



Development
Progress

Case Study Report

Health



AGAINST THE ODDS Mozambique's gains in primary health care

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Cover image: A newborn is weighed before being vaccinated in the vaccination section of the Manhica Health Centre. (Manhica, Mozambique, 2007) Photo: © Gates Foundation

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Abbreviations and acronyms

APE	Agentes Polivalentes Elementare	MDG	Millennium Development Goal
ARI	Acute respiratory infections	MISAU	Ministério da Saúde
CHW	Community health workers	MMEIG	Maternal Mortality Estimation Interagency Group
DHS	Demographic and Health Survey	MMI	Model Maternity Initiative
DPT3	Diphtheria, pertussis and tetanus	MMR	Maternal mortality ratio
FRELIMO	Mozambique Liberation Front	NGO	Non-governmental organisation
GDP	Gross domestic product	NPHHRD	National Plan for Health Human Resources Development
GNI	Gross national income	ODI	Overseas Development Institute
GPA	General Peace Accord	ONUMOZ	United Nations Operation in Mozambique
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria	PESS	Plano Estrategico do Sector da Saude
HSRP	Health Sector Recovery Program	RENAMO	Mozambican National Resistance Front
IANC	Integrated Antenatal Care Program	SAP	Structural adjustment programme
IHME	Institute for Health Metrics and Evaluation	SBA	Skilled birth attendant
IMF	International Monetary Fund	SISTAFE	Sistema da Administração Financeira do Estado
IMR	Infant mortality rate	SSA	Sub-Saharan Africa
LIC	Low-income country	SWAp	Sector-wide approach
LSHTM	London School of Hygiene and Tropical Medicine	U5MR	Under-five mortality Rate
MCH	Maternal and child health	WHO	World Health Organization
MD	Medical doctor	WDI	World Development Indicators

Abstract

In the early 1990s, Mozambique was one of the world's poorest and most aid-dependent countries, having endured 16 years of civil war, drought and economic devastation since achieving independence in 1975. During the past 20 years of relative stability, greatly improved security and sustained growth, Mozambique has made significant progress in the provision of primary healthcare, reducing under-five and infant mortality rates by over 50% since 1990. Efforts to address high levels of maternal mortality have been detrimentally affected by the onset of the HIV/AIDS pandemic, but here too access and utilisation indicators show an encouraging trend. The country has also made significant strides in closing disparities in access and health outcomes – especially in infant and child mortality rates – between cities and the traditionally under-served rural areas.

Within the context of improved security and sustained economic growth, several factors – both within and outside the health system – have contributed to progress. These include: increased domestic and foreign financing to support the implementation of a comprehensive policy framework in which maternal and child health, and responding to the HIV/AIDS crisis, have been prioritised; the steady expansion of health services and facilities to undersupplied areas; and rising effective demand, spurred by education and community outreach efforts. Despite numerous persistent challenges – including low quality of care, continuing inequalities and the substantial impact of the HIV/AIDS pandemic – Mozambique provides important lessons to other countries aiming to scale up health provision rapidly in a post-conflict setting. These particularly include the importance of focusing on distance and education as barriers to access, using innovative and low-cost human-resource policies to scale up health personnel quickly, and of moving towards more coordinated systems of aid disbursement.

1. Introduction

1.1 Why child and maternal health in Mozambique?

Despite substantial improvements over the past 20 years, almost 7 million children under five die of preventable causes every year, and approximately 287,000 women die of pregnancy- and childbirth-related causes, with the vast majority of deaths occurring in sub-Saharan Africa and South Asia (World Health Organization and UNICEF, 2013). This case study investigates how one African country – Mozambique – has managed to make substantial strides in reducing both child and maternal mortality rates. It is also an important example of a largely successful post-conflict recovery process, with the country remaining stable and transfers of power occurring peacefully in the main since the end of the conflict (Visser-Valfray and Umarji, 2010). Finally, this case study comes at a time of substantial interest in how large-scale reductions in infant and child mortality rates were achieved in many African countries (see e.g. Clemens 2012; Demombynes and Trommlerova 2012; WHO and UNICEF 2013), and aims to explain what is likely to be driving this progress in the case of Mozambique.

Coinciding with the past 20 years of relative stability, greatly improved security and sustained growth, Mozambique has made significant progress in improving the survival prospects of women and children around the world. Mozambique has reduced under-five and infant mortality rates by over 50%.¹ The country's high levels of maternal mortality, while less dramatic than under-five and infant mortality rates, have also shown improvements, with the maternal mortality ratio (MMR) declining from 692 deaths per 100,000 live births in 1997 to 408 in 2011, according to data from the country's Demographic and Health Surveys (DHS). The rate of progress was impacted by a high prevalence of HIV/AIDS, which has levelled off at approximately 11% following a dramatic increase during the 1990s. Among the countries in the southern African region which have all been devastated by the HIV pandemic, Mozambique is one of very few that have seen their MMR improve over the past decade. Maternal-health access and utilisation indicators also show positive trends, with the number of women attending four or more antenatal visits increasing from 37.3% in 1997 to almost 50% in 2011. Finally, Mozambique has also made strides in closing the gaps between the urban and traditionally under-served rural

areas. For example, the disparity in under-five mortality rates between rural and urban areas has reduced to 11% in 2011, down from 58% in 1997.

Recovery in the face of adversity

In the early 1990s, Mozambique was the world's poorest and most aid-dependent country, having endured 16 years of civil war, drought and economic devastation following its independence in 1975 (Pavignani and Colombo, 2001). The country's territory is vast and the majority of the population lives in rural communities dispersed throughout the provinces, which poses a challenge in terms of access to healthcare in rural areas. Given its location, bordered by six countries and with over 1,535 miles of coast, it has provided a route for the movements of peoples and goods since the time of the slave trade (Abrahamsson and Nilsson, 1995). These movements have also fuelled the HIV pandemic, which has led to Mozambique having one of the highest rates of HIV prevalence in the world.

Despite the above challenges, over the past decade Mozambique has seen progress in various areas, including in health. Several factors – both within and outside the health system – have contributed to progress in maternal and child health in Mozambique. The 'peace dividend', for example, has manifested itself not only in greater security, but also in high levels of economic growth – Mozambique has been one of the fastest-growing economies in Africa in recent years: over the past two decades Mozambique's gross domestic product (GDP) per capita (constant 2005 US\$) grew at an average rate of 4.4% per year, against 1.3% of sub-Saharan Africa (SSA). Within the health sector, three factors are particularly noteworthy.

- The country has seen more (and more effectively coordinated and tracked) domestic and external financing, which has supported a comprehensive policy framework which prioritised primary health and responded to the HIV/AIDS crisis.
- This has enabled the steady expansion of health services and facilities, particularly in under-reached areas, reducing the distance many face in accessing healthcare.
- Community outreach efforts and rising education have led to increased demand and utilisation of health services. Therefore, despite the continuing burden of HIV/AIDS and the country's vulnerability to flooding and other natural disasters,² Mozambique has gradually

1 See <http://www.mdgtrack.org/index.php?m=1&tab=0>

2 Mozambique is particularly prone to protracted natural disasters such as recurrent droughts, which has led to pockets of food and nutrition insecurity and reduced access to safe water and sanitation in affected areas. Cyclones and floods have also had significant consequences: loss of crops and livelihoods, and epidemics such as cholera, as well as high levels of diarrhoea among children, particularly in the rural areas (IFAD, n/d).

managed to improve access to, and utilisation of, health services.

The combination of factors outlined above has helped to increase, amongst other things, the likelihood of parents immunising their children, as well as that of women going for pre-natal checks and being attended by a health professional at delivery, hence also showing progress in child-health/mortality/morbidity-related indicators. In terms of maternal health, the above factors have also contributed to increases in the rate of institutional deliveries and in access to ante- and postnatal care, though this has yet to impact the MMR substantially.

Continuing challenges

Despite progress, challenges remain, including large-scale inequalities in access to healthcare based in particular on income and regional (urban/rural) divides; low quality of care; the impact of the HIV/AIDS pandemic that continues to affect large sections of society (despite reducing rates of HIV incidence); and high levels of aid dependence at a time when some donors may be seeking to cut back their involvement.

However, Mozambique also provides important lessons to other countries aiming to scale up health provision rapidly in a post-conflict setting. These include: the importance of focusing on large-scale preventative health and immunisation campaigns; a sequenced sector-reconstruction process with an increasing focus on poverty

and education as a barrier to access; using innovative and low-cost human-resource policies to scale up health personnel quickly; and the importance of moving towards more coordinated systems of aid disbursement.

1.2 About this case-study report

This case-study report examines Mozambique's recovery in more detail, assessing in particular the major factors that have driven improved health outcomes in Mozambique over the past two decades. The research team, comprised of UK and Mozambique-based researchers, reviewed published materials, including government policies, surveys, project reports and grey literature, publicly available datasets on demographics, health and other related indicators, and carried out 20 interviews with a range of experts working on the health sector, with an emphasis on those working in the field of maternal and child health.

The report is organised as follows: Section 2 describes the main changes in Mozambique's broader economic, political and social development context, and analyses changing maternal and child health outcomes. Section 3 explores, in turn, the factors which have made the greatest contribution to Mozambique's progress in health. Section 4 looks at the remaining challenges. Section 5 provides some conclusions, and sets out policy lessons that can be drawn from Mozambique's experience over the past two decades.

2. What progress has been achieved?

This section describes improvements in health outcomes, including indicators on access to, and utilisation of, health services, and behavioural changes, focusing particularly on:

- child health outcomes
- maternal health outcomes.

It also provides an overview of the impact of the HIV/AIDS pandemic, which is essential context to understanding what has been achieved. Lastly, it situates key aspects of Mozambique's progress within the country's broader political, economic and social development context. These include:

- The greatly improved security situation, with peace and stability maintained since the conflict.
- A sustained period of economic growth in part tied to the 'peace dividend', the subsequent influx of aid, and the recovery of the country's economy.

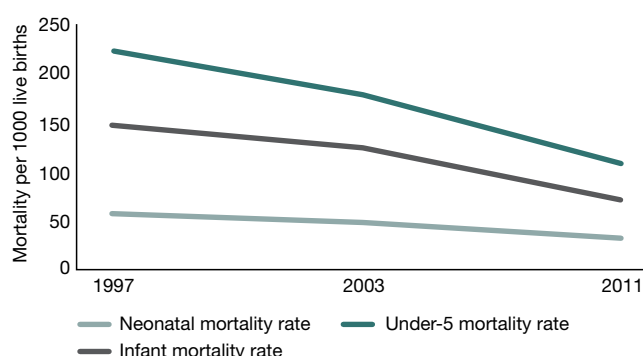
2.1 Health outcomes

Achievements in child health

According to DHS data, child mortality rates have declined significantly between 1997 and 2011 for newborns, infants and children under five: the infant mortality rate (IMR) declined by over 50% since 1997, from 147 to 71 deaths per 1,000 live births; and the under-five mortality rate (U5MR) has declined from 219 to 109 deaths per 1,000 live births (see Figure 1).

According to World Bank estimates (drawing on WHO and DHS data), Mozambique has also reduced its infant and child mortality rates from a level above the average for its region and income group, to the average level for SSA, though it remains behind other low-income countries (LICs) with high levels of HIV/AIDS, such as Zambia

Figure 1: Infant and child mortality rates



Source: 1997, 2003 and 2011 DHS

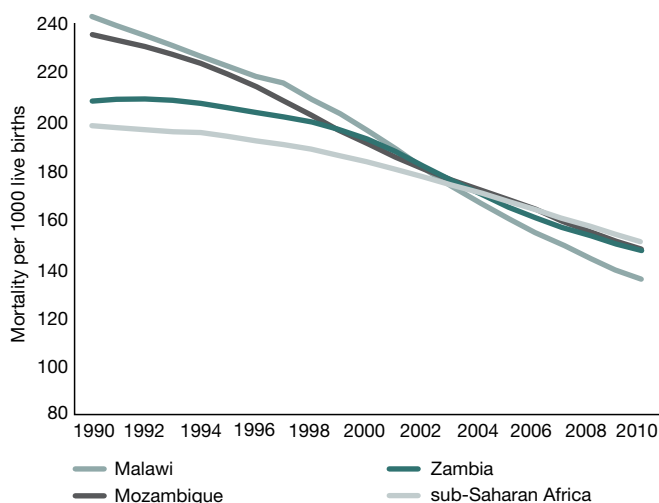
and Malawi (see Figure 2, overleaf). The leading causes of death for under-five-year-olds are malaria (19%), pneumonia (15%), prematurity and HIV/AIDS (10%).³

Significant disparities remain, but there has been a substantial narrowing of the gap between different regions. More rural provinces, such as Nampula, have made substantial progress, experiencing a five-fold reduction in the U5MR over a 14-year period and even performing better in absolute terms than the capital, Maputo, in the most recent DHS (see Figure 3, overleaf). Figure 4 (overleaf) shows that the gap between urban and rural areas in U5MR is narrower in Mozambique than in many other African countries. According to the most recently available DHS data for SSA, rural areas experience on average a 32% greater incidence of U5MR than urban areas, while in Mozambique this gap has reduced to 11%, down from 58% in 1997. As will be explored later, according to key informant interviews, the causes for this variation depend significantly on the distribution of health infrastructures and human resources, as well as the differing financial resources among provinces. Variation

‘Mozambicans buried the weapons and grabbed the tools to work. What happened was almost a miracle because after 16 years of very destructive war, it all stopped from one day to the next’ – Mozambican public-health expert

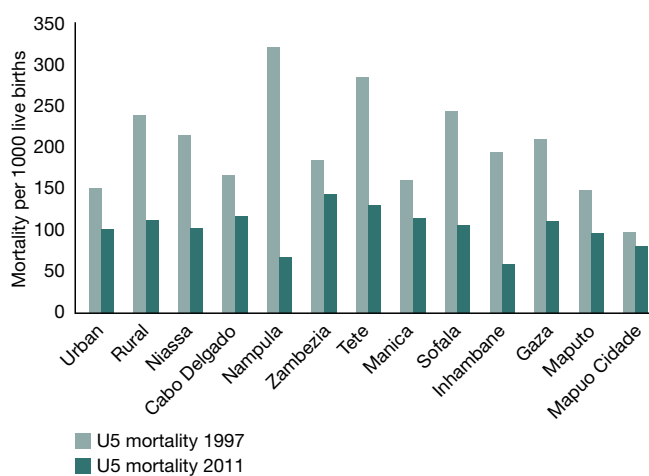
3 See World Health Organization (WHO, n/d), ‘Mozambique: Health Profile’, Geneva: WHO.

