

Basic Services Package For Primary Health Care and Hospitals



Achieving the MDGs by Improved Service Delivery



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This version may appear slightly different from the previous version which was distributed at the launch of the BSP in May 2007. The content is, however, exactly the same, but the opportunity has been taken to correct typographical errors, add to the list of abbreviations and improve some aspects of formatting and layout.

BASIC SERVICES PACKAGE FOR PRIMARY HEALTH CARE AND HOSPITALS

FOREWORD

Improving the health of the nation is at the heart of the health policies of our Nation. Although considerable progress has been made, too many women still die in childbirth and many children go hungry and die from easily preventable diseases. Much more remains to be done in the years ahead.

In particular, we are determined that appropriate services should be equally available to all people, without discrimination by gender, age, ability to pay or place of residence. They must also especially focus on the needs of mothers and children as well as those of poor people. For them all, ill health can be a personal tragedy apart from being an economic burden that reinforces their impoverished circumstances.

To bring about all the enhancements in clinical care and public health services, the Ministry of Health embarked on a course to strengthen Primary Health Care while consolidating its efforts to upgrade and maintain secondary (hospital) care through the development of a package of services to be provided at all levels of health service delivery.

This document provides a detailed description of the minimum level of services to be provided at each service delivery level, including addressing quality management, training, management and administration, monitoring and supervision and health information.

Such new ways of working need to be brought in and greater emphasis needs to be given to quality in all that we do. More efficient practices are essential. Seeking constant improvement must become our normal way of working. For all this we depend on the continued dedication of all our staff.

I commend to you all, the aims and practices described in this document which embodies our ambitions for a better and healthier future for all people of Timor-Leste.

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Minister for Health
Timor-Leste

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List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AusAID	Australian Development Assistance Programme
BCC	Behaviour Change and Communication
BCG	Bacillus of Calme and Guerrin (TB Vaccine)
BEOC	Basic Emergency Obstetric Care
BSP	Basic Services Package
CBO	Community based organisation
CCQI	Continuous Coverage and Quality Improvement
CCT	Cooperative Café Timor
CEOC	Comprehensive Emergency Obstetric Care
DHC	District Health Centre
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DOTS	Directly Observed Treatment Supervised
DPHO	District Public Health Officer
DPT	Diphtheria, Pertussis & Tetanus vaccine
DTT	District Trainer Team
EC	European Commission
EDPT	Early Detection and prompt Treatment
EOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunisation
FHP	Family Health Promoter (= PSF <i>Promotore Saude Familiar</i>)
FMS	Financial Management System
GF	Global und
GVNH	Guido Valadares National Hospital
HAI	Health Alliance International
HAST	HIV/AIDS/STI/TB
HIV	Human Immune Virus
HMIS	Health Management Information System
HP	Health Post
HPF	Health Policy Framework
HRD	Human Resource Development
HSSP	Health Sector Strategic Plan
IAF	Inter-sectoral Action Framework
IDS	Integrated Disease Surveillance
IEC	Information, Education, Communication
IHS	Institute for Health Sciences (= ICS <i>Instituto Ciencias da Saúde</i>)
IMR	Infant Mortality Rate
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Nets
JAR	Joint Annual Review
KIT	Koninklijke Instituut voor de Tropen (Royal Tropical Institute)

KPI	Key Performance Indicators
LSS	Life Saving skills
M&E	Monitoring and Evaluation
MARGs	Most At Risk Groups
MCH	Maternal and child health
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMR	Measles, Mumps and Rubella
MoH	Ministry of Health
MTEF	Medium Term Expenditure Framework
NDP	National Development Plan
NGO	Non Government Organisation
NGO	Non-Government Organisation
NHWP	National Health Workforce Plan
NNMR	Neonatal mortality Rate
PA	Performance Appraisal
PHC	Primary Health Care
PMTCT	Prevention of Mother to child transmission (of HIV)
RDTL	Democratic Republic of Timor-Leste
SDHC	Sub District Health Centre
SEARO	South East Asia Regional Office (WHO)
SMI	Safe Motherhood Initiative
SPWG	Strategic Planning Working Group
STI	Sexually Transmitted Infection
TA	Technical Assistance
TAIS	<i>Timor -Leste Assistência Integrado Saúde</i>
TB	Tuberculosis
TFR	Total Fertility Rate
ToT	Training of Trainers
U5MR	Under five Mortality Rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
VCT	Voluntary counselling and Testing for HIV/AIDS
WB	World Bank
WHO	World Health Organisation

1 MDG situation analysis

The government of Timor Leste is committed at the highest level to achieving the MDGs, and the Timor Leste MDG report of February 2004 sets realistic and achievable goals and gives a clear idea of the scale of the problem facing the young country. Table 1 shows some selected MDG indicators.

