THE ZIMBABWE HEALTH SECTOR INVESTMENT CASE (2010 - 2012)

Accelerating progress towards the Millennium Development Goals

Equity And Quality In Health

A People's Right

March 2010

The Ministry of Health and Child Welfare is grateful to the United Nations Children's Fund (UNICEF) and the World Bank for supporting development of this plan.

Contents

Acronyms

ACT	Artemisinin-based Combination Therapy
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Infection
ART	Antiretroviral Therapy
ARV	Anti Retroviral Drug
BEmONC	Basic Emergency Obstetric and Newborn Care
CBD	Community Based Distributor
CD4	Cluster Differentiation 4
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
Chn	Children
CHW	Community Health Worker
CPR	Contraceptive Prevalence Rate
CWGH	Community Working Group on Health
DFID	United Kingdom Department for International Development
DHE	District Health Executive
DMO	District Medical Officer
DPT	Diptheria, Pertussis and Tetanus Vaccine
EC	European Commission
EHT	Environmental Health Technician
EPI	Expanded Programme of Immunization
FP	Family Planning
GDP	Gross Domestic Product
GOZ	Government of Republic of Zimbabwe
HIV	Human Immunodeficiency Virus
ICU	Intensive Care Unit
IFA	Iron Folate Supplements
IM	Intramuscular
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IMR	Infant Mortality Rate
IRS	Indoor Residual Spraying
IV	Intravenous
LLIN	Long lasting insecticide treated mosquito net
MBB	Marginal Budgeting for Bottlenecks
MCH	Maternal and Child Health
MCV	Measles Vaccine
MDG	Millennium Development Goal
MDR	Multi Drug Resistant Tuberculosis
MIMS	Multiple Indicator Survey
MOHCW	Ministry of Health and Child Welfare
MRP	Manual Removal of Placenta
NGO	Non Governmental Organisation
NHS	National Health Strategy

ORS	Oral Rehydration Salts
PCN	Primary Care Nurse
PHC	Primary Health Care
PMD	Provincial Medical Director
PMTCT	Prevention of Mother-to-Child Transmission of HIV infection
PROM	Premature Rupture of Membranes
RHC	Rural Health Centre
RRP	Removal of Retained Placenta
SAM	Severe Acute Malnutrition
STI	Sexually Transmitted Infection
TARSC	Training and Research Support Centre
TB	Tuberculosis
U5MR	Under 5 Mortality Rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHW	Village Health Worker
WHO	World Health Organisation
ZDHS	Zimbabwe Demographic and Health Survey
MDG	Millennium Development Goal
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VHW	Village Health Worker
WHO	World Health Organisation
ZDHS	Zimbabwe Demographic and Health Survey

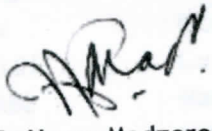
Foreword

The recent Multiple Indicator Monitoring Survey (MIMS) and the Maternal and Peri-natal Mortality study as well as administrative data sources indicate a consistent pattern. The Zimbabwean health system has been in decline for more than a decade and the result is a systematic decrease in coverage of most basic services and a rising maternal and child mortality rate. This decline is most noticeable in key areas of maternal and child health, such as the Expanded Programme on Immunization and obstetric care for pregnant women, once high-performing core elements of Zimbabwe's Primary Health Care System. In addition, even in sub-sectors such as access to anti-retroviral treatment for HIV, where overall progress has been solid, coverage for critical groups such as pregnant women or children is either unknown or very low. Finally, the disparities between urban and rural access continue to grow.

Support to the health sector is one of the top priorities of the Inclusive Government of Zimbabwe. Support to the sector has been emphasized in the Short Term Emergency Plan (STERP) and the soon to be released, Mid-Term Plan, 2010-2015. The Inclusive Government has indicated its commitment to reaching the Abuja target of 15% of total government expenditures going towards the health sector. In addition, an ambitious National Health Strategy is now in place that covers the period 2009-2013. Building upon these documents, the Health Sector Investment Case, 2010-2012, outlines the key package of health services, the key health system bottlenecks to be overcome, the desired coverage targets, the incremental costs and the expected achievements in relation to the health MDGs.

The investment case validates the historical focus of the Ministry of Health and Child Welfare on Primary Health Care, with a strong focus on community-based approaches, complemented by robust referral systems and facilities. Under the most ambitious scenario in the investment case, an additional investment of 700 million USD over 3 years or around 19 USD per capita is required to achieve a reduction in under 5 and maternal mortality of 38% and 17% respectively. The Ministry is currently undertaking a mapping exercise to determine the current resources available, mostly through the support of bilateral and multilateral partners, in order to determine the precise financing gap. Concerted efforts will then need to be made in order to expand the fiscal space available for the health sector through internal and external sources.

Further efforts will now be made to ensure that both government resources and external aid are focused on the national health packages and priorities outlined in the investment case. While it is clear that more aid is required, it is also clear that there are risks of fragmentation of the assistance for the health sector, unless the health system is supported more broadly to deliver on the health MDGs in Zimbabwe. We call on all partners to support our efforts in this regard.



Dr Henry Madzorera

Minister of Health and Child Welfare
March 1, 2010

1. Rationale

The consummation of the Government of National Unity together with the stabilization of the economy in 2009 has created an environment that has allowed the health sector to move from emergency planning mode to the completion of an ambitious five year National Health Strategy (2009-2013[1]) (NHS). Based on data from the Zimbabwe Demographic and Health Survey, 2005/6 (ZDHS), Multiple Indicator Monitoring Survey, 2009 (MIMS), Maternal and Perinatal Mortality Study and other studies, the NHS has identified that Zimbabweans are dying from easily preventable and treatable conditions e.g. HIV and AIDS, malaria, pregnancy related complications, diarrhoeal diseases etc. As a result most health indicators have stagnated or deteriorated. Consequently, the country is off track in most of its health targets including the **Millennium Development Goals (MDG)** targets (Table 1). The health system, which is supposed to assist in improving these health indicators, has almost collapsed. The MOHCW has therefore made a deliberate decision to catch-up on lost ground in meeting its targets with special emphasis on the MDGs. The MOHCW realises that it is impossible under the current economic environment to implement all the provisions of the NHS. The major challenge facing the health sector is **lack of resources** - financial, human and material. If the current funding levels and weak capacity of the public health system persist or deteriorate, Zimbabwe will not achieve health related MDGs.

Table 1: Progress towards selected health related MDGs

Indicator	1999	2005	2009	MDG target
Infant Mortality Rate (per 1000 live births)	65	60	60 (MIMS)	22
Under Five Mortality Rate (per 1000 live births)	102	82	86 (MIMS)	34
Stunting in children under 5 (percent)	27	29	35	7
Exclusive breastfeeding during the first 6 months (percent)	27	22	26	70
Children 12 -23 months fully immunised (percent)	67	53	49 (MIMS)	90
Maternal Mortality Ratio (per 100,000 population)	578	555	725	145
Skilled attendance at delivery (percent)	72.5	68	60 (MIMS)	100
HIV and AIDS prevalence in adults aged 15 - 49 (percent)	28	18.1	13.7	9
Adult ART coverage (percent)	0	4	54	100
Paediatric ART coverage (percent)	0	<1	57	100
TB Incidence (notifications per 100,000 population)	355	1047	782 in 2007	178
Malaria incidence (cases per 1000 population)	122	124	94 in 2008	62
TB treatment success rate (percent)			78% in 2007	
Crude death rate (deaths per1000 population)	17.2	-	20	
Life expectancy at birth (years)	45	43	43	

In a deliberate attempt to mobilize resources to implement the three-year plan, the MOHCW has developed this **Health Sector Investment Case**. The audience of this document includes but is not limited to (i) government of Zimbabwe (GOZ), (ii) development partners, (iii) technical partners, (iv) private sector, (v) civil society and (vi) the general public. The major thrust of the **investment case** is to revitalize the health sector, identify high impact priority interventions and mobilize additional resources to scale up progress towards attainment of MDGs, which are currently lagging behind. It is anticipated that the benefits of scaling up MDG related interventions should positively impact on the wider health system. Whilst every effort was made to ensure **wide consultation and inclusivity** in the preparation of this investment case, the MOHCW acknowledges that the document may have omitted some health interventions and current and/or planned inflows into the health sector. Such omission was not intended, but may be due to the document's key focus on health MDGs.

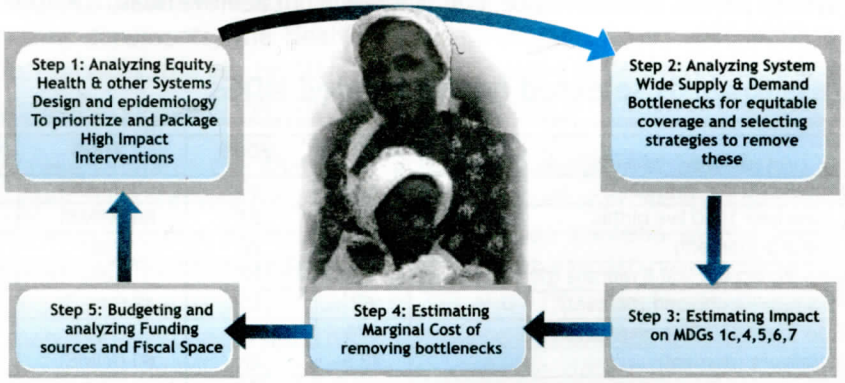
[1]The National Health Strategy for Zimbabwe (2009 - 2013), Equity and Quality in Health: A People's Right, MOHCW

2. Process of developing the investment case

The investment case was developed through consultation of key stakeholders (Annex 1) in health including government, development and technical partners, civil society, programme managers and the private sector. UNICEF, World Bank and WHO provided joint technical support. The investment case draws from the NHS, which is based on information from several studies carried out in the last two years (Study on Access to Health Services, Vital Medicines and Health Services Survey, CWGH surveys, Zimbabwe Maternal and Perinatal Mortality Study etc) and also the existing national plans and programmes. The NHS and consequently the investment plan takes into account regional and international commitments made by the country including but not limited to (i) the Millennium Development Goals (MDGs), (ii) the Ouagadougou declaration, (iii) the Africa Health Strategy and (iii) other regional health commitments and protocols.