Figure 2: Mozambique and comparators for under-five mortality rates



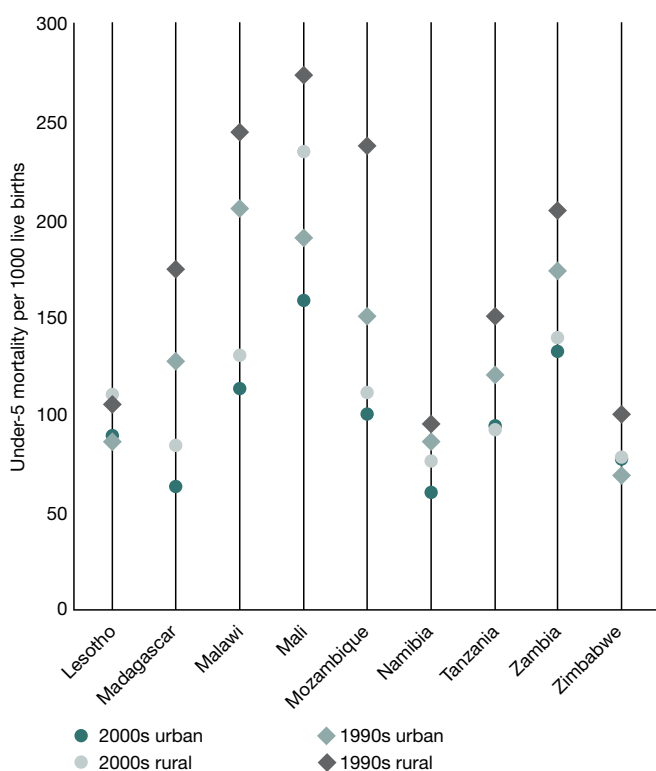
Source: World Development Indicators (WDI)

Figure 3: Under-five mortality rate by province and urban/rural



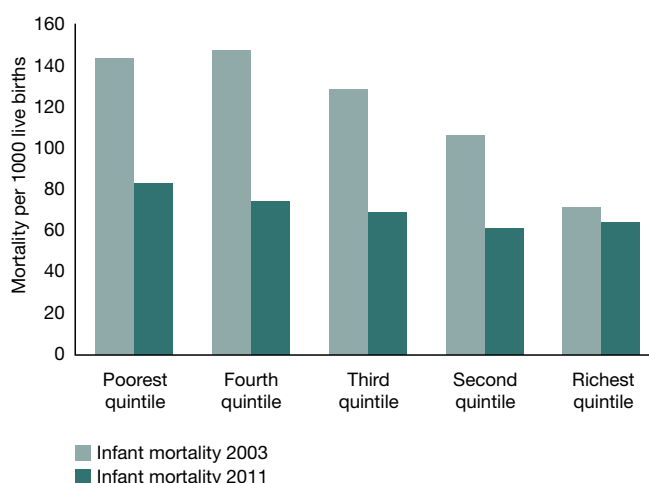
Source: 1997 and 2011 DHS

Figure 4: Rural-urban gaps in under-five mortality rate in Mozambique and southern Africa



Source: authors' calculations using DHS data for various survey years between 1990 and 2012

Figure 5: Infant mortality by income group



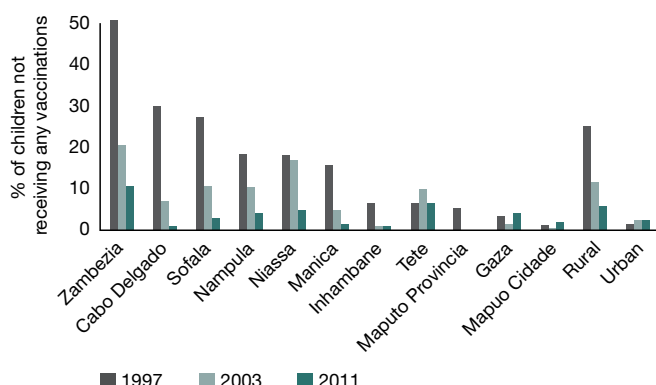
Source: 1997 and 2011 DHS

across provinces can also be explained in part by the differential impact of HIV/AIDS, with provinces located along major transport corridors being most affected by the country's HIV epidemic.

Inequities in the IMR between the richest and poorest have also narrowed significantly between 2003 and 2011. While the IMR for the poorest quintile (143) was twice the rate of that of the richest quintile (71), the IMR of the poorest 20% declined by 41.9% in just eight years (see Figure 5).

These improvements can largely be attributed to greater use of large-scale vaccination campaigns and increased access to, and utilisation of, health services in recent years. Mozambique is ahead of the regional average for many indicators in this regard, including skilled-birth attendance

Figure 6: Children not receiving any vaccinations: declines across regions



Source: 1997, 2003 and 2011 DHS

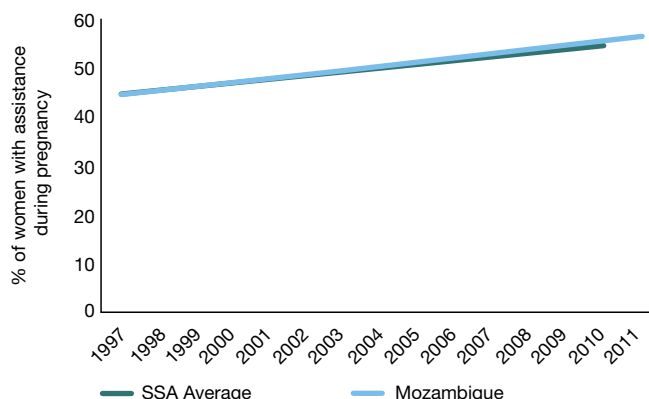
and immunisation against measles. Thus immunisation rates have increased since the late 1980s and early 1990s and the country has also been closing the gap in access to services such as in child-vaccination rates. All provinces have seen significant declines in the number of children not receiving vaccinations and the large gap that existed between rural and urban areas in 1997 – over 20% – has nearly been closed. According to the most recent DHS data, in 2011 only 5.6% of children in rural areas received no vaccinations as compared to 2.4% in urban areas (see Figure 6). The rate of children receiving treatment for acute respiratory infections (ARI) has increased from under 40% in 1987 to almost 70% in 2008. The percentage of children receiving immunisations against measles and diphtheria, pertussis and tetanus (DPT3) increased from 59.6% and 57.5% in 1997, to 76.2% and 81.5% respectively in 2011.

Achievements in maternal health

Establishing the exact MMR for Mozambique, as for other developing countries, is challenging as estimates undertaken by different groups show diverging trends. In addition, confidence intervals are large for all estimates.⁴ Notwithstanding these caveats, and based on DHS and census data, the MMR appears to have declined from 692 to 408 between 1997 and 2003, rising again in 2007 (based on the census), and falling back to the 2003 level in 2011 according to the DHS (2011) (see Table 1, overleaf).

Thus, despite the devastating impact of HIV/AIDS (see Box 1, overleaf), the MMR in Mozambique has improved between 1990 and the present, and more substantially between 2000 and the present – unlike in many other countries in southern Africa that also had high HIV/AIDS

Figure 7: Increase in the number of women delivering with assistance by a trained health professional in Mozambique and SSA



Source: authors' calculations using DHS data for various survey years between 1990 and 2012

prevalence (such as Botswana, Lesotho, South Africa, Swaziland and Zimbabwe). Estimates by the Maternal Mortality Estimation Inter-agency Group (MMEIG) indicate that the MMR has dropped from 910 deaths per 100,000 live births in 1990 to 490 deaths in 2010, representing a decline of 46% over the 20-year period. Declining at an average annual rate of 3.1%, Mozambique is progressing slightly faster than the rest of SSA, although it remains above the regional average (which includes South Africa).⁵ The Institute for Health Metrics and Evaluation (IHME) estimates of MMR indicate an increase over time from 537.7 deaths per 100,000 live births in 1990 to 608.7 deaths in 2008 and following the onset of HIV/AIDS. However, in more recent years, and as the rate of new infections has stabilised, the MMR started declining again, portraying a slight drop from the initial level in 1990 (509.8 deaths per 100,000 live births in 2011). It should be noted that IHME data also suggests an increase between 1990 and 2010 for other countries in the southern Africa region (see Table 2, overleaf).

Access to maternal health services has improved over the past 15 years. The rate of institutional deliveries has risen from 43.7% in 1997 to 55% in 2011. Furthermore, more women are giving birth assisted by a skilled birth attendant (SBA). Delivery assistance by a skilled SBA has reached 80.6% in urban areas, though progress is still lagging in rural areas at 46.8%. Figure 7 highlights the fact that, despite the challenges it faces (including the country's size and the frequency of natural disasters), Mozambique is keeping pace with progress in SSA on skilled deliveries.

⁴ According to one informant interviewed, 'data collection is easier for child mortality than maternal mortality. For maternal mortality, it is difficult to collect such data as too often the relatives are not able to calculate the day of the death in relation to delivery. Also, there are cases in which a woman dies and no one knew that she was pregnant.'

⁵ (for South Africa and Botswana this number is closer to 60%).

Table 1: Mozambique maternal mortality rate estimates based on household surveys

Year	MMR (deaths per 100,000 live births)
1997 (DHS)	692
2003 (DHS)	408
2007 (Census)	500
2011 (DHS)	408

Source: 2011 DHS

Table 2: Maternal mortality rate (deaths per 100,000 live births): Mozambique and comparators

Year	MMEIG estimates Mozambique	Southern Africa	Sub-Saharan Africa	Least Developed Countries	IMHE: Mozambique
1990	910	260	850	900	537.7
1995	800	270	820		509.7
2000	710	350	740	750	546.5
2005	630	370	630		623.7
2008				590	608.7
2010	490	300	500		582.2
2011					509.8

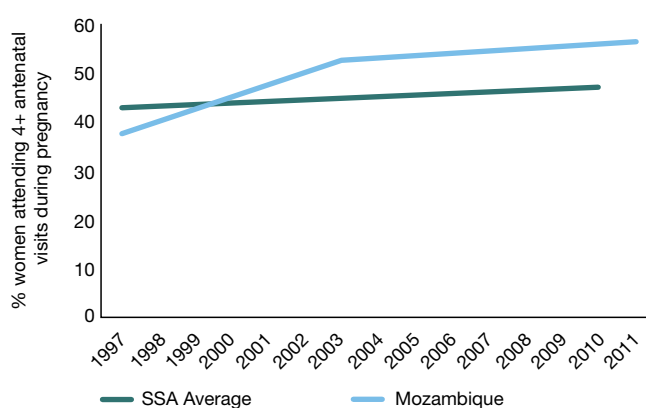
Source: MMEIG estimates (https://www.unfpa.org/webdav/site/global/shared/documents/publications/2012/Trends_in_maternal_mortality_A4-1.pdf)

IMHE Mozambique (<http://www.healthmetricsandevaluation.org/ghdx/record/maternal-mortality-estimates-and-mdg-5-attainment-country-1990-2011>)

In the same period the proportion of women attending at least one antenatal visit went from 71.4% to 92.3%, and more women are receiving the WHO-recommended number of antenatal visits, with 49.5% of women reporting having attended four or more antenatal visits in 2011, compared to only 37.3% in 1997. As Figure 8 shows, Mozambique has moved from below the SSA average in antenatal care to above the average.