Table 1 Global and local MDG targets for 2015 compared to the actual situation in 2001

Indicator	2001	2015	Global
Proportion of the population living on <\$1 /day	20%	14%	½ of 1990
Underweight children	45%	31%	½ of 1990
Net enrolment in primary education	73%	100%	100%
Literacy rate 15-24 year olds	50%	100%	100%
Ratio of girls to boys in senior secondary school	58%	100%	100%
% land under forest	35%	35%	
Access to water (rural)	51%	75%	Double 1990
Access to sanitation (rural)	10%	40%	Double 1990
Unemployment	43%	?	

Source: Timor Leste MDG Report February 2004

Data on health service delivery is very dependent on surveys as data from the HMIS is unreliable, of poor quality and largely unanalyzed. The first MoH annual report, for 2006, is due to be produced in 2007 and will hopefully produce more reliable data than this report was able to access.

1.1 MDG 4 Childhood Mortality Situation

1.1.1 Child Mortality patterns

An analysis from five different sources (Census 90, Inter-census study, Multiple indicator cluster study, DHS, Census 2004) over the period 1984-2004 shows that the overall trend has been almost static for both under five and infant mortality, as shown below. This presents a far less optimistic picture than looking only at the DHS figures, presented in Table 2.

Table 2 Infant and Child Mortality¹, with targets for 2015 (Source: TL DHS 2003; MDG report)

	1989 – 1993	1994-2003	1999-2003	2015 MDG target
Neonatal Mortality Rate	60	42	33	30
Infant Mortality Rate	126	82	60	42
Under-Five Mortality Rate	165	107	83	55

¹ Deaths per 1,000 live births

Three quarters of under-five deaths are due to three causes:

- Almost a third due to neonatal causes, and these are increasing as a proportion with time
- Approximately 20% each for diarrhoea and ARIs.

