been clearly identified (Muñoz N, Vaccine 2006; 24S3: S3-1).

Data is not yet available on HPV burden in the general population of Tanzania. However, in Eastern Africa the region Tanzania belongs to, about 35.4% of women in the general population are estimated to harbour cervical HPV infection at a given time, and 81.8% of invasive cervical cancers are attributed to HPV.

Appendix 6 shows the overall pattern of contraception in the country. However, of particular importance in the spread of HIV and HPV is the pattern of contraception used by those with multiple partners. The WHO & UNAIDS 2008 ‘Epidemiological country profile on HIV and AIDS survey’ showed that condom use among those with multiple partners has steadily increased since 1995. However, in 2004, only 27% of men and 20% of women with multiple partners reported using condoms. There is therefore a continued need to promote condom use among high risk groups, particularly in large towns and cities.

To reduce the rates of HPV there would need to be either a much higher condom usage rate or the introduction of an immunisation programme against HPV in young women.

The immunisation rate for Diphtheria, Tetanus and Pertussis (third dose complete) is around 90% (WHO Immunization surveillance, assessment and monitoring http://www.who.int/immunization_monitoring/routine/immunization_coverage/en/index4.html). This would make the inclusion of immunisation for HPV an option for the long term reduction in incidence of cervical cancer.

However, it would do nothing to reduce the very high incidence of HIV/AIDS, the incidence of which will continue to be high unless there is a much higher rate of condom use.
3. SEXUAL CUSTOMS AND ATTITUDES

It is illegal in Tanzania to have sex if you are under 15 and married or under 18 and unmarried. However, in the Maasai, for example, it is socially sanctioned that a ‘warrior’ should sleep with all prepubescent females as warriors they are the best people to sexually initiate a girl.

Female access to contraceptives (reportedly only 26% (1)) (see appendix 6 for more information about contraception) and ability to insist on it in their relationships is often lacking. The resulting early marriages and teenage pregnancies feedback to prevent a woman completing her education. (4) Studies have shown grossly inaccurate knowledge over the length of gestation times, risk behaviours such as heavy work, Sexually Transmitted Infections and of pregnancy complications and danger signs. The need for Ante Natal Care and pregnancy spacing is not widely understood - difficult labour is often put down to one’s non-observance of traditional rules and taboos. (5)

The successes and failures of condoms, introduced with the HIV epidemic, have shown the importance of incorporating beliefs and behaviours into strategy.

Pressure to have more than one sexual partner at once is reported for males and females after puberty. Religion, Islam, encourages multiple wives but fertility is highly prized in many tribes as having many children implies wealth and power. Condoms therefore not only decrease the quality of sex but obviously affect fertility.

In many societies the wasting of sperm is considered actually harmful to the man weakening him physically and mentally. The value attached to the actual process of giving and receiving of sperm needs recognition. The Masai believe that sperm help a girl develop physically and that semen is itself critical to her coming of age and sexual initiation and essential for a child’s development in utero. (6)

Witchcraft fears may be a reason for not using condoms. Men have reported worrying that someone else can steal your sperm when it is in a bag and use it for witchcraft. An understanding of these factors led to trials of non-spermicidal microbicides, but, in some parts of Tanzania touching one’s genitals is taboo, so inserting a female condom or spermicide would be impossible. Access to condoms is still a problem, even when supplied at rural schools it seems children often have to ask the principal for them as they are frequently stored in their offices.

The practice of male circumcision on the other hand is thought to decrease the risk of HIV transmission by up to 50-60%. (7) This is explained through the effects on hardening the skin of the glans of the penis and preventing virus trapping under the foreskin. 70% of men in Tanzania are thought to be circumcised. Some traditionally non-circumcising tribes are going against this and requesting circumcision. Risky cutting practices, using unsterilized knives, is a concern. Scarification rites have been linked to hepatitis B and HIV infections in this way. Suggestions that the practice should be abolished due to this neglected the beliefs and meaning behind this coming of age ritual that is also used to treat medical conditions. (8) There are concerns that if men think that they are protected by circumcision they will feel able to engage in risky sexual practices. (9)

Dry sex, where herbs or crushed stones are used to dry out the vagina are still widely practiced. There is a belief that loose vaginas are a sign of infidelity and it is often said that the noise and smell of sex can be offensive, dry sex is said to make it more
pleasurable for the man. Obviously this practice and these beliefs predispose to HIV and STDs through damage to the lining of the vagina.

Funeral rites with widow cleansing (when a husband dies a wife must sleep with his brother/a cleanser to be reaccepted back into his society) and wife inheritance are ongoing in Tanzania again contributing to the spread of HIV. The practice traditionally intended to take care of and control the wife and children. Recent changes, probably because of a fear that the widow may be infected with AIDS, has led to many women and children being abandoned and left without any inheritance.
4. FEMALE GENITAL CUTTING

Female Genital Cutting (circumcision) has many definitions. WHO defines it as "all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs whether for cultural, religious or other non-therapeutic reasons."[1]

The cultural practice occurs throughout the world, with the practice concentrated most heavily in Asia and Africa. As a result of immigration and refugee movements, FGM is now being practised by ethnic minority populations in other parts of the world, such as USA, Canada, Europe, Australia and New Zealand. FORWARD estimates that as many as 6,500 girls are at risk of FGM within the UK every year.

The majority of those who have undergone the procedure live in 28 countries across Africa, according to the United Nations Population Fund.

All terms currently and still actively used include: Female genital cutting (FGC), female genital mutilation (FGM) or female genital mutilation/cutting (FGM/C).

Types of Female Genital Cutting

The World Health (WHO) has defined 4 types of female circumcision:

**Type I-Clitoridectomy**

The excision of the prepuce with or without excision of part or all of the clitoris.

**Type II- Excision**

The excision of the prepuce and clitoris together with partial or total excision of the labia minora.

**Type III- Infibulation**

The excision of part or all of the external genitalia and stitching or narrowing of the vaginal opening, also known as infibulation. This is the most extreme form and constitutes 15 per cent of all cases. It involves the use of thorns, silk or catgut to stitch the two sides of the vulva. A bridge of scar tissue then forms over the vagina, which leaves only a small opening (from the size of a matchstick head) for the passage of urine and menstrual blood.

**Type IV- Less radical surgical forms**

The pricking, piercing or incision of the clitoris and/or the labia; stretching of the clitoris and or the labia; cauterisation or burning of the clitoris and surrounding tissues, scraping of the vaginal orifice or cutting of the vagina and introduction of corrosive substances or herbs into the vagina.

A few organizations have started using the combined term female genital mutilation/cutting (FGM/C).
Legislation in Tanzania

Female circumcision is illegal in Tanzania. Section 169A of the Sexual Offences Special Provisions Act of 1998 prohibits FGC. Punishment is imprisonment of from five to 15 years or a fine not exceeding 300,000 shillings (approximately US$380) or both. There have been some arrests under this legislation, but no reports of prosecutions yet. Tanzania ratified the Maputo Protocol in 2007.

However, although it is illegal the practice still exists because people are not sensitised to the health consequences of circumcision and laws are not enforced, said Godfrey Odongo, an Amnesty International Uganda researcher.

Epidemiology in Tanzania

According to research conducted by the Legal and Human Rights Centre around 18% of Tanzanian women have undergone FGC.

This procedure is traditionally carried out by an older woman with no medical training or Traditional birth attendants. Anaesthetics and antiseptic treatment are not generally used and the practice is usually carried out without sterilisation using basic tools such as knives, scissors, scalpels, pieces of glass and razor blades. Often iodine or a mixture of herbs is placed on the wound to tighten the vagina and stop the bleeding.

Social significance

The practice is still supported by many ‘elders’ as it is an age old initiation ritual at puberty incorporating multiple aims. Some relate its importance in its suppression of a woman’s sexual desire so protecting her morality and ensuring her virginity. It is reported to increase sexual pleasure for the man but is often seen as being essential for sexual behaviour and fertility. Many women fear non acceptance by their peers, family and even ancestral spirits if they do not participate in this group identity. Clitoridectomy, in the Masai, indicates a whole change in the social status of a girl and a sign that she is ready for marriage.(6)

Distribution

Age: The common age is 4 - 10 years although this distribution ranges in age from infancy to 15 (U.N. Children’s Fund). The age at which the practice is carried out varies, from shortly after birth to the labour of the first child, depending on the community or individual family. In some cultures, women endure repeated circumcisions

Geography: There is significant geographical variation. For example, UNICEF statistics indicate that it is more than twice as common in rural areas as it is in the urban areas.

The proportion of women aged 15 to 49 years of age who have been mutilated/cut, 2002 - 2007
(Source: http://www.unicef.org/infobycountry/tanzania_statistics.html)

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7%</td>
<td>18%</td>
<td>15%</td>
</tr>
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</table>
Regionally the highest reported rates of female circumcision were found in the Northern regions of Tanzania bordering Kenya, and in the regions directly south of those, ranging from 20% in Iringa to 73% in Manyara. These adjacent regions hence form a central belt from North to South. In the capital city of Dar es Salaam prevalence was (7%).

Ethnicity was not collected but may explain the regional clustering with female circumcision rates.

74% of women in 1996 who self-reported having been circumcised said that the procedure was performed by a “circumcision practitioner” - 91% in Lake zone. In the Northern Highlands, 6.9% were reported (Department of Health Survey, 2006) to have been carried out by doctors or trained nurses/midwives. Whilst this may ensure the use of more sterile methods, it raises ethical issues about the role of medical care staff.

### Health Effects

The practice has been linked to obstetric and gynaecological problems in addition to mental and physical trauma that may result from the more severe forms of the procedure and has hence been widely condemned for both ethical and health reasons by the World Health Organization and other entities involved with Human Rights.

According to the United Nation’s Children’s Fund, the practice is extremely painful and traumatizing. Concerns regarding the safety of the patient, and subsequently the short and long-term medical consequences of the procedures are as listed below.

<table>
<thead>
<tr>
<th>Short term consequences</th>
<th>Long-term consequences</th>
</tr>
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<tbody>
<tr>
<td>Bleeding</td>
<td>Scaring</td>
</tr>
<tr>
<td>Intense Pain</td>
<td>Dysmenorrhea</td>
</tr>
<tr>
<td>Epidermal inclusion cysts (might become infected)</td>
<td>Sexual Dysfunction</td>
</tr>
<tr>
<td>Shock (from excessive bleeding or pain)</td>
<td>Recurrent uterus, vaginal and pelvic infections.</td>
</tr>
<tr>
<td>Sepsis (bacterial infection)</td>
<td>Cysts and neuromas</td>
</tr>
<tr>
<td>Urine retention</td>
<td>Infertility</td>
</tr>
<tr>
<td>Open sores in the genital region</td>
<td>Increased complications in pregnancy and newborn deaths</td>
</tr>
<tr>
<td>Injury to nearby genital tissue</td>
<td>• Increased risk of caesarean sections</td>
</tr>
<tr>
<td>Increased infection-HIV, Hepatitis B, C, HPV and Tetanus</td>
<td>• Postpartum Haemorrhage</td>
</tr>
<tr>
<td>Fistulas:</td>
<td></td>
</tr>
<tr>
<td>• Urinary-vaginal fistula (UVF)</td>
<td></td>
</tr>
<tr>
<td>• Vesico-vaginal fluid (VVF)</td>
<td></td>
</tr>
<tr>
<td>Foetal deaths &amp; Maternal deaths (Increased prevalence with WHO type III)</td>
<td></td>
</tr>
<tr>
<td>Extensive damage of the external</td>
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</tbody>
</table>
Prevention

Health Education - ‘Circumcision by words’

As a result of health campaigns, female circumcision has been falling in some countries in the last decade. In neighbouring Kenya, a 1991 survey found that 78% of teenagers had been circumcised, compared to 100% of women over 50. In Sudan, the practice dropped by 10% between 1981 and 1990.

Several governments have introduced legislation to ensure the process is only carried out in hospitals by trained doctors, some have banned the operation altogether.

However, there is significant opposition to change because of the traditional nature of the process and health workers think a less confrontational approach, such as Ntanira Na Mugambo, could be more successful.

Ntanira Na Mugambo, also known as 'circumcision by words', has been developed in rural areas of Kenya by local and international women's health organisations. It involves a week-long programme of community education about the negative effects of female genital mutilation, culminating in a coming of age ceremony for young women. The young women are secluded for a week and undergo classes in reproduction, anatomy, hygiene, respect for adults, developing self-esteem and dealing with peer pressure.

Family members also undergo health education sessions and men in the community are taught about the negative effects of female circumcision.