The rate of caesarean sections, which is indicative of the extent of access to emergency obstetric care, has also increased from 2.7% in 1997 to 4% in 2011, though it remains below the WHO-recommended rate of 10-15%.

Although differentials between urban and rural areas, as well as between higher and lower income families, persist, the number of unwanted pregnancies has reduced over the past 20 years, with the total fertility rate declining from 6.3 to 4.8 children. There have been some moderate increases in birth spacing, with the share of women giving birth twice within two years decreasing from 18.5% in 1997

Figure 8: Increase in the number of women attending antenatal visits in Mozambique and SSA

Source: authors' calculations using DHS data for various survey years between 1990 and 2012

to 14.6% in 2011, according to DHS data. These changes may be explained in part by improved contraceptive prevalence (from 5.6% in 1997 to 16.2% in 2008), though this prevalence remains very low and trails behind

Millennium Development Goal (MDG) and government targets.⁶

Box 1: The spread of the HIV/AIDS pandemic and its impact on progress in maternal and child health (MCH)

One of the reasons for the slower reduction on maternal health is the HIV/AIDS epidemic, which has had a significant impact on Mozambique, as in the rest of southern Africa. The impact of HIV/AIDS reversed many of the gains made in mortality and morbidity from independence until at least 2000. It continues to have a huge impact in terms of the destruction of livelihoods, as well as in the diversion of resources towards HIV/AIDS (particularly through vertical funds) and away from MCH programming.

With the first case of AIDS in Mozambique found in 1986, by the late 1990s the country had become one of the countries most affected by the pandemic. It is estimated that almost 1.6 million people, including more than 90,000 children, are infected with HIV. More than half of those infected are women, and 15% of pregnant women between 15 and 49 are HIV-positive (UNICEF, n/d; Lamble, 2013). Women and girls are particularly affected by the epidemic because they usually lack the power to refuse unsafe sex, choose their partners or influence sexual behaviour more generally and are biologically more vulnerable to infection. This is evidenced by the fact that in the 15-19 and 20-24 age groups, the prevalence rate for girls and young women is three times higher than that of boys and young men (UNICEF, n/d). According to WHO (2012), it is estimated that 26.8% of maternal deaths in Mozambique are AIDS-related.

The country's geographical location, coupled with economic activities and cultural norms, also affects the high level of HIV prevalence. High economic movement and the accompanying sexual risk attached to it explains the increase of prevalence in the south and central regions and decrease in the north. There is a long-dated tradition of male migration to work in mining as well as large numbers of seasonal workers to commercial farms in South Africa, the latter being the regional economic hub attracting significant job seekers, with many of the destination areas having high HIV prevalence rates.

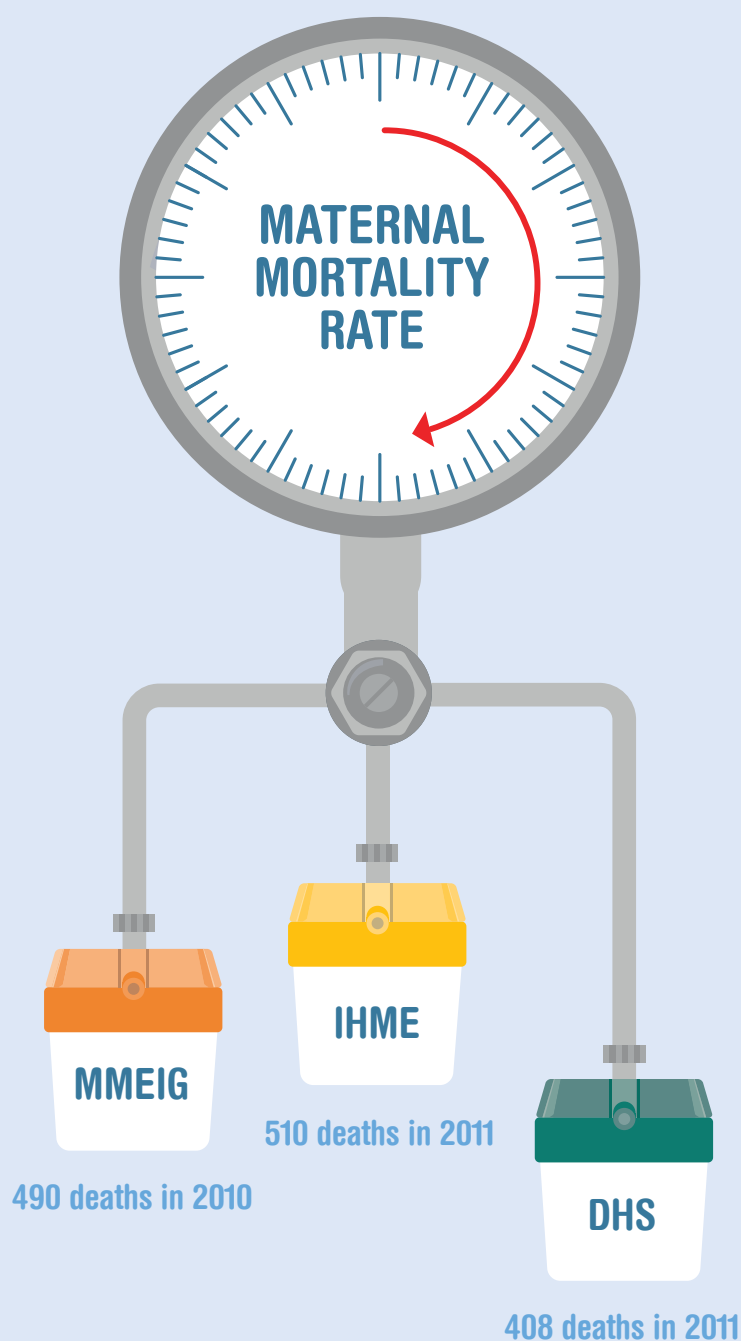
The civil war had also played a role in the country's high rates of HIV. The areas most affected by HIV coincide with those most disrupted during the war; likely resulting from the thousands of people who fled to neighbouring countries Zimbabwe, South Africa and Swaziland, with all three of these countries with already high HIV prevalence rates during the late 1980s and 1990s (IOM, 2012). The HIV/AIDS epidemic has had a highly detrimental impact on efforts to improve maternal and child health outcomes and despite significant progress in recent years, continues to undermine much of the progress achieved by the government over the past decade.

Supported by development partners, the country has made important advances in the fight against HIV. After an initial period in which prevalence steadily increased, the country managed to maintain it at around 11% since 2004-2005, whilst at the same time reducing the number of new infections. Testing among expectant mothers increased from 12% in 2005 to 87% in 2010. About 85% of antenatal care facilities offer prevention services (WHO, 2011). The Ministry of Health has also developed a national plan towards elimination of mother-to-child transmission by 2015. UNICEF reports that children and adolescents are also particularly vulnerable to HIV and AIDS. In 2010, it is estimated that more than 95,000 young people aged 15 to 19 are living with HIV in Mozambique (Lamble, 2013).

As HIV treatment access is improving and the rapid rise in infection rates seems to have stalled, there is some reason to be cautiously optimistic that the MMR will start to decline and potentially gain momentum.

⁶ Reducing unwanted pregnancies, particularly by increasing contraceptive prevalence, is one of the most significant explanatory factors behind reductions in maternal mortality both globally (see Ahmed et al., 2012) and in high-performing countries such as Nepal (see Engel et al., 2013). The slow pace of progress here is of substantial concern to experts. According to one public-health official interviewed, 'the biggest concern is that contraceptive prevalence hasn't changed. There hasn't been much movement in family planning, and the rate of institutional births has been quite stagnant. The last few years have been a period of stagnation.'

MEASURING MATERNAL MORTALITY IN MOZAMBIQUE



Sources: DHS (2010); IHME (2011); MMEIG (2011)

Maternal mortality rates are hard to measure, with differing results from 3 sources.

Why?



Deaths tend to be under-reported as people often die 'outside' the health system.



It is costly to survey large populations.



Health workers may not know if a woman has been pregnant when she dies.

2.2 Broader enabling environment

Peace and relative political stability

Mozambique's war of independence between the Mozambique Liberation Front (FRELIMO) socialist guerrilla organisation and the colonial power, Portugal, ended with a ceasefire in late 1974 and a negotiated independence in 1975, after which FRELIMO took complete control of the territory, establishing a one-party socialist state (Abrahamsson and Nilsson, 1995). The objective of the newly formed national health service was to shift from the narrow urban-based colonial system of governance and service provision to the provision of basic services for all, which meant that all health facilities formerly under a range of public and private authorities were brought under government control (Hooper, n/d).

However, the 16-year civil war that took place shortly after independence had a devastating impact on social and economic progress. It is estimated that more than one million people died and one third of the population lost their homes, were internally displaced or became refugees (Hanlon, 2010). Much of Mozambique's infrastructure was destroyed and the rural economy was severely disrupted. The civil war between FRELIMO, which was backed by the communist bloc, and the anti-communist group Mozambican National Resistance (RENAMO), was particularly detrimental for the health sector since RENAMO specifically targeted transport routes, schools and health clinics to destabilise the government. Additionally, the independence struggle and the civil war triggered the rapid emigration of around 90% of the ethnic Portuguese citizens (approximately 250,000 people), causing a huge loss of professionals, productive machinery, and skilled workers, which also severely affected the health sector (Abrahamsson and Nilsson, 1995).

The post-conflict setting and the improved security situation in particular have allowed successive governments to prioritise the health sector more than had been the case during the 1980s, and to address the sector's deterioration over the previous two decades. A new constitution providing for a multi-party political system was enacted in 1991, followed by the Mozambican General Peace Accord (GPA), signed in October 1992, which recognised the existing constitution and the FRELIMO government while calling for new elections, with RENAMO participating as a political party. As part of the agreement, the United Nations Security Council established the United Nations Operation in Mozambique (ONUMOZ) to supervise the implementation of the Peace Accord, including monitoring

the ceasefire, the demobilisation process and the holding of national elections.⁷ In 1994 the country held its first democratic elections, with FRELIMO gaining 53% of the vote. The GPA and its implementation have been considered one of the more successful peace-building processes of the post-Cold War period. The GPA was supported by a vast array of international and bilateral donors, most of which contributed beyond the emergency situation by laying the foundations for social and economic development (Gentili, 2013; Macaringue, 2002).

Since the end of the civil war, Mozambique has remained largely stable and democratic, with generally fair elections and peaceful transfers of power. Few post-conflict countries have managed to remain both peaceful and secure following such protracted conflicts, and this sustained stability has been essential in enabling the progress achieved.

Economic growth

While Mozambique is still among the least developed countries in Africa, it has emerged as one of the continent's fastest growing economies. Indeed, it has become an increasingly important example of one of the few post-conflict economic successes in Africa (Visser-Valfray and Umariji, 2010; De Renzio and Hanlon, 2007). This, along with the security, has provided a critical foundation for allowing improvements within the health sector.

Mozambique signed its first structural adjustment programme (SAP) with the World Bank and the International Monetary Fund (IMF) in 1986. The resulting liberalisation of the economy, coupled with the peace process and the vast social needs created by the long-lasting conflict, led to an influx of aid that has made Mozambique one of the largest aid beneficiaries, but also one of the most aid-dependent countries in the world, both in terms of aid per capita and as a share of Gross National Income (GNI) (see Figure 9, overleaf) (De Renzio and Hanlon, 2007).

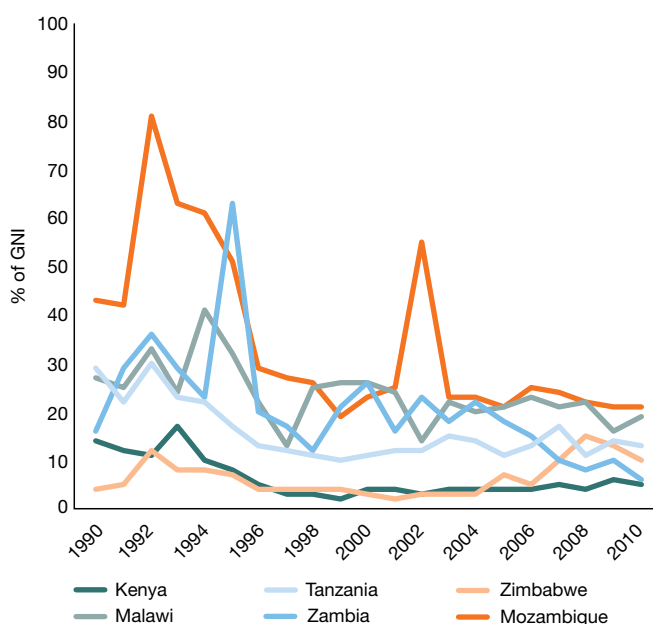
Along with the strong economic growth, averaging almost 8% throughout the 2000s, the country's GDP per capita (constant 2005 US\$) more than doubled, from \$176 in 1992 to \$417 in 2012,⁸ and the inflation rate has largely been controlled, declining from its highest level of 65% in 1996 to 5.5% in 2012, according to WDI data.