The Marginal Budgeting for Bottlenecks (MBB) tool[2] was used to guide development of the investment case. Figure 1 outlines the process of developing the investment plan using the MBB tool.

Figure 1: Steps in MBB: Results-Based Planning, Costing & Budgeting



The MBB tool helps to: a) plan and forecast the potential cost and impact of scaling up investments to remove health system constraints; b) prepare evidence-based expenditure programmes and health budgets; and c) assess allocative and input efficiency of various resource utilization scenarios. The tool is premised around the results framework (or expanded logical framework approach) where resource inputs are translated into outputs, outputs into outcomes, and outcomes into impact. The resulting conceptual framework disaggregates the health outcome production process into service production and health production functions. The service production function captures how inputs (investment) transform into health services, and includes costing and coverage indicators. The health production function translates the health services into health outcomes, focusing on the epidemiological process, i.e. mortality and/or morbidity reduction. This translates to a return on investment into the health sector.

Data was mainly obtained from several key documents and expert opinion where reliable data was unavailable. A three-day workshop of the Three-year Plan Taskforce was organized in Harare in November 2009 to identify three year priorities from the NHS, orient members on the MBB tool and gather preliminary baseline country data. A second workshop, attended by Provincial Medical Directors (PMDs), was held from 7-11 December 2009 in Harare to (i) complete baseline data collection and validation, (ii) conduct an analysis of bottlenecks in achieving the three year priorities, (iii) discuss and agree on technical and policy strategies to address identified bottlenecks, (iv) based on agreed strategies, set targets for three investment options (modest, medium and comprehensive), (v) estimate additional funding per capita required for each option, and (vi) assess the financing gap for each of the three options. The ensuing report and proposed investment options were further discussed with and verified by MOHCW programme managers and development partners.

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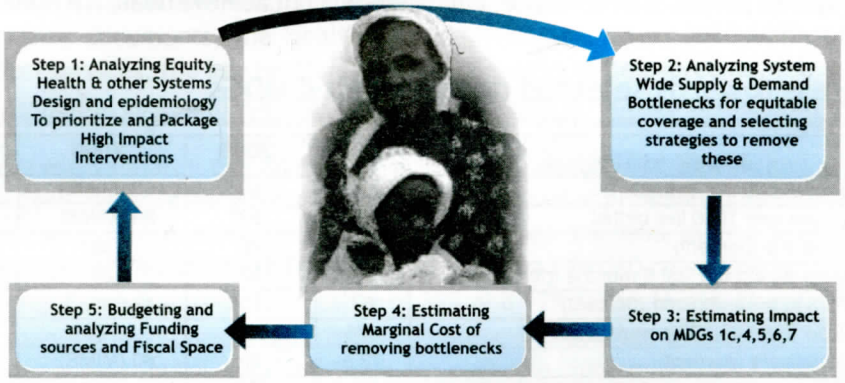

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3. Analysis of the health system

The MOHCW is focussed on revitalizing the Primary Health Care[3] Approach (PHC) to address the health needs of the nation. The same was reinforced in the Assessment of Primary Care in Zimbabwe (2009)[4] which clearly articulated the need to "Put in place a **national PHC strategy**, backed by clear service entitlements, with resources effectively applied to community and primary care levels of the health system" as "an entry point to wider PHC oriented changes". In this context the NHS identifies three important objectives of the health system in Zimbabwe - (i) to keep as many people as possible in good health in the community through health protection, health promotion and disease prevention strategies, (ii) to provide appropriate quality services for those needing care in the community **(Primary care)** and (iii) to provide high quality hospital services at the appropriate level for those few requiring that form of treatment and care **(Secondary, Tertiary and Quaternary care)**.

The World Health Organisation (WHO) advises that inadequate health systems are one of the main obstacles to scaling-up interventions to secure better health outcomes and further identifies six essential building blocks to strengthen health systems. The MBB tool allows the assessment of health system performance by identifying bottlenecks at specific points in the service delivery process using selected high impact interventions. The interventions used in the development of this investment case were selected from the different packages of services at each level of the health system taking into account the national disease burden, existing national programmes and the WHO health systems building blocks[5]. The following coverage indicators were used to assess the performance of the system in delivering the selected interventions: (i) availability of essential commodities, (ii) availability of human resources, (iii) physical accessibility, (iv) utilization (initial and continuous utilization), and (v) quality of service. The following sub-sections discuss the current situation, possible causes and proposed strategies to address identified bottlenecks in providing the selected services at three levels of care - household (community), clinic (primary) and hospital (secondary, tertiary and quarternary). Each level of care is expected to offer a package of clearly defined services provided by appropriately trained health professionals. ***Whilst careful selection of interventions at each level of service delivery was done, the performance of the system using the selected interventions may not, in some instances, be entirely generalizable to all the core package of services provided or planned at each respective level. However the strategies proposed to address the identified bottlenecks are not limited to the selected interventions but are meant to address gaps in the broad service delivery at each level.***

3.1 Primary level

The primary level consists of a network of community health workers and health centres. The community level of health services includes all actions that families and communities can take to maintain and improve their health and nutrition status. The primary level also incorporates the most peripheral unit, and first point of contact between the people and the health delivery system, the Rural Health Centre or clinic.

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[3]Primary health care was initially declared in Alma Ata in 1978 and reaffirmed in Ouagadougou in 2008, as a strategy that seeks to respond equitably, appropriately, and effectively to basic health needs. It includes the following eight elements (i) education concerning prevailing health problems and the methods of preventing and controlling them; (ii) promotion of food supply and proper nutrition; (iii) an adequate supply of safe water and basic sanitation; (iv) maternal and child health care, including family planning; (v) immunization against the major infectious diseases; (vi) prevention and control of locally endemic diseases; (vii) appropriate treatment of common diseases and injuries; and (viii) provision of essential drugs

[4]Health where it matters most: An assessment of Primary Health Care in Zimbabwe March 2009, Report of a Community Based Assessment, Training and Research Support Centre (TARSC) with Community Working Group on Health (CWGH), May 2009

[5]Everybody's Business: Strengthening Health Systems to Improve Health Outcomes (WHO's Framework for Action), Geneva, World Health Organization, 2007.WHO Health Systems

3.1.1 Community health

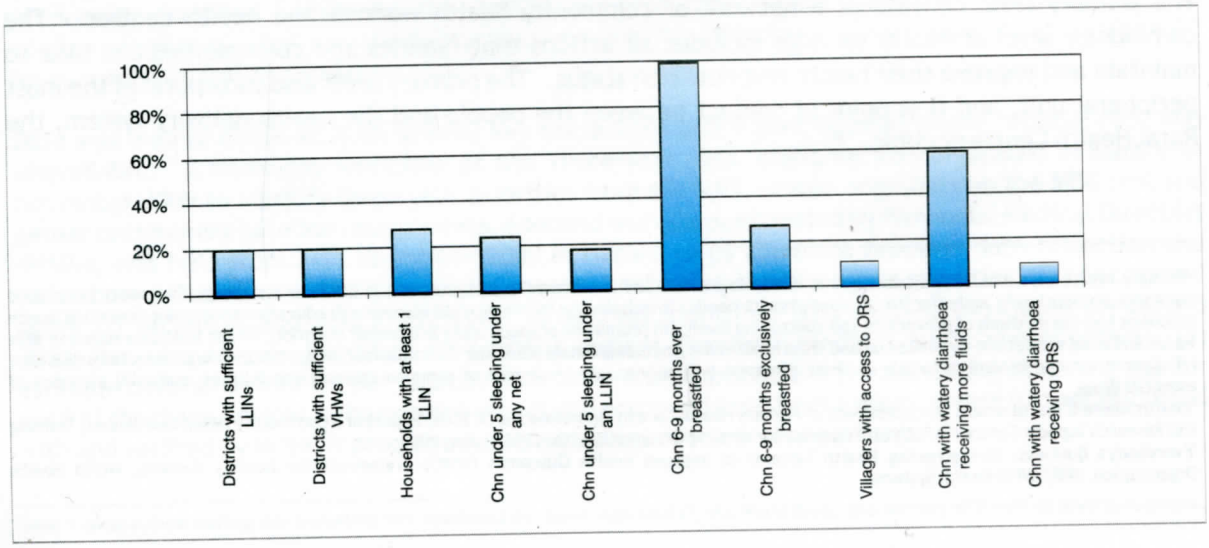
In line with the Primary Health Care approach, which calls for a conscious acceptance by the community of the responsibility for its own health, the tradition of community involvement in health has been preserved. There are a number of home or community based health practices or behaviors that can be carried out by households or communities themselves after receiving guidance. The role of the health system, in this situation, is to empower communities through information, education and other communication strategies, as well as other forms of support, for instance, in the form of provision of insecticide treated mosquito nets, provision of safe drinking water and sanitation and provision of oral rehydration sachets etc.