Health workers believe the programme works because it does not exert a blunt prohibition on female genital mutilation, but offers an attractive alternative.

Advocacy

There are two main anti-FGC frameworks - the health model and the human rights-based model.

The health model: This approach has failed to bring about large scale behavioural change. And although the health model is against FGC and the adverse effects associated, they often reject methods to provide medical support to minimize FGC health risks (i.e. medicalization).

The human rights-based model: This approach has in more recent times replaced the health based model as the preferred approach in anti-FGC campaigns. The human rights model encompasses four important human rights discourses: violence against women, rights of the child, freedom from torture and rights to health and bodily integrity.
In the past several decades, there have been many concentrated efforts by the WHO to end the practice of FGC. The United Nations has also declared February 6 as "International Day Against Female Genital Mutilation".

According to a joint WHO/UNICEF/UNFPA statement, the use of the word "mutilation" reinforces the idea that this practice is a violation of the human rights of girls and women, and thereby helps promote national and international advocacy towards its abandonment. They state that, at the community level, however, the term can be problematic; and that local languages generally use the less judgmental "cutting" to describe the practice. They also state that parents resent the suggestion that they are "mutilating" their daughters.

In 1999, the UN Special Rapporteur on Traditional Practices called for tact and patience regarding activities in this area and drew attention to the risk of "demonizing" certain cultures, religions, and communities. As a result, the term "cutting" has increasingly come to be used to avoid alienating communities.

**International response**

In 1997, the World Health Organization (WHO) issued a joint statement with the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA) against the practice of FGM. A new statement, with wider United Nations support, was then issued in February 2008 to support increased advocacy for the abandonment of FGM.

The 2008 statement documents new evidence collected over the past decade about the practice. It highlights the increased recognition of the human rights and legal dimensions of the problem and provides current data on the frequency and scope of FGM. It also summarizes research about why FGM continues, how to stop it, and its damaging effects on the health of women, girls and newborn babies.

Since 1997, great efforts have been made to counteract FGM, through research, work within communities, and changes in public policy. Progress at both international and local levels includes:

- wider international involvement to stop FGM
- the development of international monitoring bodies and resolutions that condemn the practice
- revised legal frameworks and growing political support to end FGM
- in some countries, decreasing practice of FGM and an increasing number of women and men in practising communities who declare their support to end it

Research shows that, if practising communities themselves decide to abandon FGM, the practice can be eliminated very rapidly.

**WHO response**

WHO efforts to eliminate female genital mutilation focus on:

- **advocacy**: developing publications and advocacy tools for international, regional and local efforts to end FGM within a generation
• **research**: generating knowledge about the causes and consequences of the practice, how to eliminate it, and how to care for those who have experienced FGM

• **guidance for health systems**: developing training materials and guidelines for health professionals to help them treat and counsel women who have undergone procedures.

WHO is particularly concerned about the increasing trend for medically trained personnel to perform FGM. WHO strongly urges health professionals not to perform such procedures.

**Management**

Surgical intervention may well be required to prevent complications arising from female genital cutting. The degree of intervention will depend on the type of cutting that has taken place.

Surgery may well also be required for the complications of prolonged childbirth with the closure of, for example, fistulae.

**Further information about the position in the UK**

The Royal College of Obstetricians and Gynaecologists and the royal college of Midwives have provided guidance which can be found at


HUMAN IMMUNODEFICIENCY VIRUS (HIV)

The human immunodeficiency virus (HIV) infects cells of the immune system, destroying or impairing their function. Infection with the virus results in the progressive deterioration of the immune system, leading to ‘immune deficiency’. HIV can be transmitted through unprotected sexual intercourse (vaginal or anal) and oral sex with an infected person; transfusion of contaminated blood; and the sharing of contaminated needles, syringes or other sharp instruments. It may also be transmitted between a mother and her infant during pregnancy, childbirth and breastfeeding (1).

Epidemiology:

By the end of 2007, an estimated 33 million people across the globe were living with HIV and 2.7 million had become newly infected that year (2). Sub-Saharan Africa has 67% of all estimated infections.

Although the annual incidence of HIV infections globally peaked around the mid-1990s (3), the absolute number of people living with HIV in Africa continues to increase as a result of persistent high incidence and population growth rate.

Tanzania faces one of the largest HIV epidemics in the world. In 2008, UNAIDS and the WHO estimated that there were 1.4 million adults and children living with HIV in Tanzania (figure 1). Although deaths from AIDS have fallen since the mid 1990’s, HIV infections continue to increase.

Prevalence

A 2008 Report on the global AIDS epidemic by UNAIDS and WHO estimated that the prevalence rate of disease among 15 - 49 year olds was 6.2% (low estimate 5.8%, high estimate 6.6%). Among females aged 15 – 24, the prevalence was estimated to be 0.9%, and among males of the same age, 0.5% (4). HIV is more than twice as prevalent in urban areas, with prevalence rates of 10.9% among urban adults compared to 5.3% of rural adults (5).

The prevalence of HIV/AIDS began to fall a little in 1998, probably partly as a result of increases in the population denominator (Figure 1).
Deaths

Deaths from HIV/AIDS climbed until 2005, but began to fall thereafter (Figure 2), probably as a result of the introduction of treatment (see below).

Figure 2: Annual number of AIDS deaths
People living with HIV

The number of people living with HIV increased until the late 1990s. The rate of increase then began to diminish and the year on year change is now very small (Figure 3).

**Figure 3: Number of people living with HIV**

![Number of people living with HIV](image)

Since the National AIDS Control Programme was established in 1985, the progression of the epidemic has been monitored through unlinked, anonymous testing of blood from pregnant women attending antenatal clinics for the first time in selected sentinel sites (6) (figure 2).
The major vulnerable and affected groups include:

- women 15–24 years old
- men 25–34 years old
- sex workers
- people in the transport sector, mines, police force, military, prisons and prisoners
- refugees
- elderly people, who may not be infected, but are forced into new roles as caregivers for younger family members. This, in turn, means elderly people do not have support themselves
- orphans and vulnerable children 0–18 years old

According to World Bank estimates, the GDP in 2010 will decline by 15–20% and life expectancy will be about 10 years lower than it would have been without the HIV/AIDS epidemic. The proportion of children younger than 15 years who have lost both parents doubled between 1996 and 1999. In 2005, orphans were estimated to number nearly 1.5 million, of whom 40% may have lost their parents to AIDS (7)
Prevention

Trends in the proportion of the population having sex with more than one partner over the previous year show that men consistently have sex with multiple partners much more frequently than women. The proportion of men having sex with multiple partners has decreased slightly over the last few years, but remains at around 20%, whereas for women the figure is around 3%.

Data from the Measure Demographic and Health Survey (8) show that condom use among those with multiple partners has steadily increased since 1995. However, in 2004, only 27% of men and 20% of women with multiple partners reported using condoms. There is therefore a continued need to promote condom use among high risk groups, particularly in large towns and cities.

Fewer women with multiple partners reported using condoms, which may be due to lack of information or a perceived inability by women to request that their partners use a condom. There may be some specific work needed to promote women’s right to safe sex, particularly for those women in vulnerable situations such as sex workers or women in violent or abusive relationships.

The WHO refers to the work of Population Services International, a US NGO which undertakes social marketing of condoms in Tanzania. One innovative marketing method used by the organisation was promotion of condoms on postage stamps. A postage stamp bearing an image of a condom and the message “Condoms Protect Against AIDS” in Swahili and English was one of four stamps issued in 1997 to promote HIV/AIDS prevention. A recent initiative has placed condom vending machines in social clubs and nightclubs in high prevalence areas (9).

Treatment

Antiretroviral drugs are used to treat and prevent HIV infection by stopping or interfering with the reproduction of the virus in the body. In addition to antiretroviral treatment, people with HIV often need counselling and psychosocial support.

In recent years, increased political and financial commitment has allowed dramatic expansion of access to HIV therapy. Approximately three million people in low and middle income countries were receiving HIV antiretroviral therapy at the end of 2007. However, the global economic crisis has limited donor funding which is hampering many treatment programmes (10).

In Tanzania, WHO and UNAIDS estimated that in 2008, 30% of those infected with HIV had access to treatment, and just over 30% of pregnant women living with HIV were given antiretrovirals to prevent mother to child transmission (11).

The number of people living with HIV rose throughout the 1990’s (figure 2) and the number of deaths due to the disease fell (figure 3) perhaps as a result of improved access to treatment. Appendix 7 provides more information about treatment status.

Health policy

Key public sector reforms are underway which are decentralising management and increase public/private partnerships. The reforms aim to increase equity of access to quality primary health services and people’s participation in financing and
governance of health services. An essential health interventions package prioritises HIV/AIDS, TB, Malaria and maternal and child health.

National Care and Treatment Plan, adopted in 2003, contained the objective to provide antiretroviral therapy to all eligible people living with HIV/AIDS by the end of 2008.

In an attempt to integrate various existing plans and frameworks, an Operational Plan for Care and Treatment for HIV/AIDS was developed by a broad team including the Ministry of Health, the National AIDS Control Programme, the William J Clinton Foundation, WHO, non-governmental organizations and the private sector. It covered a one-year period beginning in July 2004 and projected the involvement of 96 health facilities. In 2004, the government announced a commitment to provide antiretroviral drugs free of charge in the public sector, faith-based organizations and some private facilities. Guidelines for antiretroviral therapy and voluntary counselling and testing have been developed.

Tanzania’s National Strategy for Growth and Reduction of Poverty (MKUKUTA) examines the HIV/AIDS burden and implications across the MKUKUTA clusters.

Government spending on HIV/AIDS has increased by 79 percent since 2002/3, and was budgeted to nearly triple in 2005/6. Donor spending on HIV/AIDS has increased even faster, representing over 90 percent of total expenditure and expected to rise to 15 percent of total ODA during 2005/6-2007/8 MTEF period.

However, secure (external) funding pledges only last until 2008/2009, thereafter funding falls off which limits government planning. Experts foresee the need for about US$100 M (external) funding annually.

There is need to rationalize diverse HIV/AIDS budgets across government, and to increase the capacity of Local Government Authorities, with local civil society organizations, to plan and deliver services. Finally, the district response continues to be the most elusive and critical piece to lowering prevalence and providing care and treatment (12).

5. WHO & UNAIDS 2008 ‘Epidemiological country profile on HIV and AIDS’
6. WHO (2005) *Summary country profile for HIV/AIDS treatment scale-up*
8. WHO & UNAIDS 2008 ‘Epidemiological country profile on HIV and AIDS’
11. WHO & UNAIDS 2008 ‘Epidemiological country profile on HIV and AIDS’
12. Tanzanian Ministry of Finance ‘Joint Assistance Strategy for Tanzania’
http://www.tzdpg.or.tz/index.php?id=222
Tanzania has the third largest population in Africa at risk of stable perennial malaria making it one of the worst affected countries in the world.[2] Malaria is the leading cause of out-patient and in-patient health service attendance for all ages and the leading cause of death in both children and adults with 16 million annual malaria episodes and 100,000 to 125,000 annual deaths. In the year 2000 malaria was estimated to be consuming 3.4% of the national GDP. [2, 14]

Geographical picture

Tanzania’s varied geography means that malaria rates, the pattern of disease and case fatality is not uniform between areas. 75% of the population is subject to consistently high transmission rates leading to stable perennial or seasonal malaria transmission. In these areas the population develops immunity and asymptomatic parasitaemias are common. This makes management complicated as ‘fever plus parasitaemia’ may appear to be malaria, but in fact may be masking a second diagnosis.[15]

8% percent of Tanzanians experience unstable, highly seasonal transmission during the rainy season (short rains Nov-December and long rains March – June); and 17%, mainly in high altitude areas (>600m – 1200m) have no transmission most years but 4 – 5 yearly epidemics are common. In the high transmission hyperendemic areas malaria is worse in small children and pregnant women (when immunity is low) but overall mortality is greatest in the lower transmission areas. [16]

Severe malaria is categorized into three syndromes

- severe malarial anaemia (Hb<5),
- respiratory distress
- cerebral malaria

in increasing order of mortality. In areas of high transmission severe malarial anaemia is more commonly seen in infants. In low transmission areas and in older children cerebral malaria predominates. Case fatality rates of 13% in low transmission areas versus 7% in hyperendemic areas reflect these trends.[16] It is estimated that 95% of malaria in Tanzania is falciparum. [17]

National Control Programmes

The National Malaria Control Programme (NMCP) was set up in 2007 and has been aided by campaigns such as ‘Roll back malaria’ and ‘The Global Fund to Fight AIDS, TB and Malaria’ aiming to halve mortality by 2010. There is now a reported trend of decreasing malaria rates coming from current clinical trials. [18]

Insecticide Treated Bed Nets

The comprehensive Tanzanian strategy is largely dependent on Insecticide Treated Bed Nets (ITN). These have been shown to decrease mortality by 17% in under five year olds after two years use.