Progress was also made in reducing poverty: the proportion of people living under the national poverty line dropped from 69.4% in 1996-1997 to 54.7% of the population in 2008-2009. This drop is still larger when considering the poverty headcount ratio at \$1.25 a day (from 80.6% to 59.6%) (see Figure 10, overleaf).

7 In addition, the United Nations Operation in Mozambique (ONUMOZ) launched a humanitarian assistance programme to help the 3.7 million people displaced by war to resettle in the communities

8 In the same period Malawi increased its GDP per capita by 40% from \$185 to \$259, Tanzania by 67% from \$289 to \$483, and Zambia by 26% from \$634 to \$798, while Zimbabwe's declined by 31% from \$621 to \$429 (WDI).

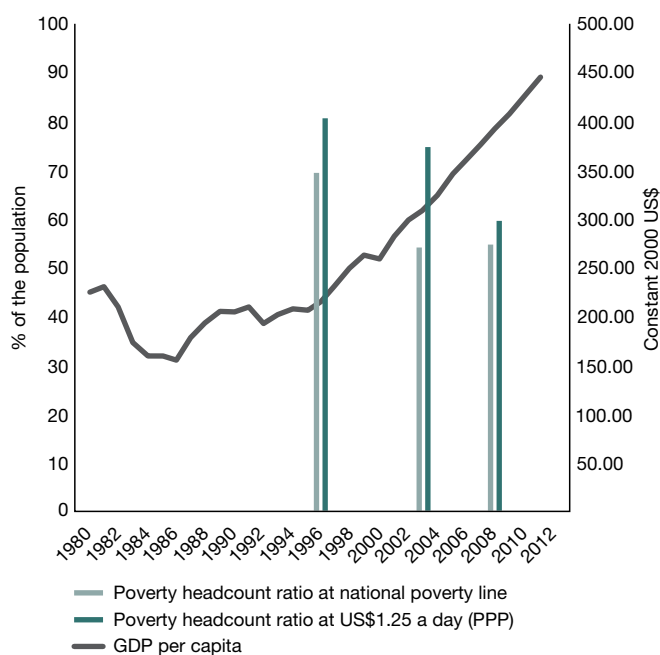
Figure 9: Net official development assistance received (% of GNI)ⁱ



ⁱ The peak in 1992 relates to the arrival of the UN in the country, while the floods that took place in 2002 explain the peak in 2002. The indicator does not distinguish types of aid (programme, project, or food aid; emergency assistance; or post-conflict peacekeeping assistance). Source: WDI

The poverty-gap ratio⁹ has also improved (from 41.2% to 25.1% between 1996 and 2008), indicative that the depth of poverty among poor households is diminishing. However, the benefits from growth are shared increasingly unequally, with the country's Gini coefficient – a measure of inequality – rising from 0.40 to 0.46 between the two national surveys of household consumption for 1996-1997 and 2008.¹⁰ Poverty is still predominantly a rural phenomenon in the country – more than 70% of poor households live in rural areas.

Figure 10: GDP per capita and poverty-reduction achievements



Source: author's own elaboration on the base of WDI

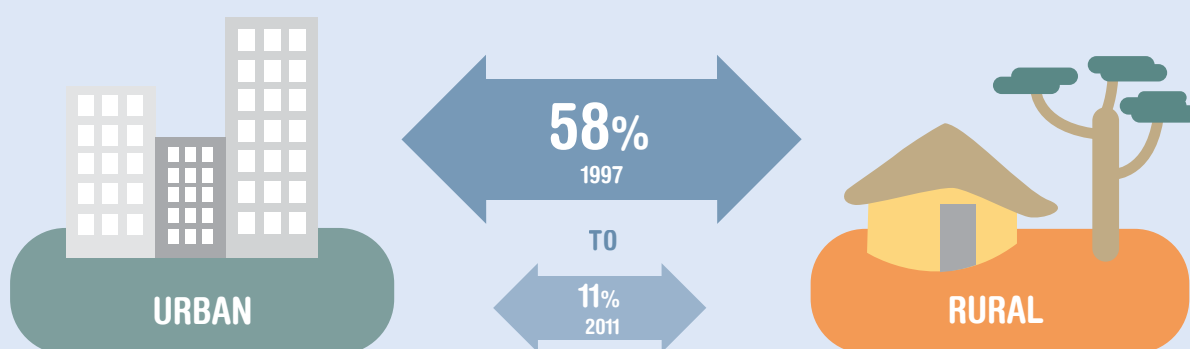
⁹ The poverty-gap ratio (or index) measures the depth or severity of poverty by measuring how far the poor are from the poverty line.

¹⁰ The WDI also shows the same trend, with the Gini coefficient slightly increased from 0.45 in 1996 to 0.46 in 2008.

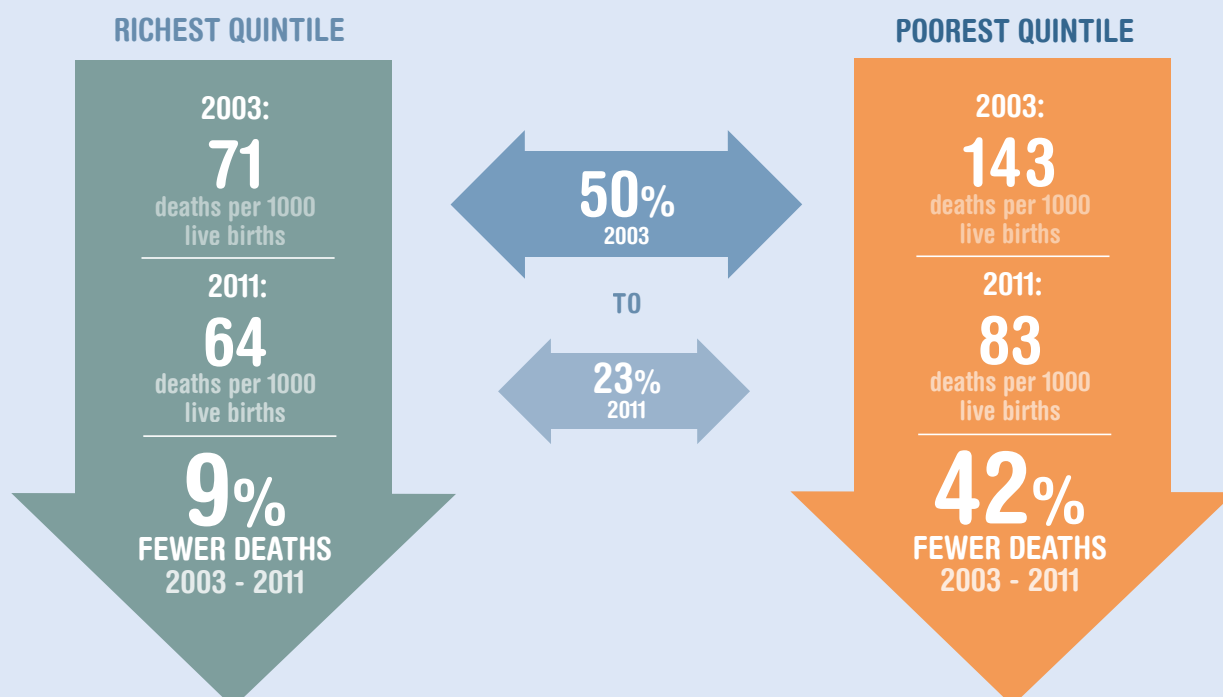
CLOSING GAPS IN THE UNDER-5 MORTALITY RATE IN MOZAMBIQUE

URBAN AND RURAL GAPS

IN MOZAMBIQUE, THE GAP WAS REDUCED FROM



INCOME GAPS



Sources: DHS data sub-Saharan Africa (various years); DHS Mozambique (1997, 2011)

3. What are the factors driving change?

While the changes in the enabling environment examined in Section 2.1 were integral to improved primary-health outcomes, the sustained government focus on rebuilding the health system and improving access – particularly in rural areas – was central to improved utilisation rates. This section examines three factors that have contributed to improved health outcomes in Mozambique in the past 20 years:

- a more responsive and better resourced health-policy framework
- the steady expansion of health services and facilities in under-reached areas
- rising demand spurred by education and outreach efforts.

3.1 A more responsive and better resourced health-policy framework

Health-policy framework

The post-conflict setting created the space to address the deterioration of the country in terms of health and access to health services that had occurred over the previous two decades. Rebuilding the primary-healthcare system, with maternal and child health at its centre, has been the government's top health priority since the end of the war (Visser-Valfrey and Umarji, 2010). In the immediate aftermath the focus was on re-establishing services destroyed during the war, rehabilitating the network of facilities, and ensuring that areas made inaccessible by the war could be reached.

The country's 1990 constitution already had one of the most comprehensive provisions for the right to health in the region, and guarantees universal access to healthcare. The reconstruction of the health sector was guided by the *Health Sector Policy 1995-1999* and the *Health Sector Recovery Program (HSRP)* (Chao and Kostermans, 2002). These policies put the emphasis on primary healthcare, with particular attention to maternal and child health; immunisation and communicable-disease control; the rehabilitation of infrastructure and improvement of the

quality of care; providing better incentives to human resources; and strengthening logistical and administrative management. The first large-scale peacetime health programme, the Integrated National Plan, was launched in 1995 and was complemented by the World Bank-led multi-donor Sector Investment Programme (launched in 1996). Generally, donors have had a very strong influence on policy since the end of the war, with the focus on maternal and child health also reflecting donor priorities (key informant interview; De Renzio and Hanlon, 2007).

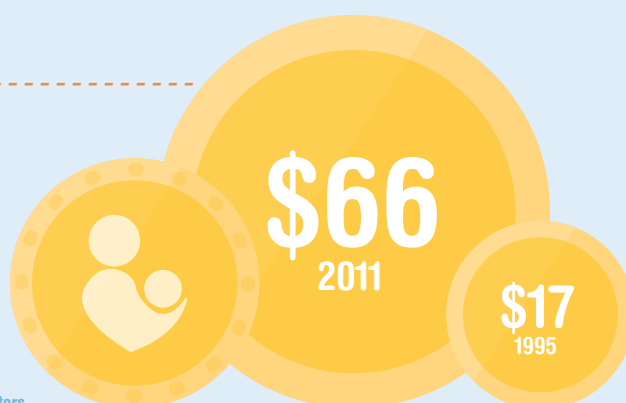
By the end of 1999, the Mozambican government and donors recognised that the health sector was moving from a phase of recovery from civil war to one of expansion and improvement of the health system and services. This called for sector reform and a more sustainable and forward-looking approach. In 1999 the Ministry of Health (MoH) undertook an evaluation of national health priorities and one of the consequences was the approval, in 2001, of the National Strategy on Maternal and Child Health. This focus on maternal and child health (MCH) in government plans has continued to the present.

The agreement on a sector-wide health approach further solidified planning and the funding process. The more recent Sector-Wide Approach programming (SWAp) for health – known as the *Plano Estratégico do Sector da Saude* (PESS) – has been in existence since 2000. It initially covered a 10-year period from 2001 to 2012 and included a mid-term review in 2005 to reshape the strategy. It is divided into the Strategic Plan for the Health Sector 2001-2005 (PESS I) and its second part, running 2007-2012 (PESS II). PESS I aimed at taking the sector beyond reconstruction to strategic growth and development, and focused on decentralisation and capacity-building in planning and budgeting. The second strategic plan (PESS II) placed a greater focus on health delivery, through capacity-building. The PESS plans have emphasised the need for health-system strengthening and have prioritised the development of human-resource capacity, improving healthcare infrastructure and increasing community engagement, expansion and deployment of community health workers (this is discussed in greater depth in Section 3.3).¹¹

‘When I arrived in 2005 there were districts without a single doctor, now all districts have at least a general doctor’ – Former doctor and ministry official

HOW HAS FINANCE PLAYED A ROLE IN IMPROVING MATERNAL AND CHILD HEALTH?

Total health expenditure per person increased, with funds more equitably distributed.

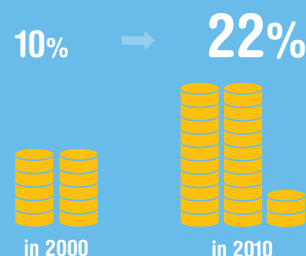


Source: World Development Indicators

The share of government spending on health increased from 5% to 8% of total government spending between 2004 to 2012

and...

the share of aid dedicated to health increased from



In recent years, and particularly driven by the international focus on reducing maternal mortality, this has become a much greater issue. According to one informant, maternal health is 'gradually becoming a priority' with its recent designation as a presidential priority making it 'a much greater issue'.