Community health workers are often the key link between communities, especially rural, and local health services. These cadres mobilize households and communities in activities that foster promotive, educative, and preventive, preventive health behaviour. In Zimbabwe Village health workers (VHWs) are the commonest community health worker in rural areas where they are usually the service provider in the prevention of locally endemic conditions, treatment of simple conditions and disease surveillance. Rural health centres supply appropriate medicines and commodities and provide on-going technical supervision and support to VHWs. Ideally one village health worker should serve 100 households or a village. The equivalent of VHWs in urban centres are called Health Promoters.

Community Based Distributor (CBD), whose main function is to promote family planning services including the re-supply of appropriate contraceptives, is another key community health worker. The growing range of community health workers includes former chloroquine holders, depot holders and home-based caregivers. Community health workers are not intended to be full-time health workers on salaries but receive variable monetary stipends and material incentives. They are often supported by local authorities, NGOs, government ministries and parastatals in collaboration with the MOHCW.

The investment plan will support the critical role of communities in activities to determine their health. Long-lasting insecticide-treated nets (LLINs), exclusive breastfeeding and oral rehydration therapy for managing diarrhoea were used to assess coverage of services and constraints at the community level. The output of the analysis from the MBB application is shown in Figure 2 and summarized below.

Figure 2: Coverage at community health level



(a) Availability of essential commodities

It is estimated that only 19% of districts have required LLINs according to national need while oral rehydration salts are available to 10% of villages countrywide. The critical shortage of essential commodities for the selected household and community level health interventions is a result of inadequate stocks of LLINs at national and district level, inadequate capacity to ensure efficient distribution of commodities to community level and weaknesses in inventory management among relevant community health workers. In some instances national policy does not enable or has not been revised to encourage wide distribution of basic commodities at community level e.g. use of zinc containing ORS, which was recently introduced as part of new clinical guidelines.

(b) Availability of human resources

Nineteen percent of villages country wide are estimated to have active village health workers. The causes of the shortage of community health workers include the cessation of the VHW training programme in most districts, poor remuneration and internal competition arising from non-harmonisation of incentives.

(c) Physical accessibility

The availability of VHWs was used as proxy for physical accessibility at community health level. The Assessment of Primary Health Care in Zimbabwe (2009) found that less than half of households have access to a VHW in their wards and existing VHWs are no longer being supplied with basic medicines since clinics do not even have sufficient stock for their own use. The study also noted low coverage of malaria spraying and TB contact tracing and 20% of facilities were reported to lack refrigeration for the cold chain undermining routine immunization. Gaps in availability of resources and support for prevention and promotion activities by environmental health technicians (EHTs), VHWs and clinics leave communities susceptible and dependent on curative care[4]. Environmental Health Technicians are very few with a high national vacancy rate of over 50%. This negatively affects the provision of environmental health services[1].

(d) Utilization – initial and continuous

Initial and continuous utilization of LLINs in high malaria districts are estimated to be 27% (ownership of at least one net per household) and 23% (percentage of children under 5 year sleeping under a net) respectively. Similarly initial utilization of various types of fluids to manage acute watery diarrhoea at household level is estimated to be 58% whereas 12% of children are given more fluids and continued feeding during an episode of acute watery diarrhoea. 98% of children aged 6-9 months are ever breastfed.

Low utilization of most services and activities targeted at community level is due to low level of knowledge and compounded by socio-cultural and religious beliefs that discourage conventional techniques e.g. religious objectors who do not accept immunization and cultural beliefs against exclusive breastfeeding. In the Assessment of Primary Care in Zimbabwe (2009)[4] households were "found to lack the correct knowledge or accessible resources to manage dehydration" and suggested "that health literacy programmes need to give people reasonably wide knowledge and reinforce this with more frequent repeat of information for common endemic diseases and that VHWs and EHTs should continue to play an important role in this".

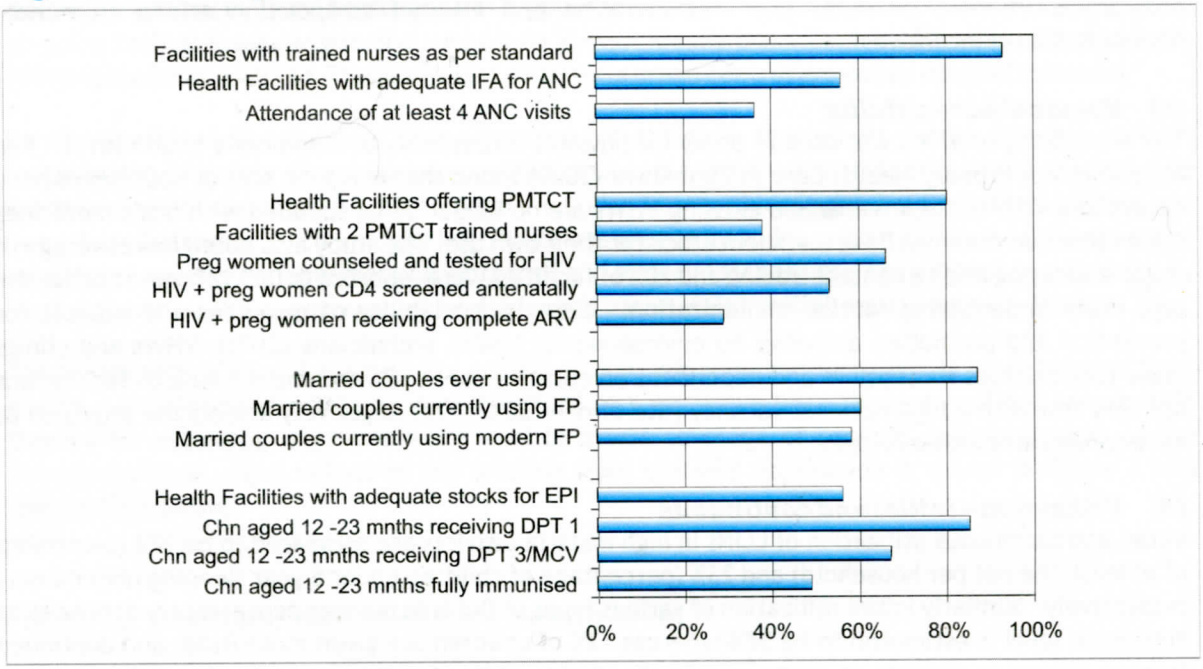
(e) Quality of services

Effective use of selected community level interventions was used as a proxy of quality of services. Only (i) 17% of children under 5 sleep under an LLIN, (ii) 26% of children are exclusively breastfed and (iii) 8% of children with acute watery diarrhoea receive ORS and continuous feeding.

3.1.2 Health centre level

Health centres are staffed by two nurses, one of whom should be a midwife and an Environmental Health Technician. Each Rural Health Centre is expected to cover a population of 10,000 and should be accessible to the community within no more than 8 kilometres of walking distance. Given the fact that women and children under 15 years constitute about 70% of the total population, the NHS highlights the importance of maternal and child health in Zimbabwe. These population groups are particularly vulnerable to malnutrition, HIV and AIDS, other infectious diseases and adolescent and reproductive health challenges. In 1993 the MOHCW developed a comprehensive Maternal and Child Health care programme to provide a continuum of maternal, newborn care and child health. For purposes of this investment case, family planning (FP), antenatal care (ANC), prevention of mother-to-child transmission of HIV infection (PMTCT) and expanded programme on immunisation (EPI) were selected as tracer services to assess the performance of the health system at clinic level. The output of the analysis from the MBB tool is shown in Figure 3 and summarized below.

Figure 3: Coverage at health centre level



(a) Availability of essential commodities

As of October 2009, 56% of health facilities were estimated not to have had stock-out of IFA for ANC and 70% of primary health centres had no stock-out of vaccines and injection materials during the previous 3 months. Availability of essential commodities for EPI is erratic due to national shortage, inadequate distribution capacity and lack of/or poorly maintained cold chain equipment. Rapid HIV test kits and ARVs for PMTCT have also been in erratic supply largely due to inadequate funding and weak distribution capacity.

(b) Availability of human resources

Ninety-three percent of the nursing establishment in government health institutions is filled. This high staffing level is a result of expanded training and deployment of a generic cadre of nurse, the Primary Care Nurse (PCN). However PCNs have limited midwifery orientation and general institutional experience. Only 38% of health facilities offer comprehensive PMTCT services. Thirty-three percent

of villages countrywide have access to facilities with nurses or midwives providing ANC according to national standards. Similarly only 33% of families have access to family planning services. Currently there are only 332 CBDs instead of 900 countrywide. The shortage of experienced registered nurses and midwives is mostly due to poor renumeration and conditions of service, general harsh macro-environment and inadequate training capacity.