However, coverage is low. It is estimated that only a quarter of under five year olds are using them and the figure is lower for pregnant women. [16] In 1998 a national
programme of socially marketed ITNs started. The Net Voucher Scheme was introduced in 2004 for pregnant mothers resulting in nets becoming purchasable for US$1. In 2007 national policy still stated that nets were only free to hospitals, prisons and boarding schools. In 2008 NGOs were rolling out ITNs to nine boarding schools in Tabora. Surveys still show that coverage is incomplete and distribution inequitable with the poorest households having the least ITNs. It also seems that significantly fewer nets are used by girls than boys.

From 2009 there will be mass free ITN distribution and improvements in materials mean that nets are more durable. [19] There are worries that less infected bites in children will decrease transmission and so immunity. This could change hyperendemic areas into hypoendemic areas and paradoxically causing an increase in cerebral malaria and mortality. So far, however, this does not seem to be a problem. [16, 19]

Research

The Joint Malaria Programme is a major research collaboration in Tanzania between the National Institute Of Medical Research, The London School Of Hygiene and Tropical Medicine, The Kilimanjaro Christian Medical College in Moshi, and the University of Copenhagen. One of the largest currently ongoing trials is AQUAMAT (The Artesunate versus Quinine Malaria Trial) that is comparing morbidity and mortality outcomes of using a parenteral artemisinin versus quinine in the treatment of severe malaria.

Treatment guidelines – Quinine and ACT

Currently intravenous or intramuscular quinine is still the first line for severe malaria in Africa. In South East Asia, artemisin has replaced quinine after it was shown to decrease mortality by 34.7%. Quinine is cheaper but has more side effects such as hypoglycaemia and is far harder to administer correctly. For non severe malaria Artemisinin combination therapy, ACT, (Artemether and Lumefantrine (Alu)), has been rolled out as first line as parasites are now chloroquine and sulphadiazine pyrimethamine (SP) resistant.

Challenges

Although many cases of malaria are still being missed outside the health system, within it malaria is being massively over diagnosed. The high costs of ACT and fears of resistance developing, (none has been recorded in Tanzania as yet), make this unsustainable. There are also major concerns that other diagnoses such as gram negative sepsis (Hib), non typhoid salmonella (common post malaria) and cases of salmonella typhi are being missed. In severe malaria parenteral antibiotics are now always co prescribed from the beginning.[20] Anecdotally, it is not uncommon to see a child on IV quinine and blood transfusion who has had negative malaria tests.

Pre-2006, national guidelines for febrile illness stated that any unwell patient who was pyrexial should be treated for malaria regardless of testing. Only 17% of queried cases were tested.[21] The 2006 guidelines for febrile illness restricted this policy to under five year olds only. There are suggestions that this policy should now be revised so only test positive cases are treated. This strategy obviously relies on the availability and accuracy of tests.[14]
Rapid Diagnostic Tests

Rapid diagnostic Tests (RDT) are point of care tests detecting malarial antigens that could be used in rural areas with no laboratory facilities, water or electricity. They require less time and skill to read than a malaria blood slide, and give a result in 15 minutes.

There are two types of RDT, Histidine Rich protein (HRP2) and Lactate Dehydrogenase (LDH) based tests. LDH tests can detect all species of malaria and become negative rapidly after treatment. HRP2 tests only pick up falciparum and can remain positive for up to two weeks after treatment, they are more sensitive in high transmission areas. Research in Tanzania has shown that HRP2 tests (Paracheck) have sensitivity of 98% and specificity of 88%, (versus 77% and 98% respectively for LDH tests). Heat stability and shelf life are other essential attributes for a test to be used in the hot, humid conditions experienced in parts of rural Tanzania.[22] The government has just selected an LDH based RDT to be mass supplied to the health service starting in 2009.

Despite the availability of a Rapid Diagnostic Test with all the benefits that this can bring, at trial level, RDTs and training have not led to a reduction in over-treatment; between 30% - 96% of negative results are still being treated.[14]

This may be because new guidelines take time to disseminate to rural areas, or because a doctor’s training in this setting places such emphasis on malaria, that missing it is unacceptable. Staff time and motivation may be another factor as malaria is the easiest diagnosis to make, slides take time to perform and results are known to be of variable quality. Lack of understanding of new RDT technology and their accuracy amongst clinical officers is considerable and there is no ongoing training or supervision of their work. Clinical Officers report that they do not want to be ‘wrong in front of other peers’ and that patients are pressurizing them for ACTs. Studies have shown that patients were not in fact demanding antimalarials and were equally satisfied without any treatment if they had at least been tested.[23, 24]

Intermittent Preventive Therapy in Pregnancy

Tanzania guidelines currently offer Intermittent Preventive Therapy for malaria to pregnant women (IPTp). Severe malaria is responsible for 10% of maternal deaths. Since 2001 sulphadiazine pyrimethamine (SP) has been offered in two doses, as per WHO guidelines. The first is given at 20-24 weeks, and the second at 28-32 weeks.

Coverage of IPTp has increased from 29% to 65% between 2001 and 2007 but this is still too low. Uptake may be poor as many health care workers do not seem to understand why SP is still used when resistance is known. Insufficient drug stocks have been reported at clinics, with some women reportedly being told that they have to pay for it.

Current policy advises that due to antifolate actions SP should not be given pre 20 weeks gestation but inequitable access to ANC and timing of antenatal care visits either too early or too late means that women are missing out.[25, 26] Preventive therapy in infants and children, (IPTi and c) is being explored.
References:


TUBERCULOSIS

Tuberculosis, or 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 block 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.

Epidemiology

The WHO has estimated that in 2007, there were 120 new cases of TB per 1000 population in Tanzania (Figure 1) (1). Of those, 40.8% (49 cases) were spear positive. Almost half (47%) incident cases were also HIV positive.

These figures show that TB represents a significant health burden in Tanzania, even compared to other high burden countries which had an all form incident rate just over half that of Tanzania (177 per 100,000 population per year vs. 297 per 100,000 population per year respectively).

The fact that incident rates are substantially higher than the global average, and the average in high burden countries, indicates that TB remains a cause for concern in Tanzania. (The rate in the UK is around 14/100,000.)

Neverthelesss, incidence fell by 4.4% in the general population between 2006 and 2007, and by 5.2% among HIV positive people (2)
Figure 1: Estimated epidemiological burden of TB, 2007

<table>
<thead>
<tr>
<th></th>
<th>Incidence</th>
<th>Prevalence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All forms</td>
<td>Spear positive</td>
<td>AI forms</td>
</tr>
<tr>
<td>Population 1000’s</td>
<td>Number 1000’s</td>
<td>Per 100,000 population per year</td>
<td>Number 1000’s</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>40 454</td>
<td>120</td>
<td>297</td>
</tr>
<tr>
<td>High burden countries</td>
<td>4 201 761</td>
<td>7423</td>
<td>177</td>
</tr>
<tr>
<td>WHO European region</td>
<td>889 278</td>
<td>432</td>
<td>49</td>
</tr>
<tr>
<td>Global</td>
<td>6 668 374</td>
<td>9 273</td>
<td>139</td>
</tr>
</tbody>
</table>

Source: WHO, 2009

---

9 Incident and prevalent figures include those with TB

10 Prevalence of HIV in incident TB cases of all ages
Multi-drug resistant TB

Most smear positive cases are young men aged 25 – 34 years, which reflects the distribution of HIV cases. Notifications are consistently higher among men than women, but all notifications decrease with age after a peak in the 25 – 34 age group (Figure 2).

**Figure 2:**

**Age and sex distribution of smear positive TB cases notified in Tanzania in 2006**

Figure 3 below shows the distribution of the smear positive TB by region. The capital Dar es Salaam has the highest rate of 300 or more notifications per 100,000 population.

**Figure 3**

**Distribution of smear positive TB notification rate by region of Tanzania, 2006**
Treatment and policy

The National TB and Leprosy Programme NTLP follows a five year strategic plan 2004 – 2009. Under the programme, health workers have been trained in provision of TB services based on the Stop TB strategy. Services for multi-drug resistant TB have been extended, and surveillance of TB has been expanded (3).

The Stop TB Strategy is a WHO initiative aiming to dramatically reduce the global burden of tuberculosis by 2015 by ensuring all TB patients, benefit from universal access to high-quality diagnosis and patient-centred treatment. The Stop TB Strategy underpins the Stop TB Partnership’s Global Plan to Stop TB 2006-2015 (4).

The six point plan includes:

1. Pursue high-quality DOTS (Directly Observed Therapy, Short course) expansion and enhancement
2. Address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations
3. Contribute to health system strengthening based on primary health care
4. Engage all care providers
5. Empower people with TB, and communities through partnership
6. Enable and promote research

Stop TB Partnership targets

By 2005: At least 70% of people with sputum smear positive TB will be diagnosed (i.e. under the DOTS strategy), and at least 85% successfully treated. The targets of a case detection rate of at least 70% and a treatment success rate of at least 85% were first set by the World Health Assembly of WHO in 1991.

By 2015: The global burden of TB (per capita prevalence and death rates) will be reduced by 50% relative to 1990 levels.

By 2050: The global incidence of active TB will be less than one case per million population per year.

Treatment in Tanzania follows the DOTS (Directly Observed Therapy, Short Course) approach. This strategy involves diagnosis and registration of each patient detected followed by standardised multi-drug treatment with a secure supply of high quality anti-TB drugs in treatment. Patients’ progress is individually evaluated to track treatment outcome. A cohort evaluation is also undertaken to monitor overall programme performance.

DOTS has been provided for 100% of all newly notified cases since 1996. However treatment is not successful in all cases, for example 81% of those receiving treatment had positive outcomes in 2003 (5).
A COMPARISON WITH THE UK

Epidemiology and surveillance

The incidence of TB in the UK is around 14/100,000.

The incidence rose by 25% per year between 1994 and 2004, and continues to rise. In 2006, there were 8497 cases of TB reported in the UK (14.0 per 100,000). Most cases occur in major cities, particularly in London. In 2006 the London region accounted for 40 per cent of all cases (44.8 per 100,000) (6). In England, around seven out of every 10 people with TB come from an ethnic minority population group and nearly two thirds of TB patients were born abroad. In England, around six per cent of the TB bacteria from patients with TB are resistant to one or more drug and one per cent show multi-drug resistance.

The disease follows patterns of migration and is therefore more common in certain ethnic groups, especially if they were born abroad (7).

The Health Protection Agency has a TB Programme which carries out local and national surveillance, laboratory diagnostic and reference services, disease control in the population, international partnership and research.

Policy

in October 2004 the Chief Medical Officer published a National Action Plan, Stopping Tuberculosis in England (8), which arose from the infectious diseases strategy Getting Ahead of the Curve (9).

Stopping Tuberculosis in England has a long term goal to reduce and ultimately eliminate tuberculosis in this country. It aims to do this by:

- reducing the risk of people being newly infected with tuberculosis in England
- providing high quality treatment and care for all people with TB
- maintaining low levels of drug resistance, particularly multidrug resistant (MDR) TB

The document outlines key areas for public health, particularly a more cohesive, consistent approach through local multidisciplinary TB networks with a designated named coordinator in each area. A commissioning toolkit has been developed for TB services to help them achieve the outcomes outlined in the policy.

Prevention and Treatment

Since 2005, BCG vaccinations are no longer routinely offered to teenagers in England. Due to the changing demographic profile of those with the disease, the policy was changed to provide targeted vaccination for:

- All infants (aged 0 to 12 months) living in areas where the incidence of TB is 40/100,000 or greater
- All infants (aged 0 to 12 months) with a parent or grandparent who was born in a country where the incidence of TB is 40/100,000 or greater

However, in areas such as South East London with large Black and Minority Ethnic populations from countries with incidence of 40/100,000 or greater, routine vaccination is still offered.
Additional measures are in place to raise awareness of the disease among health professionals and high risk groups, including signs and symptoms, local services and referral systems.

Early warning systems are in place via national surveillance which alert health professionals to localised outbreaks which are managed by the Health Protection Agency and allied services.

**Stopping Tuberculosis** outlined a number of ways that the DH is working internationally to limit the spread of TB. The DH supports the principles and work of the WHO Stop TB programme and has committed resources to develop the implementation of well-run TB control programmes in recipient countries. There is also a pledge to exchange prevention and treatment expertise between England and endemic countries.