Improvements on health financing

While the policy frameworks described above provided the strategic basis for reforms and investment, this was supported by significant changes in sector financing.¹² The developments in health financing over the past two decades have been significant in enabling improved service delivery for three main reasons. Firstly, they entailed increased resources allocated to health, both from domestic and external sources. Secondly, the change in financing mechanisms and the adoption of the SWAp allowed for better aid harmonisation, and was also key to filling funding gaps and keeping health facilities running while waiting for budget disbursement. Finally, reforms of the management of public finances have allowed for a growing share of aid to go on budget, leading to better traceability as well as shorter disbursement delays and the ability to distribute resources more equitably. As will be discussed in the next section, these increased resources, now also better managed, have been directed to extend infrastructure and increase staffing and salaries, allowing for better coverage in remote areas.

'Growing domestic and external budget allocations have contributed to the expansion in service delivery through construction, recruitment of qualified staff and improved availability of drugs' – Visser-Valfray and Umarji (2010: 6)

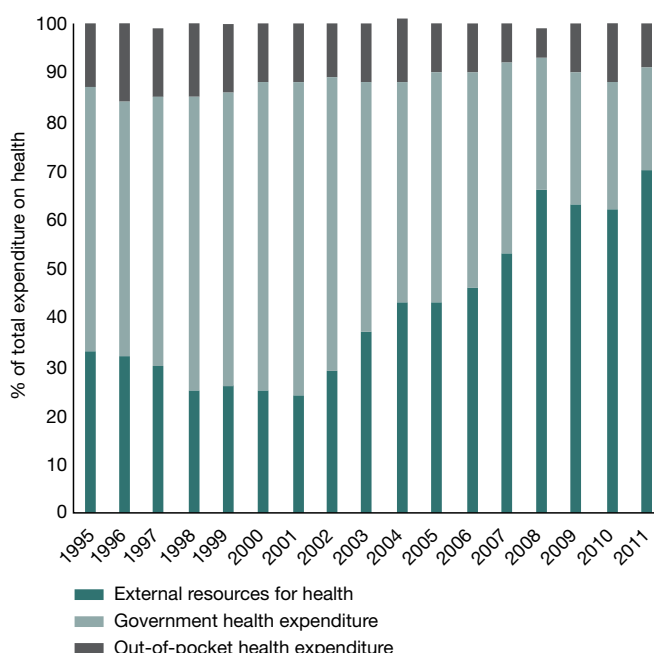
Increasing funds for health

While total health expenditure as a percentage of GDP has remained more or less constant from 1995 onwards (oscillating between 4% and 7%), considering the substantial levels of economic growth during this period the resources allocated to health have actually increased in absolute terms. Total health expenditure (constant in 2005 US\$) has seen a four-fold increase between 1995 and 2011 (from \$159 million to \$661 million), with health expenditure per capita (purchasing power parity) going from \$17 in 1995 to almost \$66 in 2011 (WHO Global Health expenditure database).

11 Some of the main expected outcomes from the PESS include increasing access to health services towards universal coverage, consolidating the primary healthcare approach and integrated service delivery, strengthening the referral system and improving quality of care.

12 It is important to note that, along with the increasing influx of aid and coinciding with the international debate around aid effectiveness, Mozambique has become a model and a testing ground for the so-called 'new aid modalities', including Sector and General Budget Support (De Renzio and Hanlon, 2007).

Figure 11: Expenditure on health by financing source (% of total expenditure on health)



Source: authors' elaboration on the base of WDI¹

¹The WHO National Health Accounts data for Mozambique cover the period 2004-2006. Thus, the graph is based on data collected by the WDI. External resources for health are funds or services in kind that are provided by entities not part of the country in question (including resources coming from international organisations, bilateral arrangements, or foreign NGOs); out-of-pocket expenditure includes any direct outlay by households, including gratuities and in-kind payments and other goods and services aiming to improve the health status of the individual or population group. The government expenditure was calculated thus as THE minus external resources and out-of-pocket expenditure on health.

The distribution of health expenditure by source differs significantly depending on the data consulted, however, all of them agree on external funding as the major source, through grants and credit funds from multilateral and bilateral development partners. Domestic funds and the sector's own revenues (direct payments or user fees from households and employers, explored later on in this section) are the other two sources of financing for health.

The share of external funding shows an upward trend from 2002 onwards, while the proportion of public funds to the sector decreased to its lower level in 2011 (Figure 11). The dramatic increase in donor-funding to HIV/AIDs from

the 2000s onwards may well explain the overall increase in the share of external funding for health (Mussa et al., 2013).

Donors have progressively prioritised health in their allocations, with the share of health in total official development assistance (ODA) commitments increasing from 10.1% in 2000 to 22.1% in 2010. According to the WHO Global Health Observatory, the country has been within the top five largest recipients of ODA to health among African LICs from 2000 to 2010.¹³ This is reflected in the exceptionally large number of donors working in the sector: 21 bilateral donors and eight multilateral agencies in 2009, of which just five accounted for 71% of the ODA for health in that year (WHO, n/d).¹⁴

The general government expenditure on health (constant in 2005 US\$) has also increased, going from \$102 million to \$274 million in 2011. However, as a percentage of general government expenditure it gradually increased from 14% in 1995 to 18% in 2005 and then declined to 8% in 2011 (WHO Global Health expenditure database). The share of the government health budget (including external assistance in the budget) relative to total budget has grown progressively since 1998, increasing from 9.1% to 14.7% between 1998 and 2006, although the proportional allocation of internal funds in the same period dropped (Machatine et al., 2010). According to the 2009 Joint Annual Health Sector Reviews (Ministério Da Saúde, 2009), budgetary allocation to health has been going down gradually, reaching 11.9% in 2009 and further declining in recent years as a share of revenue.¹⁵

Households fund the health system by paying user fees (Box 2, overleaf), drugs and other medical products, as well as payments to private-sector providers, which have higher fees than the NHS. However, this accounts for less than 20% of total services (Lagomarsino et al., 2009).

Harmonisation of external assistance

Aid has been integral in supporting the sector's development and has consistently increased since the early 2000s. With the integration of non-governmental organisations (NGOs) into the health system in 1991, donor funding was initially delivered mainly through projects managed by NGOs, which led to considerable distortions in the health sector. According to Pfeiffer (2003: 1), *'The deluge of NGOs and their expatriate workers fragmented the local health system, undermined local control of health programs, and contributed to growing local social inequality.'* According to Hodge and

13 Mozambique is the only country that remained in the top five ranking, although Tanzania, Ethiopia and Uganda appeared in the ranking almost every year.

14 Those are: the US (41%), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFTAM, 11%), Canada (8%), Ireland (6%) and the UK (5%) (WHO, n/d).

15 It is worth noting that in the process of implementing the SWAp, donor funding has moved on- and off-budget over time, which makes it difficult to assess whether the government health budget has actually increased or decreased in relation to the total budget or GDP. An example of this is GFTAM, which channelled its funds through the government budget from 2004 to 2008 when it went off-budget again. This may well explain the inversion in trend and the decline of the health budget as a proportion of GDP and of the total budget.

‘Mozambique had a problem with multiple programmes, with UN agencies and bilateral donors carving up the country. There was no coordination. It was confusion. In 2000, the government agreed with donors to have one plan. We established a coordinating mechanism across the health sector that worked well and is cited as a model’ – Songane, health minister of Mozambique from 2000-2004

Tibana (2004), traditional project assistance fragmented government planning, budgeting and management. To remedy this, new aid-management strategies were put in place, harmonising aid gradually in common funds (CFs) that developed into a SWAp.¹⁶

Sector Budget Support (SBS) finances policies jointly agreed by the government of Mozambique and its development partners.¹⁷ Budget support enabled harmonisation of aid, resulting in a more rigorous policy-making process and annual planning, budgeting and monitoring systems, allowing for improved coordination by the Ministry of Health. Better control of financial resources also enabled the government to improve the distribution of these funds towards more equitable outcomes (AFGH and DSW, 2011). The CFs have been key in providing the liquidity needed to keep activities running during the first quarter or more, with the common basket fund providing funding when Ministry of Finance disbursements are late (e.g. many provinces and, in turn, districts only received their first budgetary transfer late in the year).¹⁸ According to one informant, *‘the coordination of funds to health seems to have improved, giving the ministry a better role in coordinating the funds’*.

In spite of the government efforts to put donor funding for health on budget, at least 52% of aid to health was channelled off budget (i.e. aid that bypasses country systems) in 2009 (WHO, n/d). The increasing funds allocated to fight HIV/AIDS, and the fact that two of the major health partners (USAID and, since 2008, GTATM) only channel their support off budget, is likely to be the reason for this.¹⁹

Box 2: The role of user fees in Mozambique

User fees are fixed for everyone,ⁱ with services free of charge for children under five, pregnant women, people over 60 years old and those with disabilities. Treatment of tuberculosis, malaria, HIV and chronic diseases is also exempt. However, there seem to be some irregularities with fees as exemptions are not always respected or properly understood. Survey data from rural facilities (Lindelow et al., 2004) found that 52% of people found it ‘difficult or very difficult’ to raise the funds for health fees, with 37% having to borrow money or sell items. More recent sources also maintain that even though user fees represent a small amount, fees are still a barrier to accessing healthcare for many people, especially when combined with the cost of transport from distant rural areas (IRIN, 2009). For example, a 2008 World Bank report (Fox, 2008) argues that when people do not have the money to cover transport costs and user fees for a clinic, they ‘simply do not go’. There have been some improvements in this area, however, and, according to the last DHS, the share of women not seeking treatment due to money constraints declined from 57.1% in 2003, to 39.7% in 2011.

i. While there have been accounts of personnel charging informal fees (bribes), there have also been accounts that when people are not able to pay fees, they are attended anyway (key informant interviews).

16 It is important to note that, in the context of the international debate around aid effectiveness, Mozambique has become a model and a testing ground for the so-called ‘new aid modalities’, including Sector and General Budget Support (SBS/GBS) (De Renzio and Hanlon, 2007).

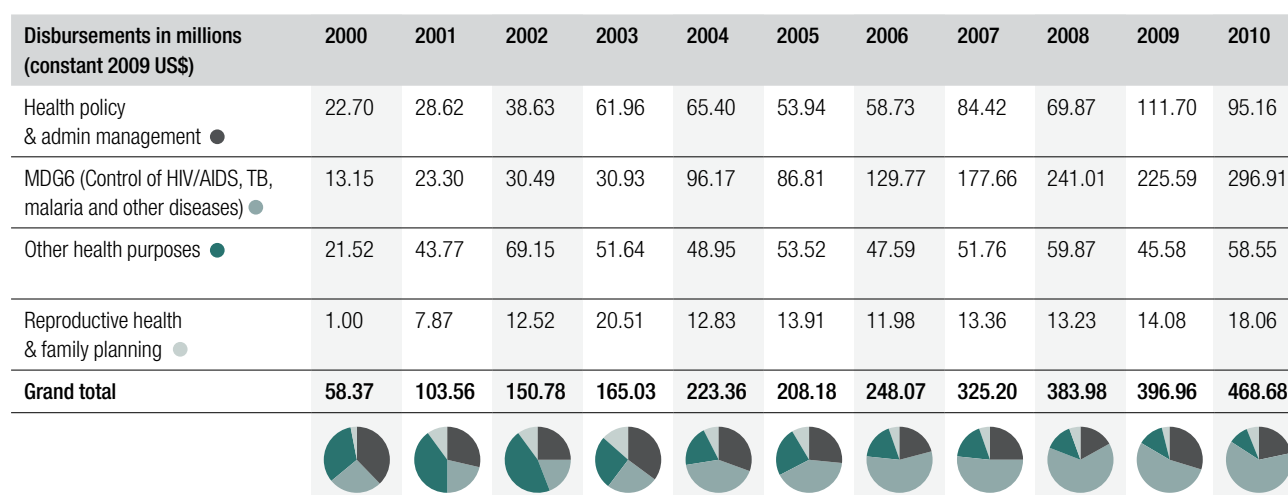
17 Donors channelling funds on budget initially pooled resources in CFs, which appeared as ‘external resources’ in the sector budget.

18 For instance, the study conducted by Lindelow et al. (2004) shows that by January, only about 10% of districts had received their annual funds, and that only by May had all districts received their budget allocation from internal funds.

19 Disease-specific funding, such as GFATM or the US President’s Emergency Plan for AIDS Relief (PEPFAR), are usually directed towards vertical projects through NGOs and/or by directly implementing programmes.