(c) Physical accessibility

The NHS states that distance from the nearest facility is an important factor in planning for health care services and the health facility must be located within a reasonable distance, and the cost of seeking service should be affordable for equitable health care delivery. In rural areas, where transport is less accessible and the majority of people live, the importance of the fore going cannot be over emphasized[1]. 60% of pregnant women have ANC access, 58% of villages countrywide have access to static or outreach PMTCT services and 60% of villages can access EPI static and outreach services. The Study on Access to Health Care Services in Zimbabwe, (May 2008)[6] and the Assessment of Primary Health Care in Zimbabwe (2009)[4] both noted that physical access to health facilities remains a major challenge in most districts as thousands of people have to travel more than 10 kilometres to reach a functional health facility. Outreach mobile services that were previously well-established in all districts are now extremely weak. Physical inaccessibility is accentuated by lack of health facilities in hard to reach rural areas and most resettlement areas, unavailability and/or unaffordable transport and user fees.

(d) Utilization – initial and continuous

The Maternal and Perinatal Mortality Study (2007)[7], Study on Access to Health Care Services in Zimbabwe, (May 2008)[6] and the Assessment of Primary Health Care in Zimbabwe (2009)[4] all identified user fees as a significant barrier to access to services especially among poor and vulnerable communities. Initial uptake and continued utilisation of rural health centre services is estimated below:

- 87% of married couples have ever used FP and 60% are currently using FP
- 88% of pregnant women attend at least one but 69% attend at least four ANC visits
- 66% of pregnant women receive HIV counseling and testing during ANC
- Only 53% of HIV positive pregnant women are referred and receive CD4 screening before they deliver. This service is available at district hospital level.
- 85% of children aged 12-23 months receive DPT1 immunisation but only 67% receive DPT3 and the measles vaccination

The causes of low utilization of services at clinic level include lack of knowledge, religious and cultural barriers, user fees and poor male involvement.

(e) Quality of services

According to the NHS and as stated in the Patient Charter, communities, patients, their families and staff, are the best placed to judge quality, because of their personal or communal experiences. Both the Study on Access to Health Care Services in Zimbabwe, (May 2008)[6] and the Assessment of Primary Health Care in Zimbabwe (2009)[4] reported the community perception of quality of services at health centres and hospitals as satisfactory with less than half of households satisfied with the performance of the health system (service quality and outcomes). In the preparation of this investment case, the following estimates of effective coverage of selected health centre services were used as a proxies of quality:

- 58% of married couples are currently using modern FP (CPR is estimated to be 65%)
- 36% of pregnant women attend at least 4 ANC visits during pregnancy
- 29% of HIV positive pregnant women receive a complete course of ARV prophylaxis
- 49% of children aged 12-23 are fully immunized by the age of 18 months

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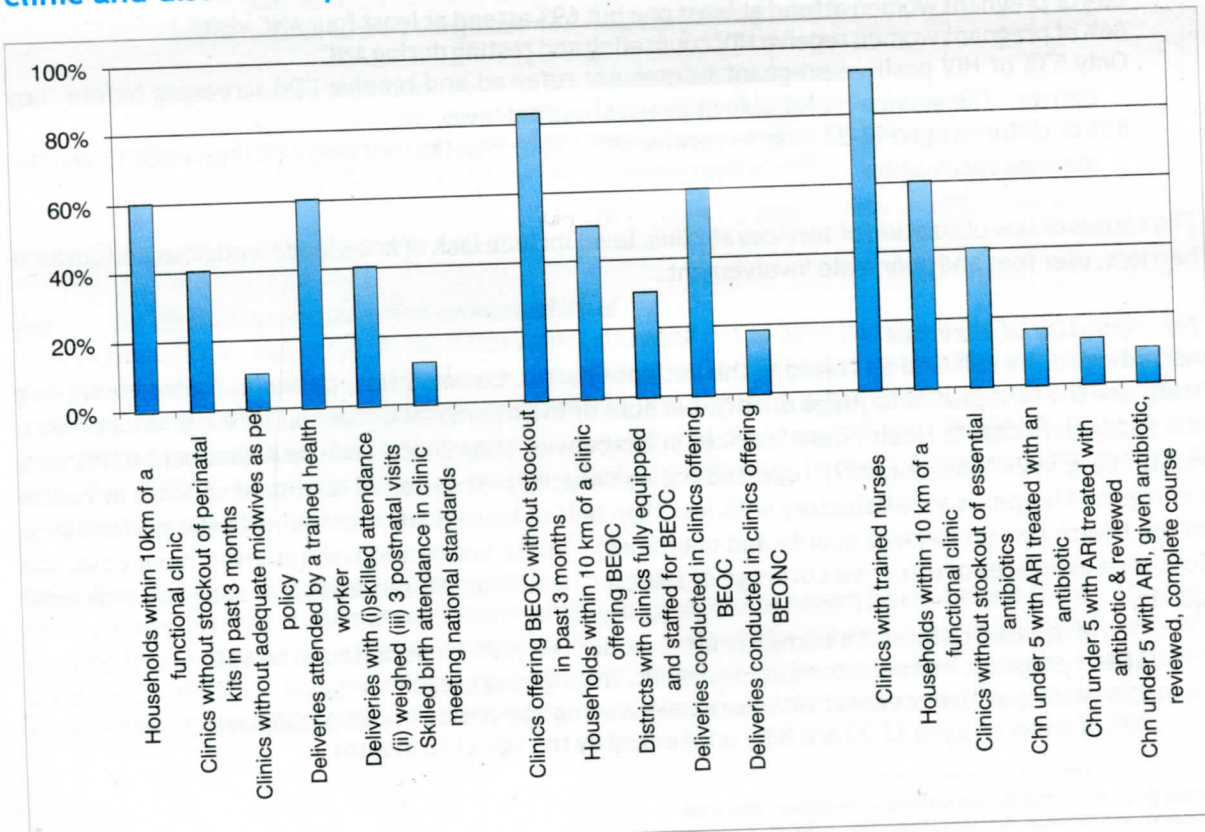
[6] Study on access to health care services in Zimbabwe, May 2008
[7] Maternal and Perinatal Mortality Study 2007, MOHCW

3.2 Secondary level

According to the NHS, the secondary level of care is the district hospital. Ideally every district should have a district hospital serving a population of approximately 140,000. District hospitals provide referral and supervisory support to all the clinics in the district. In addition to the basic package of primary care services, district hospitals offer in-patient medical and surgical services and some train nurses and midwives. The first contact with a medical doctor occurs at this level of the continuum of care. District hospitals should refer to Provincial Hospitals (Tertiary care facilities), which in turn refer to Central Hospitals (Quarternary level) where specialist services are provided. There are currently a few districts without a district hospital or designated district hospital.

Maternal and child health services (MCH) in particular basic emergency obstetric and new born care (BEmONC) and diagnosis and appropriate management of ARI in children under 5 were used as proxies to assess continuum of care between the health centre and district hospital level in this investment case. BEmONC consists of the following seven signal functions (i) Parenteral (IV, IM) antibiotics; (ii) Parenteral (IV, IM) anticonvulsants; (iii) Parenteral (IV, IM) oxytocics; (iv) Manual removal of placenta (MRP); (v) Removal of retained products (RRP), e.g. Manual Vacuum Aspiration; (vi) Assisted vaginal delivery (with vacuum extractor or forceps); and (vii) Neonatal resuscitation with bag and mask. It should be noted that whereas MCH services are provided at clinic level, not all seven signal functions of BEmONC are offered. According to national policy district hospitals should provide the complete package of Comprehensive Emergency Obstetric and Neonatal Care (CEONC) services. Clinics that do not offer the full package of BEmONC should be able to refer any complicated cases to the district hospital thereby ensuring a continuum of care. The output from the MBB bottleneck analysis of the selected interventions is shown in Figure 4 and summarized below.

Figure 4: Continuum of selected maternal & child health services between clinic and district hospital levels



(a) Availability of essential commodities

Perinatal kits comprising of basic commodities and minor equipment for BEmONC were introduced in 2009 with the assistance of UNFPA and DFID. It is estimated that only 40% of clinics compared to 83% of hospitals did not experience a stock out of the kits during the last quarter of 2009. It was also noted that 60% of health facilities had at least one stock out of essential medicines including antibiotics for managing ARI during the same period. The erratic stock status of essential commodities for MCH is due to inadequate funding, leakages in the system and weak supply chain management at all levels.

(b) Availability of human resources

Critical shortage of experienced nurses and midwives has weakened the capacity of most health facilities to provide BEmONC and appropriate management of common conditions. Only 10% of health centres and 30% of district hospitals have at least sufficient midwives according to national policy. As mentioned under rural health centre level above, despite the current high nurse staffing level (93%), the incumbent nurses are severely limited in experience. Poor conditions of service (salaries, working environment, tools of the trade, poor professional recognition) compounded by inadequate training capacity (brain drain of tutors; infrastractural capacity of training schools, training tools) have caused the human resource crisis in the health sector.

(c) Physical accessibility

As mentioned in previous sections, no more than 60% of the population live within 10 kilometres of a functional health facility. In addition the referral chain is largely dysfunctional due to a critical shortage of ambulances at district level. There is better access to HIV testing in urban areas, and also to the diagnosis of complications and referral in urban areas compared to rural areas[7]. However it is estimated that less than 50% of pregnant women have access to a health facility offering BEmONC.