In England treatment is managed by a multi-disciplinary team as a secondary care outpatient service.

TB services provide:

- investigation of suspected TB
- case management of TB patients
- contact tracing of individuals exposed to TB
- ward visits to TB patients
- tuberculin skin testing for ward patients
- community home visiting
- multidisciplinary TB clinics
- nurse-led hospital and community TB clinics
- outreach work
- reactive outbreak screening and
- DOT

TB services liaise with local PCTs, the local Health Protection Unit and the local TB network, and some of the activities listed above will be carried out in conjunction with one or more of these agencies.

6. www.hpa.org.uk
HEALTH RELATED BEHAVIOUR – NEED AND DEMAND FOR SERVICES

Understanding the health needs, demands and health seeking behaviour in Tanzania requires an appreciation of the wider determinants of health and the common beliefs and behaviours that affect health.

Health is affected by the genetics of the population, the infective pathogens at large, politics and the health care services and many social determinants. Social determinants encompass income, crime, employment and housing, education, agriculture, food, water and sanitation.

Assessing the health needs of a population is complicated. The very concept of a health need is socially and culturally constructed and dependent on the values/beliefs of those who are assessing it.

- **Felt need** is that determined by ‘the people’ themselves depending on their values. This may be different to
- **Expressed need** that is actually spoken of e.g. one may not mention needs that one believes are unobtainable, or that you may not want to hear, or that one has never heard of or considered. Women may be unable to express their opinions.
- **Normative need** is determined by experts and
- **Comparative need** which compares resources and services e.g. of one area in Tanzania to an area in the UK.

Clearly, not all need is translated into a demand for health care resources. If it were, then measuring the demand for services would also be a way of measuring need.

Providing health care resources to meet demand is important, but it may or may not be dealing with the major health problems that affect the population as a whole.

Health related behaviours and beliefs

The levels of chronic disease in Tanzania (diabetes and hypertension) are rising, especially in the higher classes and increased use of alcohol and smoking are evident.

**Smoking**

Though survey data is now a little old, smoking prevalence recorded by WHO from a study in an urban area in 1998-99 found that around 20% of men smoked compared to around 1% for women.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>% Smokers Men</th>
<th>% Smokers Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-34</td>
<td>23.5%</td>
<td>0.8%</td>
</tr>
<tr>
<td>35 – 44</td>
<td>24.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>45-54</td>
<td>21.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>55-64</td>
<td>19.6%</td>
<td>5.4%</td>
</tr>
<tr>
<td>25-64</td>
<td>23.0%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>
(95% CI = 21.6 – 24.4) (95% CI = 1-1.6)

(CI = Confidence Interval)

Source: [http://www.afro.who.int/dnc/databases/afro_infobase/Tanzania.pdf](http://www.afro.who.int/dnc/databases/afro_infobase/Tanzania.pdf)


Little is known about smoking patterns in rural areas.

There are few policies at present over advertising or availability of cigarettes.

**Alcohol**

Consumption of alcohol per person is estimated to be about half that in the UK, but higher than that in nearby East African countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Litres of pure alcohol per person per year 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>11.8</td>
</tr>
<tr>
<td>Tanzania</td>
<td>5.5</td>
</tr>
<tr>
<td>Kenya</td>
<td>1.5</td>
</tr>
<tr>
<td>Zambia</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: WHO World Health Statistics [http://apps.who.int/whosis/data/Search.jsp?indicators=%5bIndicator%5d.%5bRF%5d.Members](http://apps.who.int/whosis/data/Search.jsp?indicators=%5bIndicator%5d.%5bRF%5d.Members)

Alcohol consumption in Tanzania is made up almost entirely by beer with wine and spirits forming only a very small proportion.

Fewer people in Tanzania drink alcohol than in the UK.

<table>
<thead>
<tr>
<th>% People who were abstainers</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>35%</td>
<td>50%</td>
</tr>
<tr>
<td>UK</td>
<td>11%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Sources:


Health Seeking Behaviour

What is it?

Health seeking behaviour (HSB) describes the process that leads to an individual seeking health care. It incorporates many factors that enable or inhibit their decision and ability to present.

Tanzanians have a dual system of health care. Both western medicine and traditional healers are available to the majority of the population. Individual, socio-cultural and logistical factors interact and affect when and which system Tanzanians choose to consult. HSB varies amongst different populations and between families and individuals.

Health Education

Initially, it was thought that health education would lead to an increase in health promoting behaviour and a reduction in behaviours that harm health. What has been found, however, is that the information provided is taken up mainly by those who are already healthier, better educated and well off. This had the effect of increasing the inequalities in health that already existed.

It was also thought that it would lead to an increase in the utilization of health care facilities. Although progress has been made, the effect has not been as substantial as was hoped. Recent studies show that biomedical views are increasing, with regard to malaria at least with 78.7% having used anti-malarials, 9.4% choosing traditional care and only 11.9% seeking no care at all.(10)

Few mothers in Tabora know the danger signs to recognise at labour. The higher the educational level of the mother the higher the proportion that have a skilled birth attendant at birth(11).

As disseminating health knowledge to rural areas is very difficult, in practice many people get their information from friends and relatives. Rumours spread, for example, the misconceptions that nasogastric tubes and IV lines actually lead to death as they are associated with relatives who subsequently died. New culturally compatible methods of health education such as the use of popular music as well as private mobile phone texts are hoping to prove more influential than television, posters and radio adverts.

Most areas still seem to have poor knowledge over TB(12). Even in areas where knowledge of TB aetiology and treatment is high and people believe that it is a curable disease, only 68% visited a public health facility as their first choice and patients still, delayed on average one and a half months but commonly 20-30 weeks before consulting a physician.(13, 14) Similarly with brucellosis, patients were seen to delay by on average 90 days after the onset of symptoms with 20% waiting over a year before consulting a health facility.(15)

Additional approaches are now being used to try and increase service uptake.

Traditional versus Western Medicine

In practice it seems that most Tanzanians, both in urban and rural areas, ‘flick’ between self-medication, consulting a traditional healer and presenting at a government health facility. If the practitioner fails to meet their expectations most patients would consider looking elsewhere.
In certain conditions such as stroke and HIV the social support and continued care that a traditional healer can offer is very popular.\(16\)

Collaborative partnerships are exploring whether with education of traditional healers it may be feasible to encourage them to administer rectal artesunate on top of their own therapies.\(17, 18\)

Variations in urban and rural beliefs are not necessarily as one might expect. A recent study showed that strokes are more commonly perceived as being due to witchcraft and demons in urban areas than in rural areas where people were associating them with hypertension, fatty foods and stress. Hospital attendance was higher in the rural areas overcoming increased costs, distance and time of travel because of their understanding of disease aetiology.\(19\)

**Local Beliefs, attitudes and perceptions**

Traditional beliefs over causation and treatment of disease often vary greatly from the modern view and are closely tied to religious beliefs. Health, to Tanzanians, is a state of social wholeness and disease seen to be a disruption to life’s harmony. Disease is usually attributed to the violation of a taboo, or an insult to an ancestor or spirits and therefore healed through acts of reconciliation.

Issues regarding specific diseases include:

**Malaria**: Recognising and associating symptoms can be complex. Anaemia, for example, is rarely recognized and when it is, it is rarely associated in people’s minds with malaria. Although fevers are known to occur in malaria, when fevers are associated with seizures, this traditionally signifies interference of evil spirits and is known as ‘degedege’. Degedege should traditionally be treated by urinating on the patient or fumigating them with elephant dung. Paradoxically this means that non-severe malaria presents to health facilities more often than severe malaria.\(10\)

**Tuberculosis (TB)**: is sometimes still thought to be caused by smoking, drinking unboiled milk or witchcraft. Many now consider it indistinguishable from and so synonymous with HIV and thus incurable.\(12, 14\)

**HIV**: In Tabora it has been observed that even where 90% are aware of the transmission and severity 17% still report multiple sexual partners and over half would not use condoms. It is believed that church leaders are against condoms and the virus passes through the pores anyway. Many state that it is very difficult to find condoms, they are not available in schools and it is embarrassing to buy them in a shop.\(20\)

**AIDS**: is often attributed to bewitchment or a punishment from god. Patients often prefer treatment with traditional healers as they are familiar, accessible and trusted. People drop out of the antiretroviral (ARV) programme when they feel that it is futile and head to some traditional healers who claim to be able to cure it. Many dislike ARVs as they feel that they are empowering infected persons to intentionally spread HIV in their communities through deliberate unprotected sexual activities.\(21, 22\)

**Stigma**

Because of these beliefs and limited health education, some diseases are socially stigmatized inevitable leading to delayed presentation and poor compliance. Two thirds of TB patients report hostility from family and friends and consequently most prefer not to disclose their illness. TB is often viewed as a ‘dirty’ disease of the poor and peers reportedly
shy away from eating or drinking with the patient. (14) Even schistosomiasis has been reported to be a shameful disease due to misunderstanding over its cause. (23) It is becoming obvious in the ARV programme that a supportive family environment and community social networks are key factors in whether patients drop out or not. (24)

**Quality of care**

Private pharmacies deliver a significant proportion of western medicine in rural areas due to inadequate supplies at government facilities and their superior accessibility. They may be the only contact that a patient has with a health care facility. Many of the drugs supplied, particularly anti malarials, are of poor quality or counterfeit (WHO estimates 30%). This leads on to a lack of faith in western medicine as it is difficult for people to understand why their medicines haven't worked. Tanzania does not have a drug quality assessment system. (25)

Satisfaction with the health facility will affect repeated use. Mothers report paediatrics wards to be overcrowded, unsanitary and without good food or clean water. Fear of infection risk in hospitals appears to be a major deterrent from seeking early admission for their child. Some claim that staff are judgemental and authoritarian towards them and that they have better relationships and communication with their traditional healers. (26)

Government clinics are frequently poorly supplied with respect to staff, diagnostics and medications. A survey found that a prescriber was only present in 40% of dispensaries and that less than half had all seven 'essential oral treatments' and only 22% had clean water. (33)

Only 10-20% of treated malaria cases are managed promptly and with the correct drug and dose. (25) Health Care Workers blame staff shortages meaning that there is little time to spend per patient and that they are overworked. There is little continuity in post graduate training for rural doctors, no ongoing surveillance and new guidelines are often unavailable. (26)

**Family size, structure and dynamics**

Increasing family size seems to have a detrimental effect on care seeking, possibly as a caregiver has less time for each family member or as the older kids are left to care for the younger and do not recognize their illnesses.

**Health care decision making is made at the household not individual level.**

In traditional Tanzanian mostly male headed households, the father is in charge. He may not even eat with his family so needs to be kept informed about their well being. His personality is crucial as his approval is necessary for every financial transaction. (27) With this in mind, it becomes apparent that health education interventions that mainly targeted mothers as the principal care givers overlooked this and needed to influence the decision makers as well. (28)

**Gender**

Gender does not impact as heavily on HSB in Tanzania as in some other countries. Studies often find that sex of the child or the head of the household has no effect for example on choice of practitioner. (10) However some show that women are diagnosed up to two weeks later than men. (13) And there are reports that bed nets are used more frequently by boys than girls. (29)
Women in general are more engaged in household, childcare and agriculture which they may be unable to leave, and as men are more commonly working in the public sphere women may not have the economic means to do so. (30) Likewise women may be aware of the risks of infection but unable to negotiate about condom use. (20) With regard to adherence to treatment regimens, females are thought to be more compliant with TB treatment. (13)

Costs

User fees for health care form part of the Tanzanian health care system. Children under the age of five and pregnant women are exempt from this, although in practice parents often report that they are made to pay for their children’s care. (25)

The need to pay for health care by those least able to do so is a well established reason for delayed or low attendance. However, the picture can be more complicated in particular situations. A Korogwe study reported no differences in utilization of services seen after fees were introduced. (31) In a cataract study, a worrying four out of five patients stated that lack of funds was the main reason behind their refusal of an operation, though, when a free waiver was offered only a fifth accepted and other reasons for their refusal became apparent. (32)

It is likely to be true that people in rural areas find that paying for a traditional healer is easier as they can pay in non monetary terms of animals and produce etc.