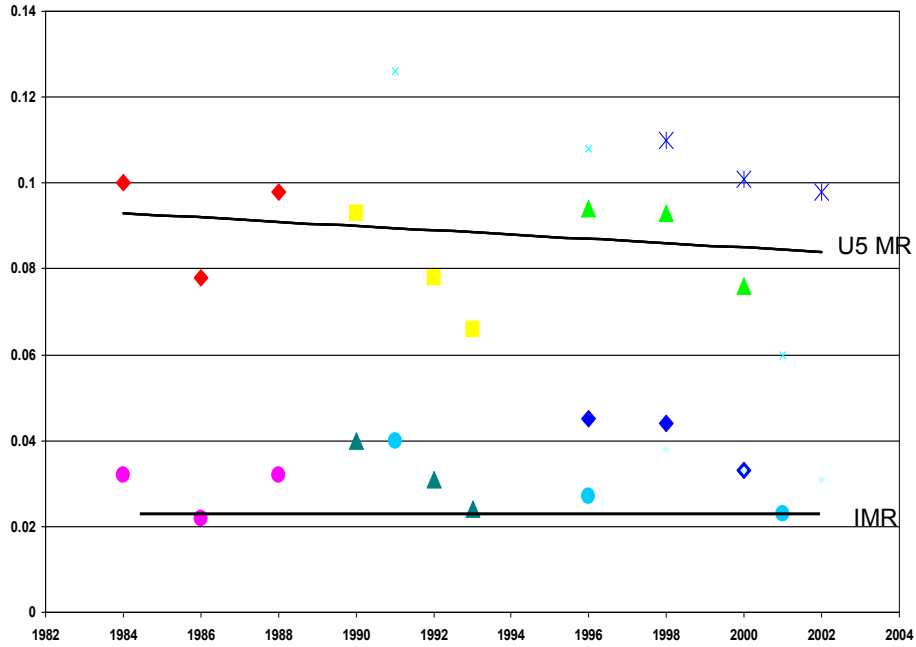
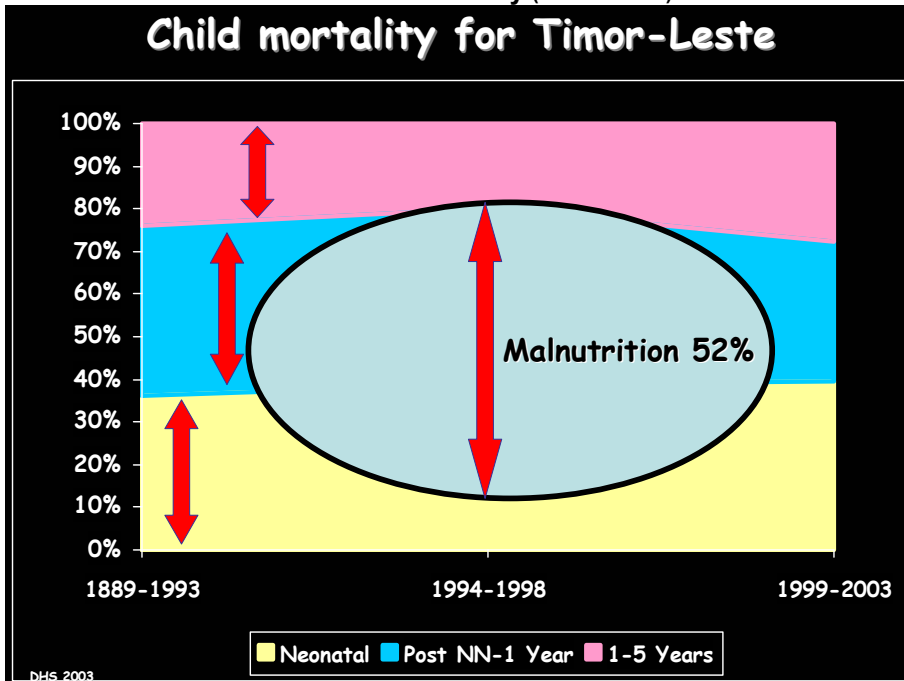


Figure 1 Trends in Infant and Child Mortality 1990-2005 (Source: 5 Surveys)

1.1.2 Malnutrition

Malnutrition is an enormous problem in Timor, contributing to over half of all under five deaths in neonatal, under one and under five year age groups.

Figure 2 Malnutrition in under five mortality (Source TAIS)



The TL DHS 2003 shows the extent of specific types of malnutrition for children under five years.

- 46% are underweight-for-age;
- 15% are severely underweight-for-age;
- 49% of the children under five are stunted;
- 28% are severely stunted.

1.1.3 Immunisation coverage

Immunisation services are relatively well organised in Timor Leste and the program achieves reasonable coverage for individual antigens on the routine HMIS (Table 3). There is great variation in these figures, probably because of poor quality data.

Table 3 Immunisation Coverage in Timor Leste 2001-2006 (Source: MOH EPI)

	OPV3	BCG	DPT3	MCV
2002	43%	66%	44%	39%
2003	57%	72%	57%	55%
2004	57%	72%	57%	55%
2005	55%	70%	55%	48%
2006	65%	74%	67%	64%

There are many inconsistencies in this data and there are different data depending on the source, but this is the official set and has been included, with all its limitations.

However the DHS shows that fewer than 20% of children are fully protected with all six antigens by the age of one year, while just over 40% of pregnant women are protected against Tetanus.

Table 4 Full immunisation coverage (Source: TL DHS 2003)

	Coverage
Children 12-23 Months Fully Immunised	17.8%
Women Receiving 2+ Doses of Tetanus Toxoid	42.5%