(d) Utilization – initial and continuity

In addition to actual availability, determinants of utilisation of health services include health seeking behaviour, perceived quality and cost of the service. The Maternal and Perinatal Mortality Study (2007)[7] found the following barriers to access and utilisation of obstetric and neonatal care (i) first delay (recognising the problem and deciding to seek care) - failure to recognise danger signs, high fees at district hospitals and Apostolic Faith church membership or first seeking traditional healer; (ii) second delay (reaching a facility once a decision has been made to seek care) - lack of communication facilities, lack of transport, no money for transport, woman alone at home and no community effort for transport; and (iii) third delay (getting appropriate treatment once a facility has been reached) - lack of drugs and supplies, staff shortage, inadequate midwifery and neonatal skills, lack of communication facilities, lack of transport and companions not included. Similarly the Assessment of Primary Care in Zimbabwe (2009)[4] found that (i) nearly one in three births occurred outside the district of residence, a sign that people move to other areas in search of better quality or more affordable care, (ii) only 22% of facility interviews reported having a maternity waiting home (MWH).

In the preparation of this investment case it was estimated that 60% of deliveries are assisted by a skilled health worker and only 31% go on to attend at least three postnatal visits. However the Maternal and Perinatal Mortality Study (2007)[7] reported that 73.7% of women attended the 10 day postpartum visit and this increased to 80.4% at the six week visit. Constraints in utilisation of services are also evident in the management of other common conditions e.g. 16% of cases of moderate ARI in children under 5 are treated with antibiotics and only 13% are reviewed at least once.

(e) Quality of services

In the preparation of this investment case, the following estimates of effectiveness of continuum of care between clinics and district hospitals were used as proxies of quality (i) only 18% of deliveries are assisted by a skilled health worker in a health facility offering BEmONC according to national standards and (ii) only 10% of cases of ARI are treated with antibiotics, reviewed and complete treatment. The place of delivery is important particularly among women at higher risk of developing complications.

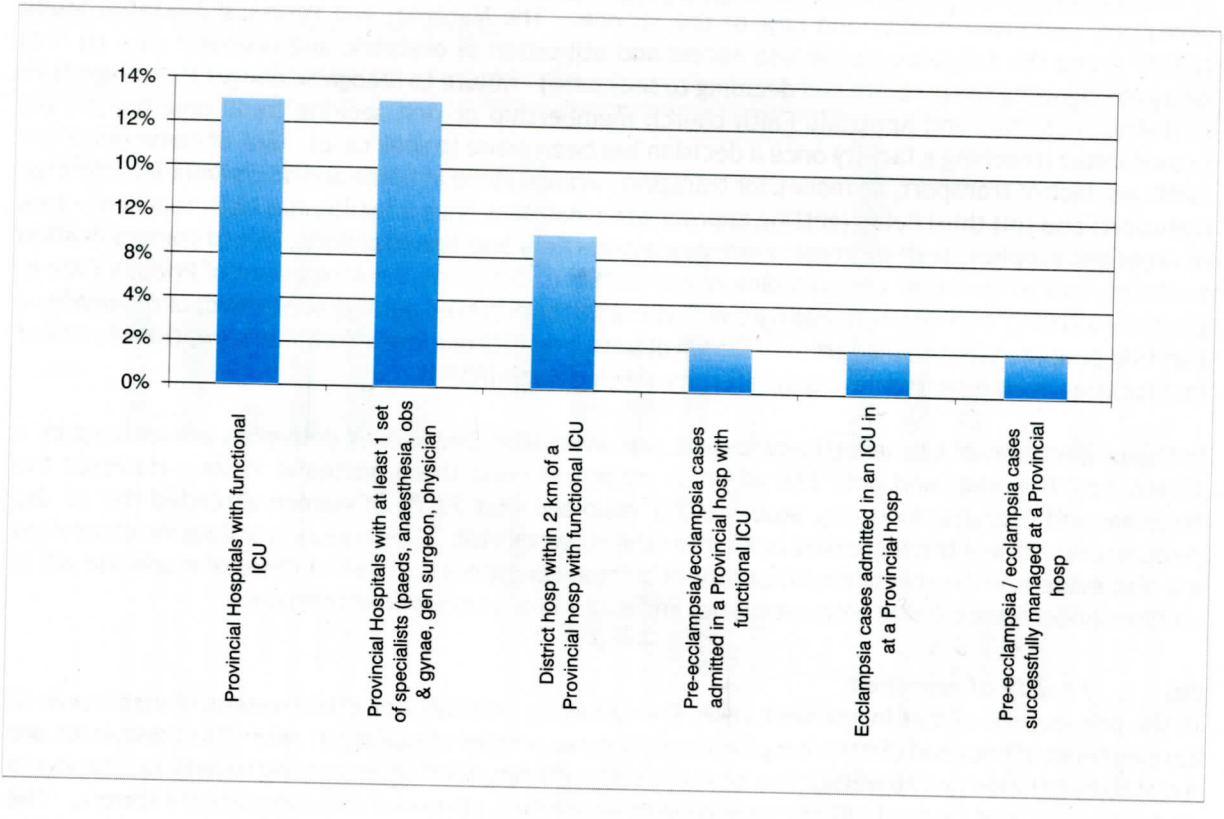
According to the Maternal and Perinatal Mortality Study (2007)[7], 3.2% of the women who delivered developed postpartum complications including third degree tear (37%), postpartum haemorrhage (31.1%), retained placenta (11.2%), pregnancy induced hypertension (8.5%), ruptured uterus (3.7%) and eclampsia (1.4%). Of the 410 cases that were referred, there was an 86.1% compliance rate with the referral with lack of money being the major reason in the non-compliers.

3.3 Specialist health services

Most provinces have a provincial hospital except Matabeleland North where the provincial hospital is under construction. Ideally provincial hospitals should provide referral support to district hospitals. However the number of specialists at provincial and general hospitals is severely limited thereby forcing both district and provincial hospitals to refer most complicated cases to central hospitals in Bulawayo, Chitungwiza and Harare, which, together with private-for-profit hospitals, provide the more sophisticated type of services within the country. All provincial hospitals train nurses and/or midwives.

Comprehensive emergency obstetric and newborn care (CEmONC) includes caesarian section and blood transfusion in addition to the seven signal functions of BEmONC previously described. According to the standard packages of core services, district, provincial and central hospitals should provide the CEmONC services. For the purposes of this investment case, CEmONC, with a particular focus on intensive care, was used as a proxy to assess continuum of care from the health centre to specialist hospital level. The output from the MBB bottleneck analysis of CEmONC plus intensive care at provincial hospital level is shown in Figure 5 and summarized below. However, it should be noted that district hospitals should [ideally] be able to manage pre-eclampsia/eclampsia without referring to a provincial hospital. The Ministry will therefore strive to restore the capacity of district hospitals to deal with all obstetric and neonatal emergencies.

Figure 5: Coverage of CEmONC and Intensive Care



(a) Availability of essential commodities

The NHS notes that currently available equipment at all levels is old, obsolete and non-functional as a result of both lack of regular of maintenance and replacement. Several studies and health sector assessments have identified the poor state of medical equipment as a major bottleneck to service delivery. Currently only one provincial hospital has a functional intensive care unit (ICU) thereby seriously compromising the delivery of CEmONC.

(b) Availability of human resources

The human resource challenge described in previous sections is equally prevalent in specialist hospitals. Only one provincial hospital has a complete set of required specialists i.e. a paediatrician, obstetrician and gynaecologist, general surgeon, physician and anaesthetist according to national standards. Provincial hospitals have failed to attract specialists because of poor conditions of service, staff accommodation and amenities and the general shortage of specialists in the country.

(c) Physical accessibility

Physical accessibility was estimated from the time it takes for an obstetric complication potentially needing intensive care e.g. complicated case of eclampsia to reach a provincial hospital from a district hospital. Only 7% of district hospitals countrywide are within two hours of a provincial hospital with a functional ICU. The poor access to ICU referral services is compounded by lack of reliable transport and inaccessible roads. Generally in urban areas, there is better access to facility delivery, diagnosis of complications, life-saving interventions and referral than in rural areas[7].

(d) Utilization – initial and continuity

The Maternal and Perinatal Mortality Study (2007)[7] found that among pregnant women who laboured at institutions, 10.4% were diagnosed with labour complications and of these 6% were referred to the next level with a very high referral compliance rate of 97.6%. Non-compliance was due to lack of transport from the referring institution. The study found the following commonest reasons for referral in labour (i) obstructed labour, (ii) fetal distress, (iii) pregnancy induced hypertension, (iv) abnormal presentation, (v) post dates, (vi) previous caesarean section, (vii) multiple pregnancy, (viii) preterm labour, (ix) large for dates fetus and (x) antepartum haemorrhage. Caesarean section rate is estimated to 4.4% and for purposes of this investment case, it was assumed that only 2% of pregnant women expected to develop obstetric complications are referred and admitted in a provincial hospital with a functional ICU.

(e) Quality of services

In this investment case it was further estimated that less than 5% of complicated deliveries are successfully managed at provincial hospital level. The lack and/or poor quality of services at provincial hospitals are attributed to shortage of skilled staff and equipment.