Logistics

Distances to, costs of and availability of transport to health facilities are logistical factors affecting HSB. Infant mortality is higher in families living over 5 km from their nearest health facility compared to those living closer. (33)

Poor transport and the distance and cost of travel to a health centre contributes and this means that many mothers in Tanzania still give birth at home, maternal mortality is high and only 43% have a skilled attendant at birth. (1)

Tanzanians are relatively well supplied via the government health system compared to other neighbouring countries. In a survey 58% thought that they were well attended by the health service with the majority living within walking distance and only 19% having to spend an average of US$0.2 in travel costs. (13) A woman having to walk two or more hours to a facility for labour was found to be strongly related to whether a skilled attendant was used at their deliveries. (11) Only 43% of women have a skilled attendant at birth. (1)

In a brucellosis study of the 88% visiting a hospital as their first point of care there was a significant delay of on average 90 days and in 20% more than a year. Knowledge of brucellosis symptoms, farther distances to hospital and keeping animals so having a job which one cannot take time off from were the most significant delaying factors. (15)

Conclusion

The factors affecting positive HSB are important to understand and target. This is critically important in the context of infectious diseases. Efforts to increase health education need to be culturally compatible with special emphasis on early treatment seeking and destigmatizing certain conditions. (23)
Improving accessibility of government health facilities needs to be accompanied by improved quality of diagnostics, treatments and physician training and monitoring.

1. UNICEF. The United Republic Of Tanzania - Statistics 2004
11. Initiative SC. Patterns in Seeking Skilled Care At Delivery Survey [cited; Available from: http://www.familycareintl.org/Userfiles/File/pdfs/sci_patts_overview.pdf]


1. HISTORY, GOVERNANCE AND POLITICS

From Colonialism to Democratic Socialist Independence

The United Republic of Tanzania was formed in 1964 as the result of the political union between mainland Tanganyika and the off-shore islands of Zanzibar and Pemba. The name Tanzania is a portmanteau of Tanganyika and Zanzibar.

It is believed that during the era of slavery in East Africa, Tabora was an infamous camp for the Arab slave masters. It was also an important caravan stop on a trade route and continues to have important rail and transport links.

In the 19th century European explorers arrived in Tanganyika. In 1886 Britain and Germany signed an agreement allowing Germany to colonise mainland Tanganyika, except for a narrow piece of territory along the coast which remained under the authority of the Sultan of Zanzibar, while Britain enjoyed a protectorate over Zanzibar. In 1905 there was an uprising against colonial rule which was suppressed by the Germans. The Maji Maji Rebellion lasted for two years and ended with the death of an estimated 120,000 Africans. After the First World War, Britain extended its protectorate from Zanzibar to include the whole of Tanganyika.

In 1954, the Tanganyika African National Union (TANU) was founded by Julius Nyerere. TANU protested against ongoing colonial policies and rule. In 1961 Tanganyika achieved independence, with Nyerere as the country's first president. In 1963, the Sultanate of neighbouring Zanzibar was overthrown by the Afro-Shirazi Party in a violent revolution. Tanganyika and Zanzibar then merged in 1964 to become Tanzania, and the two ruling parties formed the unitary republic Government, consisting of the TANU (Tanganyika) and the Afro-Shirazi party (Zanzibar). In 1977 these parties merged to form the Revolution Party, now known as the CCM (“Chama Cha Mapinduzi”). Until the early 1990s, Tanzania was under the governance of CCM which was the legal ruling party. One-party rule came to an end in 1995 with the first democratic elections held in the country since the 1970s and Tanzania became a multi-party democracy.

Tanzania is now divided into 26 regions, 21 on the mainland and five in Zanzibar. 98 districts, each with at least one council, have been created to further increase local authority; the councils are also known as local government authorities. Currently there are 114 councils operating in 99 districts; 22 are urban and 92 are rural. The 22 urban units are further classified as city councils (Dar es Salaam and Mwanza), municipal councils (Arusha, Dodoma, Iringa, Kilimanjaro, Mbeya, Morogoro, Shinyanga, Tabora, and Tanga) or town councils (the remaining 11 communities.)

The economy and aid since independence

Unlike many African countries, whose potential wealth contrasted with their actual poverty, Tanzania had few exportable minerals and a primitive agricultural system. To remedy this, its first president, Julius Nyerere, issued the 1967 Arusha Declaration, which called for egalitarianism, socialism and self-reliance. Co-operative farm villages were set up and factories, plantations, banks and private companies were nationalised.
A decade later, despite financial and technical help from the World Bank and sympathetic countries such as China, Nyerere’s socialist programme had failed due to inefficiency, corruption, drought, internal resistance and the rise in oil prices. Tanzania's economic difficulties were compounded in 1979 and 1981 by the Ugandan war - a costly military intervention to overthrow President Idi Amin.

At the time of Nyerere’s resignation in 1985, Tanzania was still one of the world’s poorest countries, with a per capita income of about US $250 per year. Agriculture remained at the subsistence level, and Tanzania’s industrial and transportation infrastructures were chronically underdeveloped. One-third of the national budget was supplied by foreign aid. 25 years on, foreign donors continue to fund the bulk of the budget (in 2007-8, the donor contribution was 42%). In fact, since the 1970’s, Tanzania has received more international aid per capita than any other country. One of the reasons why Tanzania has attracted so much aid is because it is politically stable and steeped in egalitarian ideals that are a legacy of Nyerere’s influence.

**Economic liberalism**

Nyerere was succeeded in 1985 by Ali Hassan Mwinyi, who brought in an economic recovery programme which included private sector growth and investment. From the mid 1980’s to the mid 1990’s Tanzania’s GDP grew modestly, although Human Development Indexes fell and poverty indicators increased.

The first general multi-party elections in Tanzania were held in 1995. The CCM candidate, Benjamin W Mkapa, won the presidential election and was re-elected for a second term in 2000. He abandoned the old socialist ideology of the party, and promoted economic liberalisation and a free market economy in line with the structural reforms supported by the World Bank and the IMF. These far-reaching reforms have helped streamline government structure and administration.

General elections are organized every 5 years. Currently, there are about 17 parties and the CCM still holds the presidential seat and makes up the majority of the parliamentary representatives. The Civic United Front (CUF) is the second and CHADEMA the third leading opposition parties. Tanzania has a five-level judiciary that combines the jurisdictions of tribal, Islamic, and British common law. The army is considered more or less apolitical.

In 2005, the fourth and current President of Tanzania, Jakaya Mrisho Kikwete (popularly referred to as JK) came to office for a five-year term. President Kikwete’s campaign slogan was “New Vigour, New Zeal, and New Speed: Promoting Better Life for all Tanzanians”. The majority of Tanzanians have been inspired by this and have rallied strongly behind the President. In 2006 President Jakaya Mrisho Kikwete was elected Chairman of the ruling political party (CCM) by its General Congress.

The CCM continues to dominate Tanzanian politics. Although Tanzania is considered to be politically stable, there have been episodes of considerable political violence over voting irregularities relating to the last two elections. In 2001, 30 people died in Zanzibar as a result of clashes between the police and the opposition party, CUF. Again in 2005, violent protest occurred which led to the United Nations offering to assist with next year's general elections. It is hoped that the UN Elections Support Project 2010 will further encourage implementation of fair and transparent elections.

Governance in Tanzania has seen major improvements since the liberalization of politics and introduction of reforms in the legal, public, local governance and public financial management sectors in the mid-1990s.
The governance reforms include:

- Reform of the public sector to promote an efficient and motivated public service
- Decentralization of decision-making to local councils and communities
- Development of effective and efficient service delivery in the agriculture, education and health sectors, and supporting development of basic infrastructure
- Development of a culture of accountability and transparency, through the implementation of the national anti-corruption strategy.
- Maintaining a stable fiscal position and using public resources more efficiently
- Building administrative capacity for improving development management
- Promoting the private sector (and restructuring the financial sector to respond to the needs of the private sector).

President Kikwete has assured Parliament of his commitment to good governance, public accountability, democracy, and respect for human rights. However, various corruption scandals in recent years have cast a serious shadow over Tanzania’s commitment to public accountability and transparency of central governance.

Tanzania has received a lot of support from the international community. This support has concentrated on the social sectors, public sector capacity building, civil service reform and governance issues. It has received debt relief under the HIPC (Highly Indebted Poor Countries) initiative. In total, debts worth over $6 billion have been cancelled. Despite this, Tanzania remains heavily dependent on foreign aid, receiving over US$1 billion dollars a year. One of Tanzania’s key challenges is to become more self-reliant through increased revenue effort and economic growth.

Sources:
http://www.tanzania.go.tz/profile1f.html
www.tanzania.org.za/economy.htm
http://www.parliament.go.tz
http://www.britannica.com/EBchecked/topic/423105/Julius-Nyerere
http://www.tz.undp.org/dg_proj_dg_intro.html
2. GOVERNMENT POLICIES AND PLANS FOR HEALTH

In Tanzania, a coherent system of Government policies, legislations, strategies and programmes is emerging, giving clear direction to development. Consistency between general and sectoral policies is increasing. Step-by-step, a national framework for monitoring economic and social development has been created into which sectors provide input. Devolution has had a large impact on the health sector, whereby Local Government Authorities have become responsible and the Ministry of Health has withdrawn from direct service provision at district and municipal level (1).

Tanzania’s development aspirations and priorities are outlined in three tiers:

- long-term, National Development Strategy Plan (Vision 2025)
- medium-term, for example the National Poverty Reduction Strategy
- specific sector or cross sector policies e.g the National Health Policy (2)

The National Development Strategy Plan (NDSP):

This is the over-arching strategy to guide socio-economic development in Tanzania. It directs all public policy to the reduction of poverty and the achievement of other MDGs. It is intended to align sector strategies towards a united vision.

Vision 2025

Vision 2025, formulated in 2000, was precipitated by the realisation that the policy reform process that began in the mid-1980s was not based on a nationally-owned long term development philosophy. Vision 2025 aims to transform Tanzania from a low-income country to a middle-income country with a high level of human development, free from abject poverty by 2025 (2). The overall emphasis is on achievement of a good quality of life and a country that is peaceful, stable and unified with good governance; good education; and a competitive economy with sustainable growth by the year 2025 (2). Vision 2025 emphasises that the improvement of the health sector is critical to attaining a high quality of life.

MKUKUTA

Tanzania started to address poverty as a major policy concern in 1996. (2) The concepts of earlier poverty reduction plans - National Poverty Eradication Strategy (NPES), Poverty Reduction Strategy Papers (PRSP) and Zanzibar Poverty Reduction Plan (ZPRP) - introduced the importance of strong principles of ownership and leadership participation, a multi-dimensional conception of poverty, and the linkage of poverty to debt relief (2). However, concerns were raised over the efficiency of the poverty programmes. The second-generation poverty plan, MKUKUTA, put more emphasis on economic growth and good governance and accountability as a means to reduce poverty.

The development priorities for Tanzania are summarized in the following three interlinked MKUKUTA clusters of poverty reduction outcomes (3):

- Strong economic growth as a reduction of income poverty
- Improved quality of life and social well being
- Good governance and accountability
The MKUKUTA is informed by Vision 2025 and provides the global direction for achievement of the Millennium Development Goals.

**National Health Policy**

The main objective of Tanzania's Health Policy is to improve the health and well-being of all Tanzanians. The National Health Policy, revised in 2007, provides the main strategic framework and policy detail for the Tanzanian health system. The stated aim is to provide long-term direction for achieving improvement and sustainability of the health status of all citizens. The main focus is on reducing disability, morbidity, and mortality, together with improving nutritional status and raising life expectancy. It aims to ensure equity, quality, and affordability in service provision (4).

Specifically the Government aims to (4):

- Provide high quality health care, thereby reducing morbidity and mortality (and increase life expectancy)
- Ensure that basic health services are available and accessible
- Prevent and control communicable and non-communicable diseases
- Educate citizens about prevention of disease
- Raise awareness on taking personal responsibility for health
- Improve partnerships between the public sector, private sector, religious institutions, civil society and the community in the provision of health services
- Plan, train, and increase the number of competent health staff
- Identify and maintain the infrastructures and medical equipment
- Review and evaluate health policy, guidelines, laws and standards for provision of health services.

**Government Reforms**

The Tanzanian health system has undergone vast change, including moving towards decentralized management and local participation in financing and governance of health services. There have been many financial reforms, such as the introduction of user fees (with exemptions for the vulnerable), national health insurance (NHIF) and community health funds (CHF) and public/private mix reforms such as encouraging the private sector to complement public health services. There have also been organisational reforms such as the integration of vertical health programmes into the general health services and improvements in funding and support for health research (5).

The Health Sector Reforms programme continues with further strengthening of Local Government Authorities and hospitals to improve their performance. In addition, the Primary Health Service Development Programme (MMAM) aims at improving accessibility and quality of the health services and the Human Resources for Health plan is aiming to increase staff numbers and capacity (1).