‘The importance people give to these three diseases [HIV, malaria and TB] is a detriment to, for example, mother and child health, diarrhoea, environmental health or mental health... I think that we should integrate all programs and we would have better results’ – Provincial manager (Mussa et al., 2013)

Figure 12: ODA allocation for health by sub-sector (in millions constant 2009 US\$)



Source: WHO, n/d

Figure 12 shows that the bulk of ODA for health has been allocated increasingly to fight HIV/AIDS, malaria and other diseases. According to the WHO data, by 2010 this sub-sector had received more than 60% of the ODA for health, which may be considerably overstated by donor classification practices.²⁰ A further aspect, which makes interpretation difficult, is that special issues, such as HIV/AIDS, are largely cross-cutting.²¹ Although to some extent reflecting the mounting burden that HIV represents on the country, the level of funds earmarked to HIV/AIDS, tuberculosis and malaria suggests an imbalance between donor-funding compared with the relative disease burden; e.g. HIV/AIDS and malaria together accounted for 26% (14% and 12% respectively) of under-five deaths in 2008 compared against pneumonia (13%), diarrhoea (11%)

neonatal causes excluding pneumonia (34%) and other causes (14%) (WHO, 2010).

While the country has improved information about ODA received off budget,²² a recent report by Mussa et al. (2013) identified that the increase in off-budget and more vertical forms of support over the past eight years poses a concern in terms of local control over the use of resources, and may lead to imbalances within the health system, with some sectors being well resourced (i.e. HIV) and others remaining under resourced.

Improvement in public financial management (PFM)

Improvements in public financial management (PFM) have contributed to the reduction of delays in disbursement deriving from deferrals in closing accounts from the previous year.²³

20 Although Mozambique has experienced an especially dramatic increase in disease-specific support over the past eight years (Mussa et al., 2013), the figure seems to be overestimated. The discrepancy in the figures according to the source of information is significant (e.g. UNAIDS and WHO) and may follow donors' aid classifications in reporting their flows of HIV-related aid into WHO and the United Nations General Assembly Special Session databases.

21 For instance, the Partnership Framework signed between the Governments of Mozambique and the US, under the PEPFAR programme, include as key activities health-system strengthening, capacity-building of national systems and HIV service delivery; strengthening of multi-sectoral responses in prevention, care and treatment; and human resources for health (MoH and USG, 2010).

22 An online database – ODOMOZ – was put in place for donors to record their aid flows, which allows for better coordination and harmonised donor activities in Mozambique (AFGH and DSW, 2011).

23 Indeed, provinces were required to produce financing reports, based on their and their districts' expenditure in the previous year, before they could receive funds for the next fiscal year.

In October 2002, with donor support, the government approved the e-SISTAFE (*Sistema da Administração Financeira do Estado*),²⁴ an integrated financial-management information system which created a single treasury account that facilitates and tightens control over public spending (instead of the many different accounts provinces and districts had used in the past to manage budgets) (Lindelov et al., 2004). Since then, the Joint Annual Health Sector Reviews (Ministério Da Saúde, 2004-2012) have gradually been reporting improvements. Of particular significance is the improved timeliness of budget execution (from 59% in 2005 to 93% in 2011) (Ministério Da Saúde, 2005; 2011), which enabled the reduction of disbursement delays, having positive implications for output delivery. Finally the e-SISTAFE also reduced cash transactions, thus limiting space for fraud and mismanagement (De Renzio, 2011; Visser-Valfreyand Umarji, 2010).

3.2 The steady expansion of health services

Investment in new facilities

In Mozambique, improvements in maternal and child health are linked to improved access to facilities and healthcare, particularly in more remote areas. Overall access has significantly expanded – albeit from a very low baseline – over the past two decades; in addition to increasing the overall size of the facility network, there has been a focus on reducing distances to health centres, especially in rural areas in the north and centre of the country, which were particularly severely impacted by the war. This resulted in a very uneven distribution in health infrastructures in the country, with most new investments made in safer, largely urban areas.

As the country emerged from war in 1992, the expansion of infrastructure and health personnel resumed as a priority for the MoH. This included a series of measures aimed at making health services available to the population, particularly in rural areas. There are an estimated 1,432 health facilities according to the 2012 Joint Annual Review (MoH, 2012), compared with only

326 in 1975 (Lindelov et al., 2004). On average, the population per health centre was reduced from an average of 57,000 inhabitants per health centre in 1997, to 23,000 in 2007 (MoH, 2007).²⁵ The rate of improvement was particularly fast in the first post-war decade. Between 1993 and 1999, over 400 facilities were newly built or rehabilitated. The average number of ‘care units’²⁶ received per inhabitant increased from 2.34 to 3.26 (Chao and Kostermans, 2002). Access to secondary healthcare relies on a system of referrals from health centres, and in the past two decades many health posts have been upgraded to health centres able to provide curative as well as preventive services and often including maternity facilities.

Furthermore, the provinces most deprived of health centres have seen a drastic decrease in their ratio of population per health centre: Zambezia, where the situation was most dire, saw a decline from 133,000 inhabitants per health centre in 1997, to 32,000 per health centre 10 years later (Chao and Kostermans, 2002). The inequity index, which reflects the distribution of primary healthcare centres around the country (ratio of per-capita provision of facilities between worst- and best-provided province), has decreased from 5.8 in 1997 to just about 2 in 2011 (see Ministério Da Saúde, 2004-2012).

As a result of the growth in health facilities and in health personnel, the Mozambican population has registered a gradual increase in healthcare received per inhabitant, with external consultations per inhabitant almost tripling between 1992 and 2011, albeit from a very low base, from 0.36 to 1.20, according to MoH data provided in Joint Annual Health Sector Reviews (MISAU, 2004-2012). Other indicators of increased utilisation of health facilities, discussed in the next section, paint a similar picture, and access to health services has clearly improved during the past two decades.

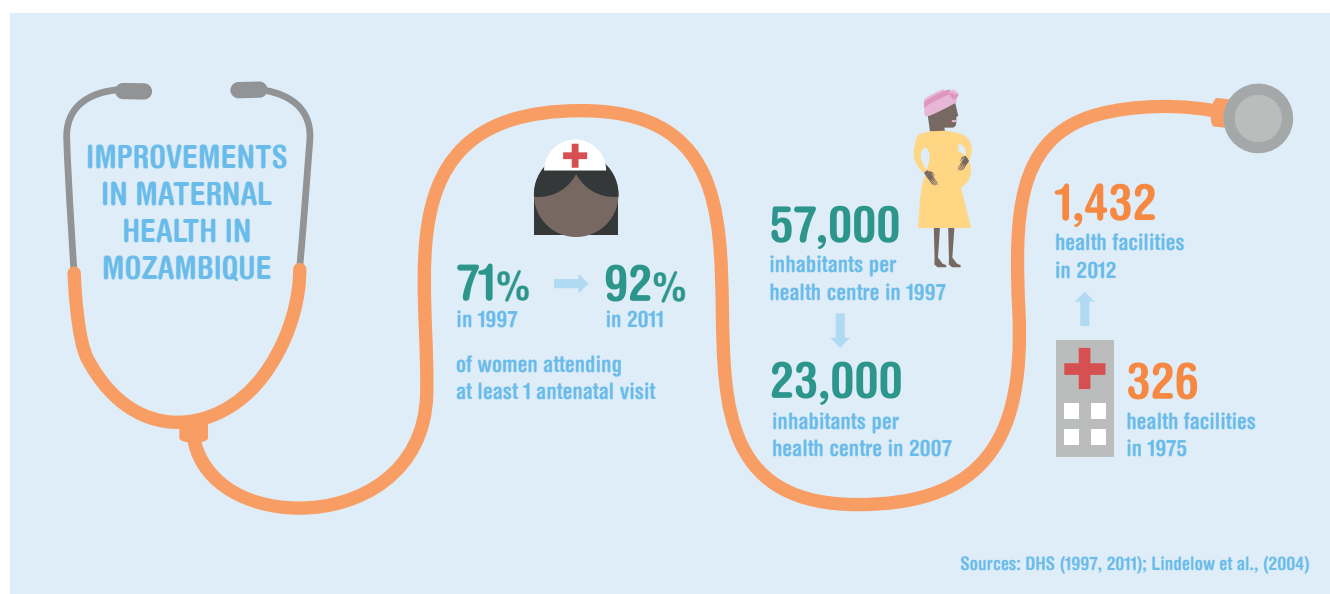
An extensive road-building programme following the war has complemented this improvement, in part restoring the road structure in the country. However, many still face a long journey to reach facilities; the share of women having problems accessing care for themselves when they are sick remained at 61.7% in 2011, although it had declined from

‘Reforms in government financial management through SISTAFE [Sistema da Administração Financeira do Estado] have contributed to improvement in the timeliness, quality and availability of budgetary information in the sector’ – Visser-Valfray and Umarji (2010: 6)

24 The former PFM system (SISTAFE) was put in place in 1997 (De Renzio, 2011). However, due to capacity issues from district to provincial and central level, coupled with the heavy administrative burden of closing incomplete accounts, there were still substantial delays in fund disbursement (key informant interviews).

25 MISAU: Relatório de Infraestruturas, 2007.

26 Care units are calculated by the Mozambican health service on the basis of the time spent on the service, and provide a measure of service output and service utilisation. The care unit gives a weighting to each of the five major health services that together account for the vast majority of service outputs: vaccinations, outpatient consultations, MCH consultations, deliveries and hospital-bed days (Chao and Kloserman, 2002).



71.7% in 2003. According to one doctor interviewed for the study, *'infrastructure is much better now, but there are a lot of things still missing – with especially water and electricity being a big issue. However, the most basic materials have been available in every health facility.'*

Since the 1990s, the government has also made substantial efforts to improve access to pharmaceuticals (and especially anti-retroviral drugs), with high-quality medicines now available in all provinces. However, drug provision remains one of the main weaknesses in the system, with more than 75% of the population still using traditional medicine and often turning to traditional practitioners as the first point of call.²⁷ Frequent stock-outs still constitute a major barrier to improving health outcomes, with patients often buying medicines from expensive private pharmacies as a last resort (Koenig and Goodwin, 2011). However, in recent years a roadmap for improving the sub-sector has been developed and budgeted.

Human-resource policies and efforts to increase the number of health workers

Particularly in recent years there has been a substantial push to increase the number of health workers at all levels. While Mozambique still lags far behind the regional average in terms of the size of its health workforce,

its expansion in access to care was achieved through the upgrading of staff skills, the training of medical doctors (MDs) and the contracting of expatriate doctors. Independence prompted an exodus of Portuguese professionals, which left only 80 doctors for a nation of 14 million in 1975 (Ferrinho and Omar, 2006).²⁸ According to one informant interviewed, *'there have been large training programmes for health workers and a better distribution of technicians... That shows a clear governmental priority for health relative to education for example, where there were important cuts in teachers hiring.'*

The Manpower Development Plan 1992-2002 details these efforts to re-establish services. This plan, Visser-Valfrey and Umarji (2010: 19) argue, 'was very significant and played a major role in steering the recovery efforts in the health sector in the right direction', as it created a framework for the development and recovery of the sector, and provided donors with a common strategy to support.

Increasing access to quality healthcare in rural areas has been a priority since 1992, with a series of plans focusing on this.²⁹ Strategies to increase human resources in the health sector in Mozambique have been described as innovative and efficient by observers, including the World Bank, for whom 'the Mozambican track record is one of innovation, steady improvement, meeting targets and adaptability. With limited human resources, much has

27 See <http://www.afro.who.int/en/mozambique/country-programmes/health-systems/essential-drugs-and-medicines.html>

28 Initially, the MoH filled the need for specialist MDs by contracting expatriate technical assistance. During the socialist era (1975-1989) most doctors arrived from the Soviet Bloc – mainly Russians and Cubans – who came as 'cooperantes' to support the development of universal health coverage. A crisis in human resources for health (HRH) followed the collapse of the USSR, but 'cooperantes' were soon replaced by NGO doctors as the latter proliferated in the country in the 1990s. One of the negative influences of NGOs was an 'internal brain-drain' of qualified health workers from the public sector to NGOs (Pfeiffer, 2003; Sherr et al., 2012). This internal brain-drain hindered the government's efforts to upgrade the quality of care in the health system, as those most qualified and most able to supervise basic staff tended to be recruited by the private sector or by NGOs.

29 This includes the first HRH development plan (1992-2002) and the HRH plan (2001-2010), as well as the Health Workforce Development Plan 2008-2013, supported by the PROSAUDE common funding partners and the US government (MoH, 2008).