4. Scaling up Health Sector Priorities 2010-2012

This section describes the health sector priorities that will be implemented during the next three years in order to begin to address the system constraints identified in section 3 above. The priorities were identified with the assistance of a taskforce and aim to revitalise the health sector through implementation of high impact interventions. It is hoped that additional investment into the identified priorities will result in steady progress towards attainment of the country's MDG targets. The effectiveness of the selected interventions was estimated using the MBB impact model derived primarily from international reviews such as the 2003 and 2005 Lancet series on child and newborn survival respectively, the Cochrane systematic reviews and the 2005 British Medical Journal series dedicated to maternal and neonatal health. The MBB estimates impact based on epidemiological models developed by previous researchers developed for the Lancet Series on Newborn Health, and other models developed by Johns Hopkins University and the Bellagio Group. The expected impact on disease specific mortality is a function of efficacy, affected fraction, and the increase in effective coverage for each intervention. Whilst the focus of the MBB costing and this investment case is to meet the MDGs, it is hoped that the proposed priorities will also produce system wide benefits to other important programmes such as non-communicable diseases (NCDs), neglected tropical diseases (NTDs), mental health and traditional medicine which are identified in the NHS. Table 2 shows the overall MOHCW priorities. The priority interventions were selected on the basis of diseases and conditions that together are responsible for 70% of illnesses and deaths; most are the MDG related target diseases and conditions; furthermore effective cost effective evidence based interventions to reduce the burden of illness and deaths.

Table 2: Summary of MOHCW Priorities

Priority Diseases	Reference MDG	Health Programme
HIV, AIDS, TB, STI	MDG GOAL 6. COMBAT HIV AND AIDS, MALARIA AND OTHER DISEASES - Have halted, by 2015, and begun to reverse the spread of HIV and AIDS	. HIV, AIDS & TB Programme . Heath Promotion Programme . School Health Programming
Nutritional deficiencies.	MDG GOAL 1: ERADICATE EXTREME POVERTY AND HUNGER - Reduce by two - thirds, between 2002 and 2015, the proportion of under-five children who are malnourished.	. Nutrition Programme
Diarrhoeal diseases	MDG 7. ENSURE ENVIRONMENTAL SUSTAINABILITY: - Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	. Environmental Health Programme
Maternal illness and conditions	MDG GOAL 5: IMPROVE MATERNAL HEALTH - Reduce by three-quarters, between 2000 and 2015, the maternal mortality ratio	. Maternal Health Programme . Family Planning Programme
Childhood illnesses	MDG GOAL 4: REDUCE CHILD MORTALITY - Reduce by two-thirds, between 2000 and 2015, the under-five mortality rate.	. Child Heath Programme
Malaria and other epidemic prone diseases	MDG GOAL 6. COMBAT HIV AND AIDS, MALARIA AND OTHER DISEASES – Have halted, by 2015, and began to reverse the increasing incidence of Malaria, TB and Diarrhoeal diseases	. Malaria Control Programme . Epidemic Preparedness and Response Control Programme . Health Information and Surveillance Programme
Non Communicable diseases including Injuries and disabilities		. Provision of health care services including Emergency Services . Oral Health Programme . Eye Care Programme
Mental Disorders		. Mental Health Programme

The Six Enabling Factors For Programme Implementation

1. Availability of Human Resources	Public sector Human Resources for Health vacancy levels (March 2010), are at unacceptable levels of 67% for doctors; 73% for specialist doctors; 58% for environmental health technicians; over 80% for midwives; 47% for nursing tutors; and over 50% for pharmacy, radiology and laboratory personnel~mainly due to poor conditions of service.
2a. Availability of essential commodities (Medicines and medical supplies)	Health professionals cannot provide quality services in the absence of adequate supplies of medicines and equipment. Availability of essential drugs and supplies has remained very low, averaging 51% for vital items (should ideally be 100%) and 30% for all the other categories of items on the essential drugs list in 2009.
2b. Medical Equipment; Infrastructure	Most of the medical equipment in public health institutions has become obsolete and needs to be replaced. As a result, emergency obstetric services and other emergencies can therefore not be adequately provided in some of our institutions.
2c.Transport and communication	Due to poor transport and communications availability, several programs, among them, ambulance services, immunization, malaria indoor residual spraying, drug distribution, as well as supervision of districts and rural health centres have been compromised.
3. Finances	The health system is grossly under-funded. The current revised budgetary allocation approximates to about be US$12 per capita per annum against the WHO recommendation of at least US$34 per capita.
4. Governance and leadership	Management capacity at all levels of the health system has been weakened as a result of high levels of attrition among experienced health service and programme managers who are supposed to supervise activities at the various levels of the health system. This has negatively impacted on the quality of service provision.
5. Information	Ministry has a well designed and established health information system that is however facing a number of challenges (Inadequate analysis and use of information, Inadequate focus on performance indicators and targets, Inadequately designed software, Lack of access to communication facilities etc.)
6. Service Delivery	While the organization of service delivery has remained intact, its management has been affected by the attrition of experienced and skilled health workers, as mentioned above. Access to, utilization, quality, safety and continuity of health services has been compromised by deficiencies in the other five building blocks.

Selected strategies to achieve the priorities set out in Table 2 are presented according to three service delivery levels (community, clinic and hospital) in sub sections 4.1 to 4.3. In addition three scenarios of targets are proposed to improve service coverage at each level. The target scenarios were applied to the MBB tool in order to estimate the additional cost of implementing the three year priorities.

4.1 Community level services

The NHS identifies community participation as one of the key elements of the PHC approach. The system should empower communities with health education, promote behaviour change and ensure access to appropriate services and commodities. Therefore the MOHCW has planned that during the next three years, communities, through health centre committees or community health councils, will be actively involved in the identification of health needs, setting priorities and mobilizing and managing local resources for health. Table 3 shows illustrative interventions that will improve community involvement and promote a sense of ownership among communities in determining and/or contributing to their own health.

Table 3: Illustrative interventions at community level

Strategy	Baseline	Scenarios of targets by end 2012		
		Modest	Medium	Comprehensive
Increase the number of at risk children under 5 sleeping under an LLIN	17%	30%	42%	66%
Increase the popuplation with access to improved (safe) source of drinking water	61%	63%	68%	70%
Increase the population using improved sanitation	43%	48%	53%	66%
Increase the national IRS coverage	16%	30%	42%	66%
Increase the number of newborns breastfed within one hour of birth	69%	72%	75%	80%
Increase the number of children aged 0-6 months exclusively breastfed	26%	33%	39%	54%
Increase the number of children aged 12-15 months receiving breast milk	83%	83%	85%	88%
Increase the number of children aged 6-9 months receiving complementary food and continued breastfeeding	89%	89%	89%	89%
Increase the number of malnourished children receiving supplementary food	8%	30%	39%	68%

4.2 Health Centre services

According to the NHS, Rural Health Centres (RHC) provide basic but comprehensive promotive, preventive, curative and rehabilitative care, concentrating on mother and child care, including antenatal care, delivery of uncomplicated births, family planning, child health and nutrition, routine immunization for children and environmental management. Illustrative services at clinic level, which are mostly regarded as **public health goods** and are either integrated in clinical services or provided as outreach services, are shown in Table 4.

Table 4: Illustrative interventions at clinic level

Interventions	Baseline	National coverage targets for each scenario by end 2012		
		Modest	Medium	Comprehensive
Increase the number of women of reproductive age currently using any family planning method	58%	58%	60%	65%
Increase the proportion of high risk sexual contacts with use of condom	42%	61%	67%	72%
Increase the number of pregnant women receiving 3 ANC visits including urine test	36%	42%	56%	62%
Increase the number of pregnant women receiving 3 ANC visits including urine test	36%	42%	56%	62%
Increase the number of pregnant women with syphilis screened and treated with antibiotics	88%	88%	88%	90%
Increase the number of pregnant women with anaemia receiving iron supplementation	56%	56%	56%	60%
Increase the number of pregnant women who received 2 doses of IPT during their pregnancy	63%	63%	65%	70%
Increase the number of HIV positive pregnant women receiving a complete course of ARV prophylaxis to reduce MTCT	27%	35%	46%	63%
Increase the number of pregnant women receiving provider initiated testing and counselling for HIV	66%	66%	68%	70%
Increase the number of eligible HIV positive pregnant women receiving cotrimoxazole prophylaxis	53%	58%	65%	70%
Increase the number of eligible HIV positive adults receiving cotrimoxazole prophylaxis	90%	90%	90%	90%
Increase the number of exposed and infected children receiving cotrimoxazole prophylaxis	53%	53%	53%	63%
Increase the number of children aged 12-23 months who received Measles vaccination	77%	80%	83%	85%
Increase the number of children aged 12-23 months who received BCG vaccine	91%	91%	91%	91%
Increase the number of children aged 12-23 months who received OPV vaccine	66%	70%	80%	85%
Increase the number of children aged 12-23 months who received Pentavalent	67%	70%	75%	80%
Increase the number of children aged 6-36 months who received at least one high dose vitamin A supplement within the last 6 months	52%	55%	63%	70%
Increase the number of deliveries assisted by an experienced nurse or midwife	6%	14%	19%	26%
Increase the number of deliveries with active management of third stage	6%	14%	19%	26%
Increase the number of cases of neonatal sepsis receiving antibiotic from a skilled health worker	11%	11%	11%	16%
Increase the number of children under 5 with ARI appropriately treated with antibiotics by a skilled health worker	10%	19%	33%	55%
Increase the number of children with measles treated with Vit A by a skilled health worker	2%	19%	33%	55%
Increase the number of children with malaria receiving ACT from a skilled health worker	7%	7%	9%	16%
Increase the number of pregnant women with malaria receiving ACT from a skilled health worker	16%	16%	16%	28%
Increase the number of adults with malaria receiving ACT from a skilled health worker	20%	20%	20%	28%
Increase the number of adults with STI correctly diagnosed and appropriately treated	20%	30%	50%	60%
Increase the number of children with SAM receiving therapautic feeding	25%	30%	40%	55%

4.3 Hospital services

The public health system is designed to ensure that patients should present at the primary level first and then be progressively referred to the Secondary, Tertiary or Quaternary levels depending on the complexity of illness. The NHS notes that the key to successful revitalization of the health sector lies in achieving an appropriate balance between resources devoted to PHC and hospital services. Therefore ensuring that district, provincial and central hospital services are more efficient and responsive to the needs of lower levels and referred patients is a major goal of the MOHCW. Table 5 shows illustrative interventions that will be scaled up at hospital level including three target scenarios.