**Health Sector Strategic Plan (111) (2009-15) (1)**

The third phase plan was recently launched in July, 2009. It is entitled, “Partnerships for Delivering the MDGs”. It contains eleven priority strategies that will be implemented at three levels:

- district health services comprising the household and village
It highlights the importance of developing partnerships to help deliver high quality health services, equity and governance.

This strategic plan is therefore crucial to help Tanzania focus its efforts towards meeting the MDG’s by 2015. It aims to co-ordinate focus on (1):

- Increasing accessibility to District Health Services that provide a complete package of essential (especially preventative) health interventions
- Improving the hospital referral system
- Streamlining and decentralizing management
- Improving numbers and quality of human resources
- Increasing the viability of healthcare financing by increasing the health budget to 15% of the Government budget and continuing to increase coverage of health insurance schemes such as the Community Health Fund (and making it pro-poor)
- Encouraging Public-Private Partnerships as important for achieving health sector goals
- Addressing priority reproductive and MCH health interventions through the One Plan for Maternal and Child Health (MNCH)
- Disease control programmes (especially HIV/AIDS, Malaria, TB)
- Emergency Preparedness
- Social Welfare
- Monitoring and Evaluation to help improve evidence-based decision making and enhance public accountability
- Capital Investments: medicines and medical supplies

Cross-cutting issues that will also be addressed include:

- Quality Improvement in service delivery
- Equity needs especially for vulnerable groups
- Gender-specific health needs
- Community ownership of health
- Coherence between health reforms and health programmes in order to increase efficiency

References:

5) Tanzania National Website http://www.tanzania.go.tz/healthf.html
4. HOW THE HEALTH CARE SYSTEM IS PAID FOR

Financing, is vital to the viability and equity of the health system, and affects healthcare utilisation and access. Currently, healthcare is funded in several ways. These include:

- public (government) financing
- donor funding
- user fees
- NGOs
- various pre-payment schemes, as well as health insurance such as the NHIF (National Health Insurance Fund), which covers the formal sector, and the community-based CHF (Community Health Fund), which covers the informal sector

a) Public financing

Government funding is mainly through taxation. Tanzania has a narrow tax base and weak tax administration. The government budget allocation from tax is around 22% of total health care expenditure.

Over time there has not been a substantial increase in the proportion of government expenditure devoted to the health sector. In 2007/8 the proportion was 10%. This amount is below the recommended target of 15% in the Abuja declaration. Increased pressure was put on the Government to increase budget allocation to health in 2008/9 to 11%. In line with this, per capita government spending on health is also increasing. Currently, per capita public health expenditure is approximately $45 (WHO 2006), which is extremely low compared to the UK which spends approximately $2784 per capita (WHO 2006).

b) Donor funding

A substantial proportion of the budget for the health sector comes from development partners who provide financing through basket funding and other project funding. The donor share of health financing in Tanzania is estimated to be about 23% -25% of the total.

c) User Fees

In common with many countries in Africa, nearly half (47%) of health system financing comes from households in the form of user fees. There is a large willingness to pay for healthcare that is good quality. User fees have a current role in Tanzania for increasing resources, financial sustainability, and maintaining community control of healthcare. They also increase personal responsibility, reduce healthcare inefficiency eg frivolous visits, over prescription and overuse of pharmaceuticals (6).

However, user fees have not led to improvements in equity, access or quality of healthcare. What they have done is to contribute to what can be catastrophic out-of-pocket spending and impoverishment (5). Although, exemptions are available to protect the vulnerable against this (these apply to maternal and child health services (including immunizations), endemic diseases, cancer, AIDS and the over 60’s (5)), they are poorly implemented and often fail to protect those who really need them (5).

d) NGOs

NGOs contribute about 5% of total health system finance in Tanzania.
e) Health Insurance

Contributions by firms, in the form of contributions to private health insurance, account for only about 3% of total health sector financing. Individual purchase of private health insurance forms a very small proportion of overall health financing in Tanzania. Health insurance was introduced to shift the financial burden away from individual patients to the community. It was hoped that the Community Health Fund would improve healthcare inequities, such as access to services, reduce very high personal spending on health and also reduce the burden of illness (5).

However, despite the introduction of the various insurance style mechanisms for the formal and informal sector, there still exist major inequities in both the contribution rate and access to health care. This leaves the vast majority of people still with limited access to health care and the prospect of potentially catastrophic out of pocket payments (5).
4. HOW HEALTH SERVICES ARE PROVIDED

Background

The millennium development goals have led to increased monitoring of health targets showing that the Tanzanian health care system has made significant strides over the last ten years.[1] The country copes with high morbidity in the population, with more than 28% of the population reporting illness or injury every four weeks and has achieved relatively high utilization levels with 67% of this presenting to a government facility.[2]

Public expenditure on health doubled between 2000 and 2004 and child mortality fell by 24%.[3] Whilst making major improvements, they, like other African countries, have been overwhelmed by the HIV (estimated at 7% prevalence) and TB epidemics. Infant and maternal mortality are the other urgent problems; only 27% of mothers in rural areas deliver at Health Facilities.[1]

Policies such as the adoption of the Integrated Management of Childhood Illness (IMCI) and the decentralisation of health care to District Medical Officers (DMO) have been crucial along with major recent public health measures such as the distribution of insecticide treated nets and improvements in the vaccination programme (HiB (hepatitis B) is the most recent addition).[3]

Staffing

Tanzania has four doctors to 100,000 of the population which is one of the lowest rates worldwide. A combination of poor planning and physician migration to developed countries and urban centres is responsible. To address this issue Tanzania has focused on intermediate grade physicians who work as doctors but as they are not qualified to work abroad, can be more evenly distributed and staff the rural district hospitals.[4]

Out of 48, 508 Health care workers nationally, approximately 7000 of these are termed ‘doctors’. The vast majority of these (80%) are Clinical Officers (COs) who have had three years of training. The remaining doctors are made up of Assistant Medical Officers (AMOs), who have had an additional two years of training after a period of clinical officer work; and Medical Officers (MOs) who are doctors with a conventional, internationally recognised medical degree. This training structure means there is a variety of knowledge but generally good competence in clinical skills. Medical assistants form 40% of the health care workforce and have little or no formal training.[5] [6]

Infrastructure

There are four major referral hospitals, one to cover each zone of the country; North, East, South and West. Tabora and the Western zone refers to Bugando Hospital in Mwanza. The mainland is divided into 21 regions and 125 districts and nationally there are 17 government funded Regional hospitals and 55 District hospitals that are dual funded by the government and churches/missionaries. Below district hospitals, health centres, dispensaries and village health posts provide care to more rural communities.[7] These peripheral centres have historically been poorly funded.

Recent health sector reform has led to changes in the funding process with funding being decentralised out to District level. Tanzania has a ‘user fee’ payment for health system from which children under five years old and pregnant women are exempt. To ensure equitable access policies such as community health funds (CHF) have developed, where groups of families pay regular small quantities as insurance to cover its members.
Ninety percent of the population is said to be within one hour of a government health service. If accurate, this would be significantly better than many other developing countries.[2] In an obstetrics survey in Tabora half the women reported living two or more hours walking distance from the closest facility.[8] Access is still a problem due to poor transport links and quality of rural health facilities is questionable. Over-the-counter drugs are increasingly available in rural settings through private pharmacies, shops and kiosks [2] but the World Health Organisation suspects 30% of these circulating medicines to be counterfeit.

**Traditional healers**

Tanzanians have a dual system of health care and beliefs, with modern biomedical health care (the term western is generally avoided because of colonial connotations) and traditional healers operating alongside each other. After years of biomedicine trying unsuccessfully to sideline Traditional Healers collaborative partnerships are now suggested.[9, 10]

Traditional healers are far more accessible (1 to 200 of population), more familiar and trusted and offer easier payment plans for some rural populations i.e. non monetary but payment with grown produce etc. In the case of stroke and HIV the social support and continued care a traditional healer can offer is now being appreciated.

Traditional healers undoubtedly do provide treatments of recognised benefit. Plant remedies have been shown to have antimalarial and antiepileptic effects, with artemisinin being locally grown.[11, 12]

Essentially traditional healers are increasingly recognised and professional associations have been developed.

**Relationship between biomedical health care and traditional medicine - The Albino Murder Trials**

The recent increase in the ongoing problem of ‘killing albinos’ has incensed the government’s relationship with traditional medicine. It is estimated that up to one in 1400 of the population has albinism and with the genetic causes poorly understood, traditional myths and superstitions predominate. It is still seen as a punishment from the gods and a curse on the family.[13] ‘Witch doctors’ use albino body parts as magic charms which reportedly give success in business, money and love. Some fishermen believe that, if they weave the red hair from an albino into their nets, fish will be attracted by the golden glimmer. In the last few years the killing of albinos has increased possibly during times of hardship as people try to make their success in the mining and fishing industries. Families are having to bury their loved ones in concrete to stop their remains being exhumed. In January the government revoked the licenses of traditional healers after the 40th albino murder in 18 months, mainly around Lake Victoria and Tabora regions. Most traditional healer associations defied the ban. The albino murder trials started in June and are ongoing. (The latest reports can be found on ‘The Citizen’ news website for Tanzania or on BBC Africa.)
5. SOME CHALLENGES FACING THE HEALTH CARE SYSTEM

Access to good quality health care

The Tanzanian government, with donor assistance, has built a good network of health services. This has led to better access, since distances to healthcare facilities have been reduced.

However, resources are still directed predominantly to the hospital level for curative services, even though lower-level care and prevention is seen as a priority.

The basic rural health services suffer from poor equipment, lack of drugs, vaccines, and poor salaries for staff. As a consequence, patients typically bypass lower-level health facilities in favour of hospitals, to receive high quality care (Social Sector Review).

So it is imperative that the quality of rural healthcare services is maximised so that costs can be contained and access be equal.

Workforce capacity

The size of the healthcare workforce is small in Tanzania.

The availability of total health personnel is only 0.02/1000 population (9). In the UK, the number of nurses and midwives is 11.9/1000 population and doctors 2.45/1000 population (OECD, 2006). The World Health Organization says that countries without 2.3 doctors/nurses/midwives per 1000 population are very unlikely to achieve the Millennium Development Goals.

There is a huge health worker crisis as the number of staff has fallen dramatically over last 10 years. 10,000 more workers are needed to address the rising needs of HIV/AIDS patients and three times that number to meet the UN's Millennium Development Goals. Improving the productivity of individual health care workers and of the health care system as a whole could increase its capacity by two-thirds, even without additional staff (10).

Leadership and Management

It will take high quality leadership and good management skills to tackle the problems that Tanzania faces.

Recently, a number of strategies have been put forward for improving health services, increasing transparency, reducing corruption and strengthening health systems. These include decentralisation of management and resource generation and public-private partnerships (PPPs), e.g. Tanzania Care (14). These will help bridge the financial, management and skill gap that exists in health service delivery.

Any system would also benefit from a better network of data collection needed to calculate burden of disease at local level to determine policy and resource allocation, and then to track progress.

Evidence based decision-making

Where there are many competing problems but scarce resources, it is vital that to take account of economic evaluation to help decide how best to allocate funds.
Decision-making should be systematic and based on evidence, rather than on the basis of historical or political patterns which can lead to suboptimal use of resources (11). Interventions that produce the greatest value for money should be given the greatest priority (11). An additional benefit to this approach is that foreign investors are more likely to invest if economic evaluation has been done.

Evidence of the effectiveness of health care interventions is growing and, where available, e.g. HIV/AIDS, malaria, maternal health are being implemented.

More economic evaluations will provide a better basis for determining policy and resource allocation that ultimately will improve health in Tanzania (11). Setting priorities in alignment with evidence is the key to using scarce resources as efficiently as possible. Some current priorities include:

- More resources for HIV/maternal (antenatal) health care
- Increasing public/private partnerships to improve community management and governance (13)
- National resources - human, financial and materials including essential medical equipment and medicines - are still quite insufficient to ensure availability of and access to essential health services of good quality (13).
- Making financing exemption mechanisms really pro-poor and improving coverage of CHF
- Data collection should be improved to help implement evidence-based prioritisation (13)
- Providing accessible, quality, well-supported, cost-effective, rural primary care health services (13)

References:

http://uk.oneworld.net/guides/tanzania/development?PrintableVersion=enabled


http://www.mdgmonitor.org/factsheets_00.cfm?c=TZA


APPENDICES
1. MILLENIUM DEVELOPMENT GOALS, TARGETS AND INDICATORS

(Source: Millennium Project: http://www.unmillenniumproject.org/index.htm)
(See also the Millennium Development Goals Indicators – official site
http://millenniumindicators.un.org/unsd/mdg/default.aspx)

In order to focus effort, targets for achievement by 2015 have been identified for each of the 8 Millennium goals. There are 18 targets in all.