1.1.4 Utilisation of health facilities

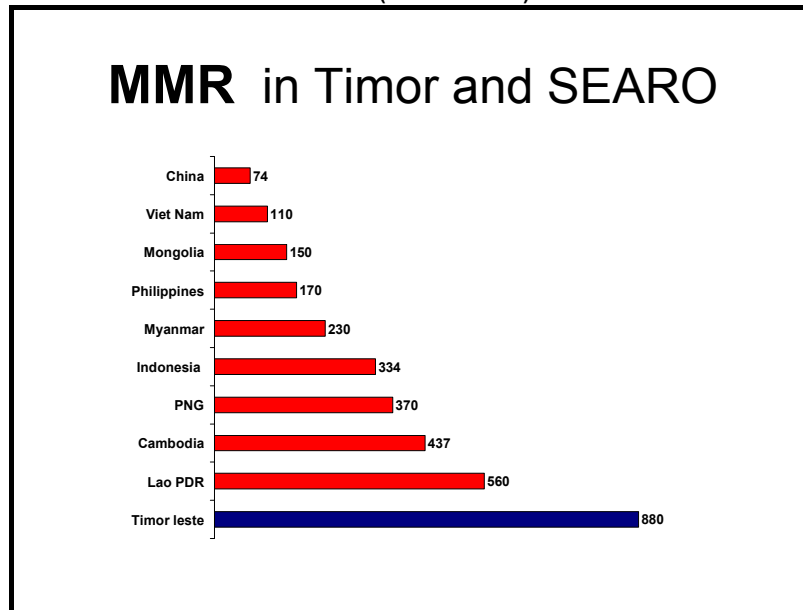
The TL 2003 DHS reported that lack of ANC and skilled attendance at birth are major risk factors for child deaths

- While 60% of pregnant women get ANC, 90% of births occur at home. This has great impact on neonatal mortality;
- 20% of all births are attended by skilled personnel, of which 10% occur in a health facility, mainly hospitals rather than HCs or HPs (see Maternal Mortality chapter);
- Less than one quarter of children with symptoms of fever or ARI was taken to a health facility for treatment.

1.2 MDG 5 Maternal Mortality situation

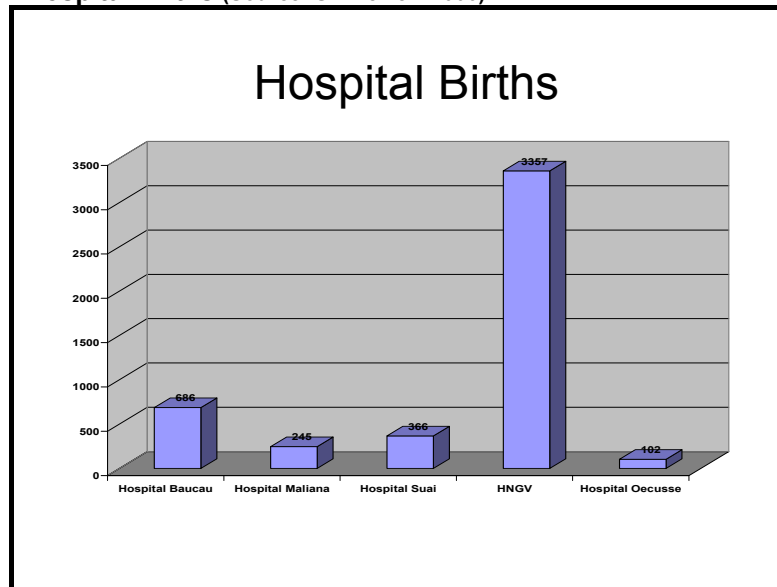
Timor-Leste has one of the highest maternal mortality ratios in the Southeast Asia Region, with estimate of up to 880 mothers dying every 100,000 live births from problems related to pregnancy, delivery or early post-delivery. There are approximately 45,000 deliveries occurring a year, of which roughly 400 will die - over one a day.

Figure 3 MMR in Timor and SEARO (Source: WHO)



One of the reasons for such a high level of maternal deaths and complications is the low utilisation of skilled assistance for antenatal care, delivery, and postpartum care services. Recent research (Lancet 2006) suggests that more than 60% of delivery complications can not be detected prior to birthing, with shock and excessive bleeding being unpredictable and requiring well organised referral systems to higher level emergency care facilities.

Figure 4 Hospital Births (Source: SMI review 2006)



Skilled Birth Attendance

The MICS 2002 showed that, of women giving birth within the past year

- 53% had used antenatal services, though only 13.9% met the recommended schedule;
- 41% were protected with two doses of tetanus toxoid;
- 24% had trained medical personnel assisting (19% TL- DHS 2003), with 61% of these being nurses or midwives;
- 85% did not receive a postnatal check.

By far the majority of facility based deliveries (approximately 4,700) occur in hospitals, with 2/3 of these occurring in Dili Hospital.