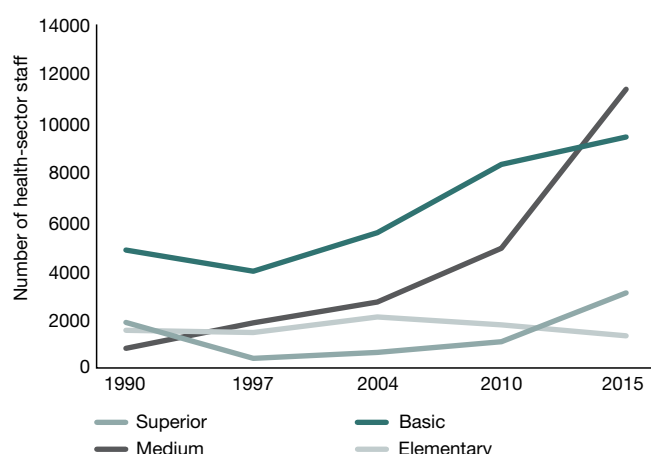
been achieved' (Ferrinho and Omar, 2006). Apart from the recruitment of expatriate medical doctors, there have been increases in national MDs' wages to limit the 'brain-drain', training of nurses and medical technicians to fill the need for clinical care in rural areas, and task-shifting at all levels of the NHS.³⁰ According to a recent report, 'the impact of the human resources development strategy and plan is beginning to show, with numbers and densities of health workers improving' (MoH and TARSC/EQUINET, 2010).

The supply of indigenous MDs has also increased through extensive training programmes (see Figure 13). Progress has been slow, however, due to the limited supply of qualified applicants and training staff, and Mozambique still has one of the world's lowest ratios of doctors to population (0.3 doctors per 10,000 people). Since 1990, the number of doctors has increased to almost 1,000, a significant increase, though this still means that there are only approximately 0.4 doctors per 10,000 inhabitants (MoH and TARSC/EQUINET, 2010) – one of the lowest rates in sub-Saharan Africa. On average, between 1975 and 2003, only 22 doctors were trained annually in Mozambique. This slow progress was partly a consequence of the conflict, as well as high drop-out rates resulting from inadequate high-school preparation, lack of material and poor quality of teaching, on top of a certain degree of outward migration by trained professionals. High costs also constrained the ability of the MoH and the Ministry of Education to train health staff (Vio, 2006).

The expansion of the lower-level healthcare personnel initially proceeded through the training of nurses, midwives and community health workers (discussed in greater depth in Section 3.3). The latter were the backbone of maternal healthcare in rural areas until 1984, when the first specialised nurses started working in rural areas. Their responsibilities included giving pre-natal care, supporting pregnancies, assisting in deliveries, providing post-delivery consultations as well as family planning, and immunisation of pregnant women and newborn children when community health workers were not available. These nurses were also in charge of training midwives and auxiliary midwives (Lourenço and Tyrell, 2009).³¹ While the number of nurses has been increasing gradually, there are still only 3.4 nurses per 10,000 people according to the WHO's most recent Global Health Observatory data, which is far less than half the regional average (9.1).³²

Since 2004, there has been progress through the increase in medical-school class size and in the number of medical

Figure 13: Numbers of health-sector staff by level of training



Source: MISAU (2004-2012)

schools in the country from one to four; the annual output of new physician graduates currently exceeds 100 (Sherr et al., 2012). Doctors, however, only tend to spend their first two years in rural areas – where they are compulsorily posted after graduation – before better career opportunities attract them back to Maputo or to other urban areas, leaving rural areas deprived of qualified resources (Pereira et al., 2007). Therefore, the increase in MDs only has a limited beneficial impact on rural areas.³³

This gap is, in part, being addressed by the training of additional health staff. The most innovative strategy deployed by the MoH to increase the quality of healthcare has been the training of non-physician health staff, known as '*técnicos de medicina*' (TMs, medical technicians) and '*técnicos de cirurgia*' (TCs, surgery technicians), who are part of the medium level within the hierarchy. TMs follow a pre-service training of 30 months, after completion of the tenth grade, as well as an internship with qualified health staff before they can work autonomously (Brentlinger et al., 2010). TCs have been trained since 1984 as a response to the acute shortage of surgeons in rural areas, where the unmet need for emergency healthcare was particularly acute in the fields of obstetric care and war casualties. The programme trained experienced and qualified nurses and TMs with an additional two-year course in clinical surgery in the Maputo central hospital followed by an internship with a qualified surgeon.

30 Task-shifting is the name given to a process of delegation whereby tasks are moved, where appropriate, to less specialised health workers.

31 The first nurses specialised in obstetric care were trained in Brazil, until the Superior Course in Nursing and Maternal Nursing was established in 2004 in Mozambique, at the Superior Institute of Health Sciences, a public institution with vocational training, aimed at training health staff (ibid.).

32 See <http://www.who.int/gho/countries/moz.pdf>

33 A study tracking Mozambican MDs trained between 1980 and 2006 found that 49% lived in Maputo (ibid.). Another study shows that seven years after graduation, 0% of MDs remained in rural areas, where they are posted for two years after graduation (Pereira et al., 2007).

The advantages of this strategy are tangible in terms of costs and service provision to remote locations since both their training and salary are significantly lower than for MDs (a TC salary is a quarter that of an MD), and they tend to stay in remote areas longer.³⁴ This allows physicians and hospitals to focus on the more complicated cases.³⁵ Further, research by HAI using patient records from 2004 to 2007 in two provinces in central Mozambique showed that *técnicos* provided ‘*care of the same quality or better than physicians*’ with HIV-positive patients seeing *técnicos* for their first visit being more likely to adhere to anti-retroviral therapy than those seeing physicians, and less likely to stop coming in regularly for care (HAI, 2009).

Other forms of task-shifting are extremely common all over the country, though this is often unplanned, reflecting the necessity to respond to patients’ needs immediately as well as inbuilt systemic flexibility (Ferinho et al., 2012). According to a study by Ferrinho et al. (2012), in Mozambique, all categories of health workers receive training in minor surgical procedures, injections and management of patients. Auxiliary nurses tend to assume nursing responsibilities above their level of training. Hospital managers carry out management responsibilities and clinical duties, and there is a significant overlap between nurses and *técnicos*.

Although task-shifting does help to increase capacity, there are negative consequences: these extra duties often imply working overtime, which is not rewarded and leads to demotivation, lack of recognition, and unhappy workers. Lack of staff also means it is difficult to release personnel for continuing education, and thus leads to poorer quality of care, affecting TMs maternal and child-health nurses most often. This is compounded by the lack of appropriate accommodation for qualified health workers, which is the major difficulty in placing staff in rural areas (Ferinho et al., 2012).³⁶

To summarise, there have been substantial supply-side changes in Mozambique’s health system. On the infrastructure side, these have consisted primarily of expanding the network of health facilities, and upgrading existing ones, with a focus on particularly under-served areas. In terms of human-resource policies, despite the budgetary and capacity limitations there have been considerable efforts to increase the size of the workforce, with task-shifting to lower-level workers and the large-scale recruitment and training of TMs and TCs playing a particularly prominent role.

3.3 Rising demand spurred by education and outreach efforts

While the first two broad drivers of progress have focused more on removing supply-side constraints to accessing health services (for example, through expanding funding, staff, roads and health centres), the third explores the demand side, since stimulating demand is critical for uptake of services. In Mozambique we find emerging evidence of mechanisms that have stimulated demand, leading to positive effects on maternal and child health.

Broadening access to education

Education is broadly acknowledged in the literature as one of the central determinants of health-service utilisation and, in turn, improved health outcomes (Sperling and Herz, 2004; Irwin and Scali, 2007). The evidence from Mozambique tends to support this. While the majority of women still have fewer than two years’ education, this trend is changing, in particular since the 2005 abolition of school fees for basic education. Girls’ enrolment rates have increased over the past two decades, with primary enrolment jumping from 37.3% in 1991 to 87.6% in 2011 (see Figure 14, overleaf). Gender parity at primary level has been almost achieved in most areas, after decades of female exclusion from education. Net enrolment rates for secondary education, while low, have also been increasing, from 5% in 1992 to 17% in 2012. These substantial improvements mean that the country could achieve (or come close to meeting) MDG 2 on universal primary education; however, while the gender-parity index has increased from 0.71 in 1997 to over 0.9 in the most recent estimates, there are significant geographic inequalities, as there are for most indicators.

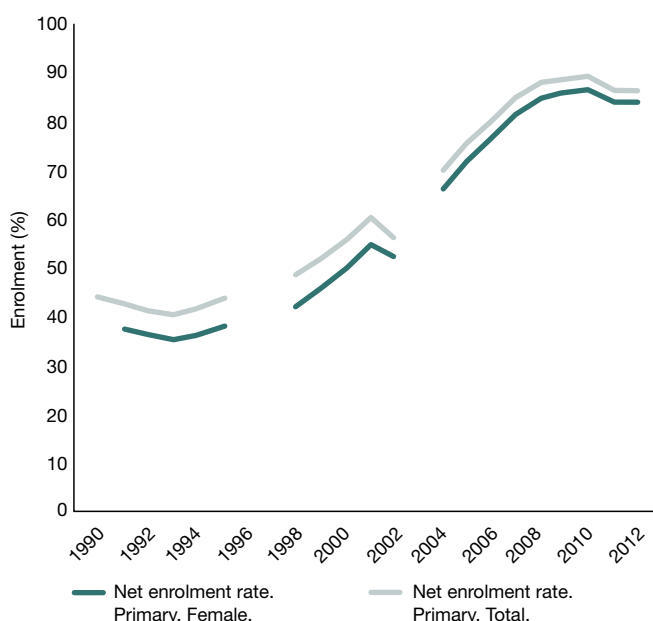
The DHS data from Mozambique further shows that improving access to education for girls, particularly following the completion of primary school, can be an important determinant of use of health facilities (or at least correlates with facility use). Higher levels of education for mothers is associated with declining under-five mortality rates, i.e. the higher the education level of the mother, the lower the mortality levels in under-five-year-olds (see Figure 15, overleaf). In recent years, this seems to have become a growing priority – according to Mozambique’s 2010 MDG Report (UNDP, 2011), there was a 60% increase in the rate of women’s participation in adult literacy programmes between 2007 and 2009 alone. This

34 According to Pereira et al., (2007), ‘in Mozambique, TCs perform 92% of all major obstetric surgical interventions in rural hospitals. Without them, provision of emergency obstetric care in rural areas would be impossible and the planned expansion of this service to other rural areas still in need would have to wait for at least another couple of decades...’. The same study finds that after seven years, 88% of TCs were still in district hospitals, against 0% of MDs.

35 As these qualifications are not recognised internationally, the proliferation of these qualifications slowed down the migration to better-paid markets, helping to keep trained staff in country.

36 It is felt, however, that the deficit of health workers is improving, therefore reducing spontaneous task-shifting (Ferinho et al., 2012.). Indeed, between 1992 and 2002, personnel with higher or mid-level education increased by a factor of three due to upgrade courses.

Figure 14: Primary net enrolment rate, boys and girls



Source: UNESCO Institute of Statistics

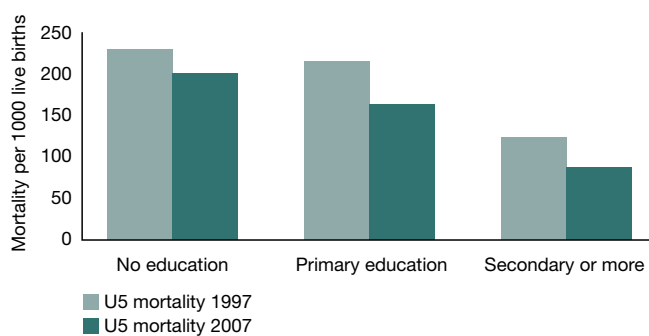
is supported by informant interviews – according to one public-health expert and advisor, *‘the education situation is improving a lot’* and is making an important contribution in improving health outcomes.

Outreach efforts

Outreach efforts are key to raising awareness of the existence of health services and the need for women and children to use them, and to reaching remote rural areas. One successful way of doing outreach in Mozambique is through involving community members. A key initiative supporting this community involvement was the 2009 national *Iniciativa Maternidade Modelo* (Model Maternity Initiative or MMI). Not only did the MMI aim to scale up humane care and high-impact interventions for maternal and neonatal health, along with promoting key preventative reproductive health/family-planning services; it also aimed to involve communities in this scale up.³⁷ (Reis, 2012; Chongo et al., 2013).