In order to know whether or not a target has been achieved, indicators that are quantifiable have been identified for each of the targets. There are 48 indicators in all.

Goal 1: Eradicate Extreme Hunger and Poverty

<table>
<thead>
<tr>
<th>Target 1.</th>
<th>Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day</th>
</tr>
</thead>
</table>
| Indicators | 1. Proportion of population below $1 (1993 PPP) per day (World Bank) a*  
2. Poverty gap ratio [incidence x depth of poverty] (World Bank)  
3. Share of poorest quintile in national consumption (World Bank) |

<table>
<thead>
<tr>
<th>Target 2.</th>
<th>Halve, between 1990 and 2015, the proportion of people who suffer from hunger</th>
</tr>
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</table>
| Indicators | 4. Prevalence of underweight children under five years of age (UNICEF-WHO)  
5. Proportion of population below minimum level of dietary energy consumption (FAO) |
Goal 2: Achieve Universal Primary Education

Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Indicators

6. Net enrolment ratio in primary education (UNESCO)
7. Proportion of pupils starting grade 1 who reach grade 5 (UNESCO) $b^*$
8. Literacy rate of 15-24 year-olds (UNESCO)

Goal 3: Promote Gender Equality and Empower Women

Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015

Indicators

9. Ratio of girls to boys in primary, secondary and tertiary education (UNESCO)
10. Ratio of literate women to men, 15-24 years old (UNESCO)
11. Share of literate women in wage employment in the non-agricultural sector (ILO)
12. Proportion of seats held by women in national parliament (IPU)
Goal 4: Reduce Child Mortality

**Target 5.** Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

**Indicators**

13. Under-five mortality rate (UNICEF-WHO)
15. Proportion of 1 year-old children immunized against measles (UNICEF-WHO)

Goal 5: Improve Maternal Health

**Target 6.** Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio

**Indicators**

17. Proportion of births attended by skilled health personnel (UNICEF-WHO)

Goal 6: Combat HIV/AIDS, Malaria and other diseases

**Target 7.** Have halted by 2015 and begun to reverse the spread of HIV/AIDS

**Indicators**

18. HIV prevalence among pregnant women aged 15-24 years (UNAIDS-WHO-UNICEF)
19. Condom use rate of the contraceptive prevalence rate (UN Population Division)
19a. Condom use at last high-risk sex (UNICEF-WHO)
19b. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS (UNICEF-WHO) d*
19c. Contraceptive prevalence rate (UN Population Division)
20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years (UNICEF-UNAIDS-WHO)

**Target 8.** Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

**Indicators**

21. Prevalence and death rates associated with malaria (WHO)
22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures (UNICEF-WHO) e*
23. Prevalence and death rates associated with tuberculosis (WHO)
24. Proportion of tuberculosis cases detected and cured under DOTS (internationally recommended TB control strategy) (WHO)

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**Goal 7: Ensure Environmental Sustainability**

**Target 9.** Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources

**Indicators**

25. Proportion of land area covered by forest (FAO)
26. Ratio of area protected to maintain biological diversity to surface area (UNEP-WCMC)
27. Energy use (kg oil equivalent) per $1 GDP (PPP) (IEA, World Bank)
28. Carbon dioxide emissions per capita (UNFCCC, UNSD) and consumption of ozone-depleting CFCs (ODP tons) (UNEP-Ozone Secretariat)
29. Proportion of population using solid fuels (WHO)

**Target 10.** Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

**Indicators**

30. Proportion of population with sustainable access to an improved water source, urban and rural (UNICEF-WHO)
31. Proportion of population with access to improved sanitation, urban and rural (UNICEF-WHO)

**Target 11.** Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers

**Indicators**
Goal 8: Develop a Global Partnership for Development

**Target 12.** Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system (includes a commitment to good governance, development, and poverty reduction—both nationally and internationally)

**Target 13.** Address the special needs of the Least Developed Countries (includes tariff- and quota-free access for Least Developed Countries’ exports, enhanced program of debt relief for heavily indebted poor countries [HIPCs] and cancellation of official bilateral debt, and more generous official development assistance for countries committed to poverty reduction)

**Target 14.** Address the special needs of landlocked developing countries and small island developing states (through the Program of Action for the Sustainable Development of Small Island Developing States and 22nd General Assembly provisions)

**Target 15.** Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term

**Indicators**

**Official development assistance (ODA)**

33. Net ODA, total and to LDCs, as percentage of OECD/Development Assistance Committee (DAC) donors’ gross national income (GNI) (OECD)

34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) (OECD)

35. Proportion of bilateral ODA of OECD/DAC donors that is untied (OECD)

36. ODA received in landlocked developing countries as a proportion of their GNIs (OECD)

37. ODA received in small island developing States as proportion of their GNIs (OECD)

**Market access**

38. Proportion of total developed country imports (by value and excluding arms) from developing countries and from LDCs, admitted free of duty (UNCTAD, WTO, WB)

39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries (UNCTAD, WTO, WB)

40. Agricultural support estimate for OECD countries as percentage of their GDP (OECD)

41. Proportion of ODA provided to help build trade capacity (OECD, WTO)
Debt sustainability

42. Total number of countries that have reached their Heavily Indebted Poor Countries Initiative (HIPC) decision points and number that have reached their HIPC completion points (cumulative) (IMF - World Bank)

43. Debt relief committed under HIPC initiative (IMF-World Bank)

44. Debt service as a percentage of exports of goods and services (IMF-World Bank)

Some of the indicators listed below are monitored separately for the least developed countries, Africa, landlocked developing countries, and small island developing states

Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth

Indicators

45. Unemployment rate of young people aged 15-24 years, each sex and total (ILO)

Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries

Indicators

46. Proportion of population with access to affordable essential drugs on a sustainable basis (WHO)

Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technology

Indicators

47. Telephone lines and cellular subscribers per 100 population (ITU)

48. Personal computers in use per 100 population and Internet users per 100 population (ITU)
Reports of the Thematic Task Forces for the MDGs

The world already has the technology and know-how to solve most of the problems faced in the poor countries.

The report of the Millennium Project in 2005 proposed straightforward solutions for meeting the Millennium Development goals by 2015. The bulk of the work for the report was carried out by 10 thematic task forces comprising a total of more than 250 experts from around the world including: researchers and scientists; policymakers; representatives of NGOs, UN agencies, the World Bank, IMF and the private sector. From 2002 through 2005, the Task Forces conducted extensive research within their fields of expertise to produce recommendations for meeting the Millennium Development Goals.

The ongoing work of the Project was led by a secretariat housed at UNDP headquarters in New York. As of Jan. 1, 2007, the Millennium Project's work was incorporated into the Bureau for Development Policy under the leadership of the United Nations Development Program, forming the MDG Support group, which works at the regional, national and global level to support the preparation and implementation of MDG-based national development strategies.

The reports of the 10 thematic Task Forces can be found at the following websites:

1. Hunger – Halving Hunger – can be done

   http://www.unmillenniumproject.org/reports/tf_hunger.htm

2. Education and Gender Equality – Towards Universal Primary Education:
   investments, incentives and institutions

   http://www.unmillenniumproject.org/reports/tf_education.htm

3. Education and Gender Equality – Taking action: achieving gender equality and empowering women

   http://www.unmillenniumproject.org/reports/tf_gender.htm

4. Child Health and Maternal Health – Whose got the power: transforming health systems for women and children

   http://www.unmillenniumproject.org/reports/tf_health.htm

5. HIV/AIDS, Malaria, TB and access to essential medicines, working group on Malaria – Coming to grips with malaria in the new millennium

   http://www.unmillenniumproject.org/reports/tf_malaria.htm
6. HIV/AIDS, Malaria, TB and access to essential medicines, working group on TB – Investing in strategies to reverse the global incidence of TB
   http://www.unmillenniumproject.org/reports/tf_tb.htm

7. HIV/AIDS, Malaria, TB and access to essential medicines, working group on access to essential medicine – Prescription for healthy development: increasing access to medicines
   http://www.unmillenniumproject.org/reports/tf_essentialmedecines.htm

8. Environmental Sustainability - Environment and human wellbeing: a practical strategy
   http://www.unmillenniumproject.org/reports/tf_environment.htm

9. Water and Sanitation – Health, dignity and development: what will it take?
   http://www.unmillenniumproject.org/reports/tf_watersanitation.htm

10. Improving the lives of slum dwellers – a home in the city
    http://www.unmillenniumproject.org/reports/tf_slum.htm

11. Trade for development
    http://www.unmillenniumproject.org/reports/tf_trade.htm

12. Science, technology and innovation - Innovation: Applying knowledge in development
    http://www.unmillenniumproject.org/reports/tf_science.htm
UK Department for International Development: Country Assistance Plan

The United Nations’ eight Millennium Development Goals (MDGs) include three goals explicitly related to health: to reduce child death rates; improve the health of mothers; combat HIV and AIDS, malaria and other diseases.

The UK Department for International Development (DFID) supports these goals as part of its wider aim to help tackle the underlying causes of poverty. Country Assistance Plans set out how DfiD aims to contribute to the achievement of the Millennium Development Goals in various countries.

The plan is set against and contributes to key policy statements from the Tanzanian government including the Tanzania’s National Strategy for Growth and Reduction of Poverty (MKUKUTA), and the Joint Assistance Strategy for Tanzania (JAST) to make aid more effective.

The Country Assistance Plan sets out six medium-term programmatic changes (MTCs) thought to be necessary in order to make significant progress towards the MDGs. They are:

1. Promoting broad-based and sustained growth;
2. Assisting the Government of Tanzania to develop policy, planning and resource allocation decisions that are better aligned and evidence-based;
3. Increasing the capacity and effectiveness of government to provide improved services;
4. Enabling all Tanzanians, particularly the poor and vulnerable, to increasingly access quality basic services and social protection measures;
5. Enabling Tanzanians to claim and exercise their rights as citizens, including through a strengthened civil society;
6. Contributing to a step-change in the efficiency and effectiveness of the international system in Tanzania.

DFID’s main contribution in Tanzania is not on specific health issues, which it actively encourages others to lead on. Instead, it provides support on other areas that are important to health e.g. water and sanitation and food security.

The Department has supported the Water Sector Development Programme (WSDP) is a sector-wide programme that integrates water supply, sanitation, and water resources management and integrates water resources management with urban and rural water supply objectives. The programme proposes an investment of around US$90 million up until 2010 to utilise water resources more effectively.

Food insecurity and the inability to withstand shocks such as drought is a critical problem for many Tanzanians. DFID has discussed the need to develop a plan for mitigating the effects of regular droughts and food shortages with government and will consider providing support to such plans either at country level, or as part of a wider East Africa response.
Political Map of Tanzania
MATERNAL MORTALITY AND WHAT WORKS TO REDUCE IT

THE IMPORTANCE OF THE HEALTH OF WOMEN

The role of women in the survival of children and in the national economy is very significant

- A newborn baby is three to 10 times more likely to die within its first two years without its mother
- In rural Africa it is women who carry two-thirds of all goods that are transported – not trucks or planes. (In South East Asia it is women who provide 90% of the labour for rice cultivation.)


MATERNAL MORTALITY AND MILLENNIUM DEVELOPMENT GOAL 5

99% of maternal deaths occur in developing countries

The Millennium Development Goal 5 is to improve maternal health. This has recently been refined and updated. The Targets now are:

5A To reduce by three quarters, between 1990 to 2015, the maternal mortality ratio

5B To achieve, by 2015, universal access to reproductive health

Indicators used to measure these are:

5.1 Maternal mortality ratio 1500 in 2000 and 950 in 2005
5.2 Proportion of births attended by skilled health personnel (43% in 2004)
5.3 Contraceptive Prevalence Rate (26.4% in 2005)
5.4 Adolescent birth rate (Adolescent fertility rate 139% in 2003)
5.5 Antenatal care coverage (at least one visit and at least four visits) 62% had at least four visits in 2004)
5.6 Unmet need for family planning
   (new additions in italics)

Reducing Maternal Mortality in Developing Countries

The 1999 Joint Statement of the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children’s Fund (UNICEF), and The World Bank based on 12 years of implementing Safe Motherhood that identified the following as the main causes of death in developing countries.

Key elements of this were:

80% of all maternal deaths world-wide are the direct result of complications arising during pregnancy, delivery, or the first six weeks after birth.