The vast majority of deliveries by Health Centre based skilled birth attendants are at home, rather than in a facility (except in Dili, which does over half the facility deliveries). This is because very few health centres and no health posts have midwifery units capable of doing deliveries.

Basic Emergency Obstetric Care

There are currently only five referral hospitals and the national hospital with staff trained in BEOC. This training, conducted in 2006, has had little follow up but more is planned for 2007, with all districts to be covered.

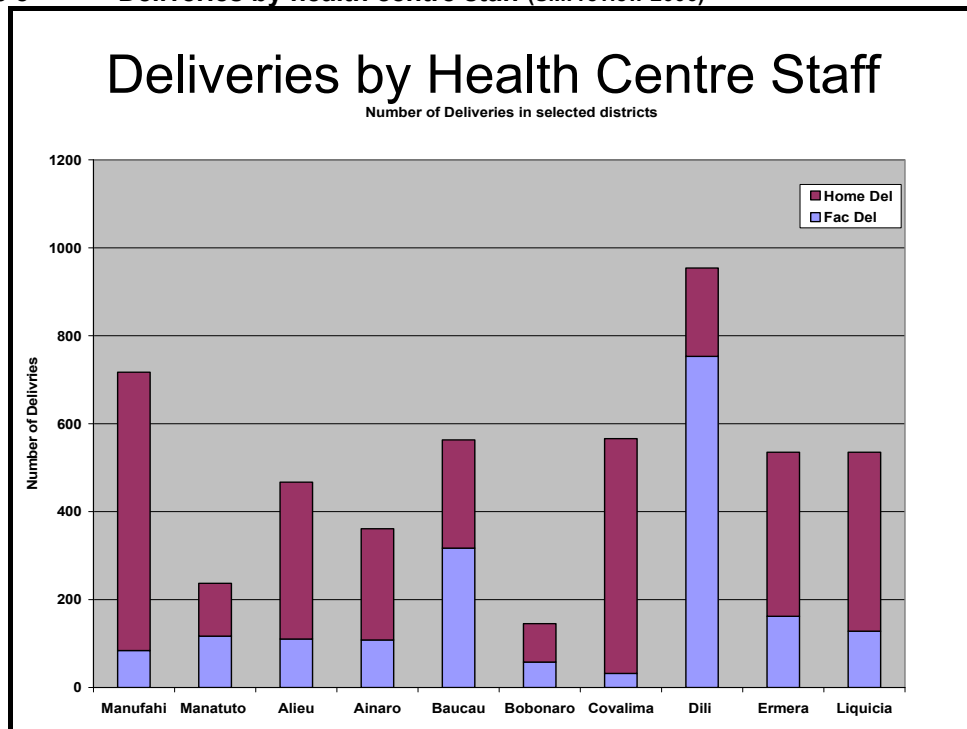
A **BEOC equipment and drug** survey conducted in 2006 showed that only one Health Centre (Ainaro HC) in the country has both drugs and equipment to perform all six BEOC signal functions. Surprisingly, NO hospital was fully equipped!

The HMIS does not cover BEOC interventions, so it is impossible to say what activities are currently carried out.

Comprehensive emergency obstetric care

The same six hospitals also provide Caesarean Sections and blood transfusions, classifying them as CEOC facilities. The Caesarean Section rate is 1%, (450 of approximately 45,000 deliveries) less than 30% of the minimum international level. GVNH did 350 of the 450 caesareans, implying that the other five are not performing adequately.

Figure 5 Deliveries by health centre staff (SMI review 2006)



Because of this poor quality intrapartum and emergency care, the risk of dying in pregnancy is high: 800 per 100,000 live births for each of 7.8 pregnancies = 6.25%,

One Timorese woman in 16 dies during pregnancy.

Family Planning

The total fertility rate (TFR) of Timor-Leste is about 7.8, among the highest in the world. This means that roughly a third of all women aged 20-34 are bearing a child each year. (MICS, 2003)

The contraceptive prevalence rate is very low: only 7% of non-pregnant married women used any form of contraception. Even among those in the prime reproductive ages (20-34), less than 9% are protected.

1.3 MDG 4 HAST & Malaria situation

There are well known close links between HIV/AIDS and both STIs and TB, and an emerging body of evidence that Malaria and HIV are closely linked. It is therefore important to look at these four disease groups as a single unit that is a result of the same problem and to tackle them in an integrated way, using the same approaches.