Table 5: Illustrative interventions at hospital level

Interventions	Baseline	National coverage targets for each scenario by end 2012		
		Modest	Medium	Comprehensive
Increase access by women with complicated pregnancy to treatment at district hospitals offering quality BEmONC or CEmONC	14%	18%	31%	35%
Increase access by women with complicated pregnancy to treatment at provincial hospitals offering quality CEmONC	5%	5%	9%	10%
Increase the number of deliveries assisted by an experienced nurse, midwife or physician with life saving skills	6%	12%	21%	23%
Increase the number of deliveries receiving oxytocin at third stage	6%	12%	21%	23%
Increase the number of resuscitation cases or asphyxia treated in district hospital	20%	22%	23%	24%
Increase the number of resuscitation cases or asphyxia treated in provincial and central hospitals	10%	10%	12%	13%
Increase the number of preterm labor treated with prenatal steroids in a district hospital	15%	15%	21%	23%
Increase the number of preterm labor treated with prenatal steroids in a provincial or central hospital	15%	15%	18%	20%
Increase access by pregnant women with premature membrane ruptures during preterm (PROM) to treatment with antibiotics in hospital	35%	35%	35%	35%
Increase access by pregnant women with pre-ecclampsia cases treated in hospital	30%	30%	30%	30%
Increase coverage of quality neonatal sepsis treatment in district hospitals	11%	11%	12%	14%
Increase coverage of quality neonatal sepsis treatment in provincial and central hospitals	23%	23%	23%	23%
Improve case management of complicated malaria at hospital level	60%	60%	60%	60%
Increase paediatric ART coverage	57%	57%	70%	85%
Increase access to ART by HIV positive pregnant women	8%	12%	21%	30%
Increase adult ART coverage	54%	54%	80%	90%
Increase adult ART coverage (using new WHO guidelines)	39%	39%	51%	61%
Improve access to MDR TB diagnosis	1%	12%	37%	40%
Improve access to MDR TB treatment	-	10%	40%	70%

5. Proposed investment options

The investment case proposes three **investment options (modest, medium and comprehensive)** and for each option, presents a) priority high impact interventions and targets; b) estimated morbidity and mortality reduction; c) budget and financing gap based on actual and anticipated GOZ funding taking into account assumptions on external funding. It is hoped that the investment case will provide the GOZ and development partners with reasonable information about the level of additional funding required for modest, medium or comprehensive health gains within the next three years.

The MBB model is centered on marginal costing in which a determination is made to estimate the additional resources required to achieve an acceptable level of health gains through reduction of bottlenecks in the system (discussed in section 3). The tool was applied to cost the three-year health sector plan, which forms the basis of this investment case and determines the estimates of additional resources needed to reduce identified bottlenecks and ultimately scale up selected interventions at each service level (discussed in section 4).

5.1 Additional cost and impact of selected interventions

Table 6 presents the additional costs for the three investment scenarios and the related impact (estimated by selected mortality reductions).

Table 6: Three-year health sector additional cost and mortality reduction estimates by 2012

Service delivery mode	Mortality reduction			Additional cost per capita per year in US$
	Neonatal	Under five	Maternal	
Modest Option				
Primary Care				
1. Community level package of interventions	0.1 %	3.4%	0.2%	0.84
2. Rural health centre or clinic package of services	0.2 %	1.8%	0.9%	0.14
Secondary - Tertiary Care				
3. Package of Hospital services	1.9%	3.5%	3.5%	2.84
Management and technical support				0.28
Total	**2.2%**	**8.7 %**	**4.6 %**	**4.11**
Medium Option				
Primary Care				
1. Community level package of interventions	0.2%	5.4%	0.4%	4.57
2. Rural health centre or clinic package of services	0.7%	4.6%	2.0%	0.93
Secondary Care				
3. Package of Hospital services	6.0%	9.7%	10.0%	7.20
Management and technical support				0.58
Total	**6.9%**	**19.7%**	**12.4%**	**13.28**
Comprehensive Option				
Primary Care				
1. Community level package of interventions	0.4%	10.1%	0.8%	6.07
2. Rural health centre or clinic package of services	1.0%	11.7%	3.3%	1.67
Secondary Care				
3. Package of Hospital services	9.4%	16.3%	13.3%	10.00
Management and technical support				0.86
Total	**10.8%**	**38.1%**	**17.4 %**	**18.61**

The modest scenario estimates an additional US$4.11 per capita per year by the end of the three-year investment period (2010-2012). The investment is estimated to reduce neonatal, under five, and maternal mortality by 2.2%, 8.7% and 4.6%, respectively. The medium option requires an additional investment of US$13.28 per capita by the end of the three-year health sector plan, yielding 6.9%, 19.7% and 12.4% reduction in neonatal, under five, and maternal mortality, respectively. The final comprehensive scenario assumes an additional investment of US$18.61 per capita per year which is expected to result in a much higher reduction in neonatal, under five, and maternal mortality estimated at 10.8%, 38.1% and 17.4%, respectively.

The three investment options will result in the following contributions towards attainmemnt of selected health related MDGs:

- The modest option will enable Zimbabwe to achieve 5% of the malnutrition goal in MDG1, 38% of MDG4 and 22% of malaria MDG6 targets by 2012
- The medium option will enable the country to achieve 9% of the malnutrition goal in MDG1, 50% of MDG4 and 44% of malaria MDG6 targets by 2012
- Comprehensive investment will enable Zimbabwe to achieve 14% of the malnutrition goal in MDG1, 69% of MDG4 and 93% of malaria MDG6 targets by 2012

5.2 Fiscal space

Fiscal space is "the availability of budgetary room that allows a government to provide resources for a desired purpose without any prejudice to the sustainability of a government fiscal position"[8]. There are several ways to create fiscal space for additional health spending: a) increase discretionary expenditure from debt reduction; b) reallocate from other sectors; c) raise additional domestic revenues by increasing tax rates, creating new taxes and levies and strengthening tax collection; c) borrowing from domestic and foreign creditors; and d) increase external aid.

To evaluate the additional health spending estimates against the macroeconomic projections of Zimbabwe two fiscal space scenarios, conservative and ambitious, were simulated using baseline parameters from the 2010 National Budget Statement.[9] The assumptions for the two scenarios are described below.

- Conservative fiscal space assumes an increase in government health expenditure from the current 8.9% to 12.5% and doubling of external aid by 2012
- Ambitious fiscal space assumes an increase in government health expenditure from the current 8.9% to 15% in conformity with the Abuja Declaration and trebling of external aid by 2012

With the ambitious fiscal space scenario, the modest investment option can be financed. However the additional cost estimates of the medium and comprehensive scenarios will not fit in both the conservative and ambitious fiscal spaces.

[8]Peter S. Heller "Understanding fiscal space", IMF Policy Discussion Paper N°05/04, March 2005
[9]The 2010 National Budget Statement, Reconstruction with Equitable Growth and Stability, December 2, 2009

6. Total budget requirement

The additional funding needs calculated from the MBB tool (discussed in section 5) were based on the following assumptions of current and projected funding from (i) Government of Zimbabwe, (ii) donors and (iii) the Global Fund. Government funding was estimated from the budget of the MOHCW for 2010 presented in the Budget Estimates for the year ending December 31, 2010 or Blue Book, which assumes that US$156 million allocated to MOHCW in 2010 will be availed. It should however be noted that only 10% of the GOZ allocation to the MOHCW in 2009 was actually disbursed. In addition, the estimation of total additional budget took into account US$100 million annual donor inflows as well as US$180 million from the Global Fund Round 8 grants during the investment period. The summary budget requirements presented for each of the investment options in Tables 7-9 below therefore indicate the funding requirement in addition to the projected funding from the GOZ, donors and Global Fund explained above.