- The five main causes of maternal mortality are haemorrhage – responsible for about a quarter of all maternal deaths –infections, high blood pressure, obstructed labour and unsafe abortion. The last condition, unsafe abortion,
accounts for more than a third of maternal deaths in some parts of the world.

20% of maternal deaths are the result of pre-existing health conditions that are exacerbated by pregnancy or its management.

- One of the most significant of these indirect causes of death is anaemia. Other important indirect causes of death include malaria, hepatitis, heart disease and, increasingly in some settings, HIV/AIDS.

It went on to identify three key areas for action.

**Social status of women:**

Safe motherhood can be advanced through respecting existing human rights, through empowering women to make choices in their reproductive lives with the support of their families and communities.

> The report noted that the low social status of women in developing countries is an important factor underlying maternal mortality. Low social status limits women’s access to economic resources and basic education, impeding their ability to make informed decisions on childbearing, health and nutrition. Poor nutrition before and during pregnancy contributes to poor health, obstetric problems, and poor pregnancy outcomes for both women and their newborns.

**Attended skilled delivery:**

The access to and quality of maternal health services need to be improved. All deliveries should be overseen by skilled attendants and essential care should be available when obstetric complications arise.

The joint Statement indicated that a ready supply of health providers with essential midwifery skills, backed up by referral services for complications, is critical in preventing maternal deaths.

> When the joint Statement was made only 53% of deliveries in developing countries were attended by a health professional, and only 40% took place in a hospital or health centre. Some 15% of women who become pregnant experience life-threatening complications that require emergency care. Some 40% of pregnant women need professional care for a pregnancy-related complication.

**Preventing unwanted pregnancies:**

Women need to be able to choose if and when to become pregnant, through ensured access to voluntary family planning information and services.
As many as half of all pregnancies are unplanned and a quarter are unwanted. Prevention of unwanted pregnancies is one of the key strategies for reducing maternal mortality. Thus, in addition to midwifery and referral services, there is also a need to provide client-centred family planning services with safe and effective contraceptive methods and counselling.

"Motherhood cannot be safe until women are allowed to be more than mothers and properly valued and respected by their families and by society," said Dr Nafis Sadik, Executive Director of UNFPA. "Discrimination against women and girls in terms of nutrition, health care, education, and employment opportunities must be eliminated, and access to reproductive health, including family planning information and services, must be guaranteed."

POLICY OF THE UK DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

DfID works with several countries around the world. Its general approach is consistent with the evidence of effectiveness and the 1999 Joint Statement of the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children’s Fund (UNICEF), and The World Bank based on 12 years of implementing Safe Motherhood.

The Maternal Health Strategy of the Department for International Development sets out what the contribution that the UK Government will make. This can be summarized as follows:

- **Health systems strengthening**: To provide the life-saving emergency obstetric care that an estimated 15% of all pregnant women will need requires a functioning health system. This includes: human resources (particularly midwifery but also referral level skills such as obstetric surgery and anesthesia); essential drugs and supplies; infrastructure (hospitals, clinics); transport and communications for referral; power, water and sanitation. Our support to health systems strengthening is increasingly funded through budget support in stable environments and through a range of instruments in fragile states. There is an opportunity to maximise our investments by improving data availability and using progress on maternal health as an indicator of overall health systems improvement.

DfID’s priorities are to increase:

- aid to build up effective health services and systems.

- investment in the health workforce to ensure there are at least 2.3 trained health workers per 1,000 population by 2015 – this will enable 80% of deliveries to be attended by a skilled birth attendant (SBA).

- **Family planning**: An estimated 32% of maternal deaths could be averted through family planning. It is one of the most cost-effective interventions in public health. Research has shown that every US$ 1 million spent on family planning can avert 360,000 unwanted pregnancies, prevent 150,000 induced abortions and save the lives of 800 mothers and 11,000 infants.

DfID’s priority is to
• increase international efforts to halve unmet need for family planning (including for male and female condoms) by 2010, and provide universal access to family planning by 2015.

• Preventing unsafe abortion: 13% of all maternal deaths are caused by unsafe abortion – this means that around 70,000 women (often the youngest and most vulnerable) are dying needlessly each year. Abortion remains one of the most politically contentious issues of our time and extreme divisions of views on women’s reproductive rights have constrained an effective global response. DFID is one of the few donors to actively support efforts to prevent unsafe abortion and plays a leading role in focussing attention – and challenging policies – on the issue; most recently at the Global Safe Abortion Conference in October 2007. DFID has provided £4m to the Safe Abortion Action Fund (SAAF) and a £6.5 million contribution to IPAS.

• Sexual and reproductive health (SRH): Universal access to SRH services (particularly for adolescents) would significantly improve maternal health. Maternal death is the leading cause of death for girls aged 15-19 in the developing world. The integration of SRH with HIV and AIDS services would also reduce maternal mortality. An HIV-infected pregnant woman is four to five times more likely to die in childbirth than one who is not infected.

Maternal mortality and the poor

The burden of maternal mortality is borne disproportionately by the poor. The removal of financial barriers to delivery and emergency care is considered to be essential if MDG 5 is to be attained and the UK government is committed to helping these to be abolished. The removal of fees for delivery and emergency obstetric care – when addressed alongside out of pocket expenses and poor quality of care – is urgently needed (IMMPACT 2007).

Reducing Maternal Mortality in the UK


Definitions

Maternity: Maternities are defined as the number of pregnancies that result in a live birth at any gestation or stillbirths occurring at or after 24 weeks’ completed gestation.

Maternal Mortality: The ninth and tenth revisions of the International Classification of Diseases, Injuries and Causes of Death, (ICD9/10) define a maternal death as “the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes”.

Maternal Mortality Ratio: The international definition of the maternal mortality ratio (MMR) is the number of Direct and Indirect (see below) deaths per 100,000 live births.
Other related definitions

**Direct** * Deaths resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above.

**Indirect** * Deaths resulting from previous existing disease, or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by the physiologic effects of pregnancy.

**Late** * Deaths occurring between 42 days and one year after abortion, miscarriage or delivery that are due to **Direct** or **Indirect** maternal causes.

**Coincidental (Fortuitous)** *** Deaths from unrelated causes which happen to occur in pregnancy or the puerperium.

**Pregnancy-related deaths** * Deaths occurring in women while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of the death.

† This term includes delivery, ectopic pregnancy, miscarriage or termination of pregnancy.

* ICD 9

** ICD 10

*** ICD 9/10 classifies these deaths as **Fortuitous** but the Enquiry prefers to use the term **Coincidental** as it is a more accurate description. The Enquiry also considers deaths from **Late Coincidental** causes.

Maternal Mortality Rates in England

A maternal death is rare in England and the maternal mortality rate 2003 – 2005 is low at around 7/100,000 maternities. (The rate used here is that recorded from death certification.)

In the UK important causes of maternal death were:

- More than half of all the women who died from **Direct** or **Indirect** causes, for whom information was available, were either overweight or obese. More than 15% of all women who died from **Direct** or **Indirect** causes were morbidly or super morbidly obese.
- The commonest cause of **Direct** death was again thromboembolism. Despite apparent slight rises in rates of death from thromboembolism, pre-eclampsia/eclampsia and genital tract sepsis and apparent slight declines in rates of death from haemorrhage and direct uterine trauma, none of these differences were statistically significant. There has also been an apparently inexplicable rise in deaths from amniotic fluid embolism, a rare and largely unavoidable condition.
- Cardiac disease was the most common cause of **Indirect** deaths as well as of maternal deaths overall. In the main this reflects the growing incidence of acquired heart disease in younger women related to less healthy diets, smoking, alcohol and the growing epidemic of obesity.
Reproductive health indicators in Tanzania

<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptive use</td>
<td>Any contraceptive use (%) (a)</td>
<td>-</td>
<td>-</td>
<td>25.4(1)</td>
</tr>
<tr>
<td></td>
<td>Modern methods a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condom use (%)</td>
<td>-</td>
<td>-</td>
<td>2.7(1)</td>
</tr>
<tr>
<td></td>
<td>Intrauterine device (%)</td>
<td>-</td>
<td>-</td>
<td>0.4(1)</td>
</tr>
<tr>
<td></td>
<td>Injectable or implant (%)</td>
<td>-</td>
<td>-</td>
<td>6.3(1)</td>
</tr>
<tr>
<td></td>
<td>Pill (%)</td>
<td>-</td>
<td>-</td>
<td>5.3(1)</td>
</tr>
<tr>
<td></td>
<td>Sterilization (%)</td>
<td>0.0(1)</td>
<td>2.0(1)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Vaginal barrier method (%)</td>
<td>-</td>
<td>-</td>
<td>0.0(1)</td>
</tr>
<tr>
<td></td>
<td>Other modern methods (%)</td>
<td>-</td>
<td>-</td>
<td>0.0(1)</td>
</tr>
<tr>
<td></td>
<td>Total prevalence of modern methods,(%)</td>
<td>-</td>
<td></td>
<td>16.9(1)</td>
</tr>
<tr>
<td>Traditional methods (a)</td>
<td>Withdrawal (%)</td>
<td>-</td>
<td>-</td>
<td>3.5(1)</td>
</tr>
<tr>
<td></td>
<td>Rhythm (%)</td>
<td>-</td>
<td>-</td>
<td>2.2(1)</td>
</tr>
<tr>
<td></td>
<td>Other traditional method (%)</td>
<td>-</td>
<td>-</td>
<td>2.9(1)</td>
</tr>
<tr>
<td>Age at first marriage</td>
<td>Average age first marriage (b)</td>
<td>25.0(2)</td>
<td>20.5(2)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Age specific percentage of ever married (b)</td>
<td>3.4(2)</td>
<td>25.4(2)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Ages 15-19</td>
<td>29.5(2)</td>
<td>75.5(2)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Ages 45-49</td>
<td>97.1(2)</td>
<td>99.3(2)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Difference in average age at first marriage between men and women (b)</td>
<td>-</td>
<td>-</td>
<td>4.5(2)</td>
</tr>
<tr>
<td>Married or in Union</td>
<td>Women aged 15-49, married or in union (in thousands) (a)</td>
<td>-</td>
<td>-</td>
<td>5850(3)</td>
</tr>
</tbody>
</table>

Year of estimation: 1=1999; 2=1996; 3=2005

**Data sources:**


# Access to Care and Treatment for HIV/AIDS

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Tanzania (United Republic of)</th>
<th>Sub-Saharan Africa (R-1)</th>
<th>World</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of pregnant women tested for HIV (Est %)</td>
<td>2007</td>
<td>33</td>
<td>nd</td>
<td>nd</td>
<td>UNAIDS/UNICEF/WHO Progress Report, 2008</td>
</tr>
<tr>
<td>Percentage of HIV-infected pregnant women who received ARVs for PMTCT (Est %)</td>
<td>2007</td>
<td>32</td>
<td>34</td>
<td>nd</td>
<td>UNAIDS/UNICEF/WHO Progress Report, 2008</td>
</tr>
<tr>
<td>Coverage of antiretroviral therapy (I-20) (Est. %)</td>
<td>December 2007</td>
<td>31</td>
<td>30</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
<tr>
<td>Number of people receiving antiretroviral therapy (I-21) (Est)</td>
<td>December 2007</td>
<td>136,000</td>
<td>2,120,000</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
<tr>
<td>Percentage of population living in areas with DOTS coverage (I-22)</td>
<td>2006</td>
<td>100</td>
<td>nd</td>
<td>93</td>
<td>WHO TB Control Report, 2008</td>
</tr>
<tr>
<td>Number of TB cases registered for treatment under DOTS (I-23)</td>
<td>2006</td>
<td>59,282</td>
<td>nd</td>
<td>5,274,133</td>
<td>WHO TB Control Report, 2008</td>
</tr>
<tr>
<td>Number of people needing antiretroviral therapy (Est)</td>
<td>December 2007</td>
<td>440,000</td>
<td>7,000,000</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
<tr>
<td>Number of HIV-infected pregnant women needing ARVs for PMTCT (I-24)</td>
<td>2007</td>
<td>100,000</td>
<td>1,300,000</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Percentage of infants born to HIV-infected women who were born to women receiving ARVs (I-25) (Est %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reported number of pregnant women living with HIV who received ARVs for PMTCT (I-26)</td>
<td>2006 or 2007</td>
<td>31,863</td>
<td>446,000</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
<tr>
<td>Reported number of children (0-14 years) receiving ART</td>
<td>2006 or 2007</td>
<td>11,176</td>
<td>157,968</td>
<td>nd</td>
<td>WHO/UNAIDS/UNICEF Progress Report, 2008</td>
</tr>
</tbody>
</table>

Completed, September, 2009