Community health workers (CHWs), known as *agentes polivalentes elementares* (APEs), have played an important role in the story of community involvement in Mozambique. While CHWs are not unique to Mozambique, perhaps what does make them particularly successful and noteworthy is not only the long history of the approach

Figure 15: Under-five mortality by level of education of mother



Source: DHS and census data

here – the APEs and the community health programme which they were based upon was founded in 1978 – but the fact that even during the conflict years, this approach, often supported by NGOs, continued, and has more recently gained momentum. This recent momentum, particularly since 2009, is visible through the inclusion and expansion of the CHW programme in the Mozambican National Plan for Health Human Resources Development (NPHHRD) 2008-2015, also supported by NGOs. According to Bhutta et al. (2010: 344), it *‘is the only CHW program that is well structured, and with clear curriculum and training materials agreed on by all the partners. All other programmes are rather ad hoc in nature and not nation-wide.’*

APEs are trained for 18 weeks, receive a monthly stipend equivalent to around \$50 and sign annual contracts following performance assessments. Their primary role is to carry out health promotion and preventative activities specific to their catchment area, including providing counselling on family-planning methods, promoting deliveries within health facilities, promoting nutrition programmes and treating common ailments (Bhutta et al., 2010). The efforts of APEs have been of particular relevance for MCH and are likely to have contributed to progress achieved in this area. As a result of the 2007-2012 SWAp, 400 APEs have been trained since 2009, despite initial logistical and financial difficulties.³⁸ According to one informant, these APEs have been significant in *‘creating awareness and convincing the population of the benefits of using health centres.’* This is particularly important given the limited number of doctors and the difficulties in transport.

In addition to the APEs/CHWs, traditional midwives are being trained by NGOs and the health system, although they are not part of the national health

37 The MMI currently operates in 34 of Mozambique’s largest hospitals and has trained 600 health workers.

38 In 2011, the SWAp joint evaluation focused particularly at evaluating community programmes following doubts regarding the quality of training and programme implementation of these activities voiced by the 2010 joint evaluation of the SWAp. APEs’ work was found to be satisfactory and was appreciated by communities. It was thought that the revitalisation process of APEs was gaining maturity, although the monitoring of their work by districts was still weak, due to the lack of resources (notably transport and telecommunications) at the district level.

system and negotiate fees directly with patients. Other community agents such as, the volunteer *activistas*, are vital in increasing health awareness and in promoting child and maternal health; they receive incentives (radios, bicycles etc.) to perform this voluntary work. According to informant interviews, NGOs are particularly active in the area of community involvement, bearing much of the cost of training activists and APEs. Coordination between NGOs and the MoH seems to be insufficient; however, interviewed NGOs were found to collaborate efficiently with provincial administrations.

A number of NGOs and other development partners, with support from the Government, have been providing outreach services aimed at stimulating demand. One means is through the provision of incentives to promote appropriate health-seeking behaviour. For instance, since 2008, SolidarMed has established incentive mechanisms to promote institutional deliveries in the provinces in which it works. These incentives include a 'baby package' whereby every woman who delivers her baby at the health facility receives a gift (consisting of a fabric baby carrier, a baby outfit, diapers and a baby bathtub).³⁹ Additionally, there are plans underway to scale up this approach.

Another incentive to stimulate demand for safe maternal-health practices was the establishment in 2009 by the MoH of maternity waiting homes (MWH) – *casa de espera* – (MoH, 2009) as part of a wider strategy to improve motherhood.⁴⁰ The strategy was designed to provide pregnant women with a place to stay where they are monitored and taken care of by health personnel in the days before delivery. It aims to increase the number of institutional deliveries for women living in remote rural areas that otherwise would have to walk to reach the nearest health centres (MoH, 2009). Raising awareness of the existence of these MWHs through CHWs for example

acts as a demand incentive for women to deliver in health centres. An evaluation of this strategy found that health facilities with MWHs have 3-4% higher coverage for institutional deliveries than health facilities without this service, particularly for women travelling from short and medium distances (Ruiz, 2010).

Other NGOs working on demand-side programmes include the 'Sexual and Reproductive Health and Rights and Safe Abortion' programmes being undertaken in Gaza and 'Inhambane provinces' by Pathfinder. Additionally, the 'USAID Family Planning Initiative Project', also implemented by Pathfinder, aims to increase demand for and use of family planning and reproductive health services in 16 districts of Maputo, Gaza, Inhambane and Cabo Delgado provinces. Save the Children is working with the MoH and others to fill gaps in existing child programmes to ensure essential newborn and postnatal care. Health Alliance International has implemented an integrated antenatal care programme (IANC) in the provinces of Sofala, Manica and Tete provinces in central Mozambique. The programme seeks to provide women with a comprehensive package of services, through a widespread network of provincial health-centre facilities that addresses all antenatal healthcare needs.

Policies and programmes focusing on demand-side barriers are buttressed by a long-standing, and gradually expanding, social-protection system, including a basic social-subsidy programme, which grants a social benefit to about 300,000 extremely vulnerable households. This is predominantly targeted towards older people without families, but is also being expanded gradually to individuals suffering from HIV and AIDS. All these demand-side initiatives both raise awareness and provide incentives to draw women into health clinics and encourage them to make safe maternal-health choices.

39 Little evaluation evidence exists yet around this scheme, but according to the SolidarMed website, 'the number of supervised deliveries in both districts has more than doubled, as word of the good facilities spreads and ever more women trust the medical services.' <http://www.solidarmed.ch/en/countries/mocambique>

40 MWHs existed in the country previous to the official launch of the strategy in 2009. In fact, the strategy emerged from a maternal and neonatal health needs assessment that included the evaluation of a sample of 114 MWHs and 332 pregnant women who were using the service (Ruiz, 2010).

4. What are the challenges?

Despite the clear improvement in many health outcomes, this has been achieved from a very low baseline and relies heavily on outside funding. The foundations of the health system are now stronger, and there is a clearer policy framework, but sustaining the trends of the past 20 years will require addressing several challenges.

4.1 Quality of care

The overarching concern listed by informants related to the quality of health services. According to one informant, *‘the effort in getting to the health facility is not compensated with the service they might find there.’* The poor training of many health workers and frequent absenteeism create a barrier to the improvement of health outcomes. Despite very ambitious plans based on WHO best practice, the health system continues to face severe limitations in terms of staff and equipment, and due to frequent medicine stock-outs. Among the causes listed for this are the poor distribution of health workers among provinces, districts, facilities and services within health units; high levels of absenteeism due to illness and training seminars; and inadequate infrastructure for the actual volume of patients. These problems are in part attributed to inadequate political engagement by civil society and parliamentarians, who could draw on the strongly rights-based language in the constitution and in strategy documents to ensure better access.⁴¹

4.2 Improving access

Despite supply-side improvements, distance to facilities remains a huge problem. According to one official, *‘there has been improvement on training nurses to deal with obstetric complications and those are no more the main causes of maternal mortality, so that now the main problem with maternal death has to do with delays to arrive to the health centre due to lack of a transport system and precarious roads. In such cases, we were able to save the mother but not the child.’* A central component to improving access to health services is addressing the persistently low rate of contraceptive use, which has repeatedly been shown to be central to reducing maternal mortality.

4.3 Geographic and socio-economic inequality

Despite the improvements made in reducing disparities, a large challenge for the country moving forward remains the inequality of access to, and quality of, health services. As a result, a child in Cabo Delgado province is almost three times as likely to die before age five than a child in Maputo (UNICEF, 2011). While traditional sites of historical poverty and inequity between health need and health services persist (especially between rural and remote regions of the north), in recent years urban poverty in and around Maputo has become an increasing concern. Efforts are being made to improve the situation through the allocation of funds, but MDs are still unevenly distributed across the country, despite government efforts to increase recruitment for more remote areas, and it appears that incentives and facilities are still insufficient to encourage many health workers to spend substantial periods of time in remote areas. Deployment of newly graduated doctors and nurses to the neediest locations can be delayed for months due to lack of housing near the health facility. There is currently little motivation for doctors to work in these areas, and many, according to an NGO worker interviewed, *‘believe that being in [remote] districts is some kind of punishment, and if they behave properly they may be transferred to a less remote place’.* Furthermore, the gap between rich and poor seems to be increasing – according to one informant, the country’s new mineral wealth is leading to *‘a class of people who are incredibly rich’*, which is contributing to higher prices, especially in Maputo, as well as a two-tier health system with stronger incentives for doctors to move to private clinics.

4.4 Inadequate domestic financing, and aid dependence

Given the massive role of donors in funding health programmes, Mozambique is highly vulnerable to any cut in aid, with continued reductions expected in the coming years and a lack of clarity, according to one health economist interviewed, as to *‘whether the Mozambican government can compensate.’*⁴² Following the onset of the

41 According to a recent report by the MoH and TARSC/EQUINET (2010) ‘the role of national civil society and mechanisms for public and community participation in health were identified as serious gaps in strengthening equity and monitoring and supporting the reach of essential services, primary health care and other measures being implemented’.

42 Revenue collection has improved in recent years with the establishment in 2006 of the Mozambique Tax Authority (ATM). As a result, income revenues went from 11.1% in 2005 to 13.5% of GDP in 2008 and the corporate tax from 1% to 2.4% of GDP over the same period. According to the IMF, improvements in tax administration enabled the government to increase revenue collections by 6% from 2009 to 2012. Yet, the income tax is very limited in Mozambique, due to a large informal economy, and corporate taxes are limited by exemptions and tax holidays, which poses a challenge in terms of broadening the tax base, thus, increasing the capacity of the government to bridge the gap in funding (The African Forum and Network on Debt and Development (AFRODAD), 2011).

economic crisis, some donors have pulled out completely, while others are reassessing the level of their commitment. According to one donor, the current high levels of support *'will not go on for long. It will probably last for 10 more years. The changes and reductions on financing are happening already.'* In addition, high levels of aid dependence have led to a relationship between donors and the government which is often highly conflictual, which has complicated planning – the ministry is frequently

unclear as to when and how much it will receive – and impaired national ownership. According to one observer, *'donors end up creating an impossible situation for the MoH specifically because the MoH has few experts and they are permanently overburdened.'* As a result, finding a way of supporting the sector at, and above, current levels through national sources of financing – particularly from the booming extractives sector – will be essential.

5. What lessons can we learn?

Mozambique emerged from its civil war with a decimated health infrastructure, few funds and very limited capacity. Since then there has been a protracted effort to develop and strengthen the health system, rehabilitate and extend health infrastructure, and train and deploy staff including a range of community-based cadres throughout the country. This has been achieved under extremely difficult circumstances, including the ongoing (albeit gradually receding) HIV/AIDS crisis, frequent natural disasters and persistently high levels of poverty, despite the recent economic boom.

It therefore appears that the improved security situation, the economic recovery and the health-sector reforms, alongside increased outreach and education efforts at the community level, together played an important role in contributing to improving MCH outcomes in Mozambique. Improvements were particularly pronounced in child health (in comparison to maternal health, for example). Informants have argued that this is partly because these are easier and cheaper to address. Maternal health necessitates major investment in roads and public transport, as well as major increases in hospital budgets, in order to guarantee (a) more and better basically-trained human resources, (b) the materials and medicine required for basic and emergency interventions on pregnant women and mothers, and (c) changing behaviours and cultural norms regarding contraception.

Mozambique also provides some more positive lessons for other countries aiming to scale up health provision rapidly in a post-conflict setting.

A focus on preventative care

Central to Mozambique's improvements particularly in child health has been a massive expansion of immunisation programmes and preventative measures that have driven the reduction in child mortality rates. According to one informant, *'the notion of prevention was very strong in Mozambique during the 1990s and I don't think it has relented – the idea of prevention, prevention, prevention, has been almost a permanent feature.'* There have been extensive outreach campaigns in villages. Replicating this level of outreach and awareness in the more culturally sensitive area of maternal and women's health will be essential to replicate the scale of progress achieved in child and infant mortality rates.

A sequenced reconstruction and expansion effort

In the post-war setting, addressing the deterioration of the health system, with emphasis on maternal and child health, was accorded a high priority. The first decade of reconstruction, in particular, was characterised by rapid and significant results, especially in the area of MCH. While many community-level initiatives have only been implemented in recent years, these are likely to remain essential in consolidating the gains made to date. With rural poverty rates persistently high, more active analysis of the indirect costs entailed in seeking healthcare is now underway. These costs are being addressed through programmes and policies within the health system, as well as through education, rural development and macroeconomic policies.

Reducing human-resource costs through task-shifting

Mozambique's focus on task-shifting and training maternal and child health nurses, *tecnicos* and APEs has demonstrated how low-level health staff can be trained to take on higher-level tasks relatively quickly even within the context of severe resource constraints.

Financing mechanisms allow for aid to be harmonised and reach lower-level facilities

The early implementation of the SWAp and its gradual improvements over time has helped to reduce the initial fragmentation of aid, allowing for better harmonisation among an extensive array of donors. At the facility level, the use of common funds has been integral to filling funding gaps and keeping health facilities running, supporting drug procurement and topping up salaries while waiting for budget disbursement.

Mozambique's progress over the past two decades – while not on the scale of that achieved in many other low-income countries – is striking. A child born in Mozambique today is more than twice as likely to survive to his or her fifth birthday than one born 20 years ago, and women have significantly better odds of receiving care during pregnancy than they did even 10 years ago. As such, Mozambique's performance is impressive given the scale of challenges the country faced, including a conflict that had decimated its health system, extremely high rates of poverty and the HIV/AIDS pandemic.



A woman walks up the steps of a hospital on Mozambique Island Mozambique. Photo: © Carlos Reis

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