Tuberculosis

Tuberculosis (TB) is endemic in Timor Leste, which is classified as a high burden nation, with 140 cases estimated per 100,000 population.

New sputum positive cases identified and cured annually since the NTP started are:

Table 5 TB Sputum +ve cases and cure rates 2000-2005 (Source Global Fund)

	2000	2001	2002	2003	2004	2005
# sputum +cases	1347	1288	1091	1026	1000	1035
Success Rate	65%	73%	81%	81%	80%	82%

The Ministry of Health is currently providing an integrated package of tuberculosis clinical services and control interventions in all 13 districts in Timor Leste. Since 2000, the coverage of tuberculosis control has increased and the number of cases tripled, but coverage is still far from complete in the districts.

BCG vaccinations are given to infants as part of the national immunisation program and have reached 67% coverage. (This figure does not come from Table 3)

DOTS is seen as the major weapon to halt and reverse the spread of Sputum +ve TB as each infected person may transmit the disease to between 12 and 20 other persons. Treatment is by standardised WHO regimens and the intensive phase is fully supervised.

Treatment results have improved, with success rates increasing from 65% in 2000 to 82% in 2005. However there is a need to improve quality of sputum microscopy, as most cases are not confirmed at completion of treatment and many initial diagnoses are not controlled for accuracy (the initiation of treatment is often made without sputum diagnosis).

HIV/AIDS and STI

Current levels of HIV/AIDS are not accurately known, as there is no routine sero-prevalence monitoring and there has never been a nation-wide survey. We have only indicative figures to back up a statement on the scope and severity of HIV/AIDS: in line with that the prevalence is still low, but the level of risk behaviour is quite high and there is therefore a risk for an epidemic.

In 2002, a survey showed minimal **knowledge of HIV/AIDS** in Timor Leste.

- only 16% of women aged 15-49 in Timor-Leste have heard of HIV/AIDS;
- among those who have heard of HIV/AIDS, only 1% have “sufficient knowledge” about ways of

preventing transmission;

- The survey also showed significant levels of [risk behaviour](#);
- 1% of clients said they used condoms in commercial sex;
- Not a single sex worker reported always using condoms with clients;
- 40% of sex workers did not even recognise a condom when shown one;
- Condoms are not easily available.

Vector Borne Disease

All 67 sub-districts are affected with mosquito-borne disease, with data suggesting that more than 20-25% of consultations in health facilities are directly related to mosquito-borne disease. Falciparum and Vivax malaria appear to be roughly equally common, while Dengue occurs in sporadic epidemics.

Table 6 Malaria cases 2000-2006 (Source: National Malaria Officer Jan 2007)

	2000	2001	2002	2003	2004	2005	2006
Clinical	134,534	83,049	93,639	NA	179,179	142,274	147,638
Confirmed	NA	NA	26,651	33,933	39,829	40,509	25,925

Quality of malaria [diagnosis](#) at health facilities is often not good, with minimal quality control. With the introduction of expensive combined malaria Treatment (ACT), more emphasis will be placed on rapid tests. Since January 2000, distribution of [impregnated bed nets](#) and targeted treatments has achieved positive results.

Considerable opportunity exists to reverse the national trend if adequate resources and human skills can be mobilised to address vector control.

2 Best practices for MDGs

There is a growing body of evidence that demonstrates that, using a small number of targeted and appropriate interventions, the MDGs can be achieved with existing resources. This chapter outlines those that apply to MDGs 4, 5 and 6.

Timor Leste has an impressive array of micro-policies and strategies for health, most of which contain many of the evidence-based best practices outlined here. The BSP proposes a change of focus on integrated service delivery, and not a change in content of these micro-policies:

MDG4: Focus on neonatal care and quality of IMCI and immunisation

MDG5: Focus on skilled birth attendance at facilities and BEOC

MDG6: Focus on integrated HAST

2.1 MDG 4 Reducing child mortality

2.1.1 Introduction

In the year 2000, 10.6 million children under five years of age died globally, most of them from preventable causes. Timor Leste has made some progress in reducing child mortality in the past 10 years, but continues to have a high under-five mortality rate (U5MR). WHO have estimated that 2000 children under-five (six children a day) died in Timor Leste in 2003.