Table 7: Total Budget Requirement for the Modest Investment Option ('000 US$)

Service delivery modes	2010	2011	2012	Total
Primary Care				
1. Community health services	10,485.73	10,373.23	10,783.12	31,642.08
2. Clinic level services	1,126.38	1,791.50	2,456.04	5,373.92
Secondary – Tertiary Care				
3. Hospital services	30,652.90	34,980.18	41,129.65	106,762.73
District management	191.16	227.82	264.49	683.47
Provincial management	153.40	192.29	231.18	576.86
National program management and technical support	1,569.76	3,130.22	4,690.68	9,390.66
Total	44,179.33	50,695.25	59,555.15	154,429.73
Per capita	3.54	4.02	4.75	4.11

Table 8: Total Budget Requirement for the Medium Investment Option ('000 US$)

Service delivery modes	2010	2011	2012	Total
Primary Care				
1. Community health services	56,686.28	56,992.49	58,135.30	171,814.08
2. Clinic level services	9,801.15	11,691.81	13,579.49	35,072.45
Secondary – Tertiary Care				
3. Hospital services	73,327.02	88,697.67	108,544.83	270,569.52
District management	415.70	522.41	629.12	1,567.24
Provincial management	342.83	456.64	570.45	1,369.92
National program management and technical support	3,139.52	6,260.44	9,381.36	18,781.33
Total	**143,712.51**	**164,621.47**	**190,840.56**	**499,174.53**
Per capita	11.47	13.13	15.23	**13.28**

Table 9: Total Budget Requirement for the Comprehensive Investment Option ('000 US$)

Service delivery modes	2010	2011	2012	Total
Primary Care				
1. Community health services	74,356.93	75,568.37	78,207.88	228,133.18
2. Clinic level services	17,148.95	20,991.74	24,825.86	62,966.54
Secondary Care				
3. Hospital services	99,154.23	123,509.18	153,394.82	376,058.22
District management	608.39	753.29	898.19	2,259.87
Provincial management	514.24	684.96	855.67	2,054.88
National program management and technical support	4,709.28	9,390.66	14,072.05	28,171.99
Total	**196,492.02**	**230,898.20**	**272,254.46**	**699,644.68**
Per capita	15.68	18.42	21.72	**18.61**

[10]Budget Estimates For the Year ending December 31, 2010 presented to Parliament by the Minister of Finance on December 2, 2009

7. Conclusions

Due to the economic downturn experienced in the past few years, Government has not been able to raise enough revenue to adequately satisfy the demands of the health sector. To achieve the MDGs Zimbabwe should be spending at least US$34 per capita per annum on health (WHO Commission on Macroeconomics Recommendation). The revised 2009 budgetary allocation to health works out to about US$9 per capita, leaving a deficit of about US$25 per capita. **The MOHCW has adopted the comprehensive investment option i.e. additional US$700 million or US$18.61 per capita per year over and above current commitments by the partners in order to contribute to the funding deficit.**

This document has clearly outlined how this additional budgetary requirement to scale up progress towards attainment of the MDG targets through focusing on high impact interventions was estimated. The MOHCW acknowledges that several partners are already contributing to the health system in a very significant manner and without this contribution health indicators would be much worse than they are currently. The MOHCW is requesting existing partners to further participate in not only maintaining current support but expanding their assistance where possible and for new partners to consider joining efforts to resuscitate Zimbabwe's health sector and the thrust towards attainment of MDG targets and therefore a healthier nation.

8. Annexe 1 - List of people who were consulted

List of Participants - 3 Year Priorities in Health Sector: 17-20 November 2009, Holiday Inn, Harare

Name	Title
1. Dr G Mhlanga	Principal Director, Preventive Services, MoHCW
2. Dr D G Dhlakama	Principal Director, Policy, Planning, Monitoring and Evaluation, MoHCW
3. D.Somane	Deputy Director-Human Resources, MoHCW
4. Mr. L Mabandi	Director Finance, MoHCW
5. N.Midzi	National Health Research
6. M.Nyamapfeni	MoHCW-Mashonaland East
7. Dr P Manangazira	A/Director Epidemiology Disease and Control, MoHCW
8. Ms C M Z Chasokela	Director Nursing Services, MoHCW
9. Mrs. R Hove	Director Pharmacy, MoHCW
10. Mr. G T Mangwadu	Director Environmental Health, MoHCW
11. DR C Sandy	National TB Control Programme, MoHCW
12. Mrs. A Chigumira	Acting Nutrition Intervention Officer, MoHCW
13. Ms Nyandoro	Deputy Director National Reprodutive Health, MoHCW
14. Dr Gonah	Paediatrician
15. Mr.A.Tangwena	National Malaria Control Programme, MoHCW
16. Dr S.Midzi	Director-Epidemiology and Disease Control, MoHCW
17. Gretel Mahere	Non-Communicable Disease Manager, MoHCW
18. R.Magauzi	Environmental Health, MoHCW
19. P Barguagni	European Commission (EC)
20. S.Chitsungo	United Nations Children's Fund (UNICEF)
21. Amanda Mitumbili	US Centers for Disease Control (CDC)
22. Dr R.Bonde	Zimbabwe Association of Doctors for Human Rights (ZADHR)
23. Dr J.Nyenwa	Consultant
24. Mr E Chuzu	Ministry of Economic Planning, Investment and Development
25. Dr T.Alemach	United Nations Children's Fund (UNICEF)
26. Mr A.Makone	Community Working Group on Health (CWGH)
27. P Halpert	United States Agency for International Development (USAID)
28. L Robinson	United Kingdom Department for International Development (DFID)
29. P. Matambanadzo	Zimbabwe Association of Doctors for Human Rights (ZADHR)
30. Enittah Hamadziripi	Ministry of Finance
31. Sharon Kadenhe	Ministry of Finance
32. Alice Tsuro	Ministry of Finance
33. Dr L.S Charimari	World Health Organisation (WHO)
34. Vela Moyo	Ministry of Finance
35. T Kadzere	Policy and Planning Officer, MoHCW

List of participants - MOHCW Investment Case Workshop: Bronte Harare: 7 to 11 December 2009

Name	Title
Cremance Tshuma	Provincial Medical Director
Zizhou Simukai Tirivanhu	Provincial Medical Director
Wenceslas Nyamayaro	Provincial Medical Director
Joel Charangwa	Provincial Health Service Administrator
Dr S Nyadundu	A/Provincial Medical Director
Robert F Mudyiradima	Provincial Medical Director
Conart Mpofu	Provincial Environmental Health Officer
William Busumani	A/Provincial Medical Director
Dr Hazangwe	A/Provincial Medical Director
Solomon H Mukungunugwa	District Medical officer
P.L Hazangwe	Provincial Medical Director
Gibson Mhlanga	Principal Director
Davies G Dhlakama	Principal Director
Dr Kampo	United Nations Children's Fund (UNICEF)
Dr Alamache	United Nations Children's Fund (UNICEF)
Dr Aad	Ministry of Health and Child Welfare (MoHCW)
Dr L Charimari	World Health Organisation (WHO)
Dr J Nyenwa	Consultant
Dr Netsanet W. Workie	Senior Health Economist

List of participants - MOHCW Investment Case Meeting: Bronte: 8 January 2010

Name	Title
1. Dr G Mhlanga	Principal Director, Preventive Services
2. Dr D G Dhlakama	Principal Director, Policy, Planning, M & E
3. Mr. C Tapfumaneyi	Principal Director, Curative Services
4. Mr. L Mabhande	Director Finance
5. Ms J Mudyara	Director Human Resources
6. Mr. S Chihanga	Director Policy and Planning
7. Dr P Manangazira	A/Director Epidemiology Disease and Control
8. Ms C M Z Chasokela	Director Nursing Services
9. Mrs. R Hove	Director Pharmacy
10. Mr Mangwanya	Director Laboratory Services
11. Dr O Mugurungi	AIDS and TB Co-ordinator
12. DR C Sandy	TB Manager
13. Mr. G T Mangwadu	Director Environmental Health
14. Dr Mutambu	Director National Institute of Health Research
15. Mrs. A Chigumira	Acting Nutrition Intervention Officer
16. Mrs. Nleya	Chief Therapist
17. Ms Gerede	Deputy Directory Community Health
18. Mrs Kamupota	EPI Manager
19. Dr Mberikunashe	Malaria
20. Ms Nyandoro	Deputy Director National Reprodutive Health C
21. Mrs Bakasa	Deputy Director Non Communicable Disease
22. Mrs F N Sifeku	Managing Directory - NatPharm
23. Mr T Magure	Managing Directory – NAC
24. Dr S S Chiriva	Managing Directory – ZNFPC
25. Dr Gonah	Paediatrician
26. Mr T Zigora	Chief Executive Officer
27. Mr Nderere	Chief Executive Officer
28. Dr L Mlilo	Chief Executive Officer
29. Dr O Moyo	Chief Executive Officer
30. Dr Magure	National AIDS Council (NAC)
31. Dr W Nyamayaro	Provincial Medical Director
32. Dr. Chimusoro	Provincial Medical Director
33. Dr Nyadundu	A/Provincial Medical Director
34. Dr Zizhou	Provincial Medical Director
35. Dr Ndiweni	A/Provincial Medical Director
36. Dr Busimanu	A/Provincial Medical Director
37. Dr Mudyiradima	Provincial Medical Director
38. Dr Tshuma	Provincial Medical Director
39. A Makone	Community Working Group on Health (CWGH)
40. P Matambanadzo	Zimbabwe Association of Doctors for Human Rights (ZADHR)
41. L Robinson	United Kingdom Department for International Development (DFID)
42. Barbara Plinkert	European Commission (EC)
43. P Barguagni	European Commission (EC)
44. P Halpert	United States Agency for International Development (USAID)
45. Amanda Mitumbili	US Centre for Disease Control (CDC)
46. A Kampo	United Nations Children's Fund (UNICEF)
47. L Charimari	World Health Organisation (WHO)
48. Chiguvare	United Nations Population Fund (UNFPA)
49. Kwame	Joint United Nations Programme on HIV/AIDS (UNAIDS)
50. L Mungayi	World Bank
51. Vela Moyo	Ministry of Finance
52. T Kadzere	Policy and Planning Officer
53. Dr Mungofa	City Health
54. Mrs Hlabangana	Dep PM Office