Timor Leste is committed to improving child health as stated in the National Development Plan. This means a reduction of U5MR from 165 to 55 and the infant mortality rate (IMR) from 126 to 42 deaths per 1,000 live births by 2015. Significant action and active district level management is required in order to achieve this aim.

2.1.2 Evidence for Child Survival Interventions

The Lancet series (2003, 2005) shows that two-thirds of child deaths could be prevented by universal coverage of 23 interventions (Table 2); the 16 proven interventions for neonatal survival presented in Table 7 would similarly impact neonatal mortality. High coverage with a selected subset of these interventions delivered through the BSP could substantially reduce neonatal and child mortality.

Table 7 Child Survival Interventions (Source: The Bellagio Child Survival Group. *Lancet* 2003)

Preventive interventions	Treatment Interventions
Breastfeeding	Oral rehydration therapy
Insecticide-treated bed nets	Antibiotics for pneumonia
Complementary feeding	Antimalarials
Haemophilus influenzae type B vaccine	Antibiotics for sepsis
Zinc	Newborn resuscitation
Vitamin A	Antibiotics for dysentery
Newborn temperature management	Zinc
Tetanus toxoid	Vitamin A
Nevirapine and replacement feeding	
Clean delivery	
Measles vaccine	
Antimalarial intermittent preventive treatment in pregnancy	

Table 8 Newborn Survival Interventions (Source: Lancet 2005)

Preconception	Antenatal	Intrapartum	Postnatal
Folic acid supplementation	Tetanus toxoid immunisation	Antibiotics for premature rupture of membranes	Resuscitation of newborn baby
	Syphilis screening and treatment	Corticosteroids for preterm labour	Breastfeeding
	Pre-eclampsia and eclampsia: prevention (calcium)	Detection and management of breech (C/section)	Prevention and management of hypothermia
	Intermittent presumptive treatment malaria	Labour surveillance using Partograph for early detection of complications	Kangaroo mother care for low birth weight infants
	Detection and treatment of asymptomatic bacteriuria	Clean delivery practices	Community-based pneumonia case management

2.1.3 Basic Service Package for child survival

Based on these “best practice” interventions, an essential package for child survival in Timor Leste should include:

Skilled attendance during pregnancy, delivery and the immediate postpartum

The National Reproductive Health Strategy in Timor Leste describes important maternal and neonatal interventions that will promote child survival.

Antenatal Care

Good antenatal care for the mother has proven benefits for the child

- Birth preparedness and planning means deliveries are done at facilities with adequate neonatal care which can not be provided at home deliveries;
- Iron and folate reduce the likelihood of anaemia and low birth weight and prevent myelomeningocele
- Disease detection for Syphilis, HIV and their treatment prevents congenital syphilis; PMTCT reduces the likelihood of children contracting HIV from their positive mothers
- Tetanus toxoid immunisation prevents child deaths from tetanus
- Care-seeking through education, breastfeeding counselling, detection of complications requiring early delivery, insecticide treated bed nets

Essential Newborn Care

Low cost interventions that should be available, as part of newborn care guidelines should include:

- Clean cord care and good hygiene practices to prevent infection, eye care and Vitamin K;
- Newborn resuscitation to reduce the effects of birth asphyxia;
- Newborn temperature management including kangaroo care (skin-to-skin contact of the mother and child instituted immediately at birth);
- Promotion of early exclusive breastfeeding (including colostrum);
- Weighing newborn babies to assess for low birth-weight (<2500grams);
- Detection and referral of sick newborns.

Care of Sick and Small babies

In referral facilities, in addition to low birth-weight care, treatment of jaundice, oxygen for asphyxia, antibiotics for premature rupture of membranes and corticosteroids for preterm labour is recommended

Improved nutrition of children and mothers including micronutrient supplementation

Breastfeeding and complementary feeding

Improved infant and young child feeding practices need to be promoted and supported with:

- Exclusive breastfeeding up to 6 months of age;
- Continued breastfeeding up to 2 years of age or beyond;
- Adequate and safe complementary feeding from 6 months onwards.

Micronutrient supplementation

Improved diets including fortification and supplementation of food are necessary to achieve appropriate micronutrient levels for children and mothers, In addition:

Vitamin A for the child 6-monthly from 6-59 months and the mother in the postnatal period.

Vitamin A is the most important micronutrient supplementation for the reduction of child mortality

Iron and folic acid provided to the mother through pre-pregnancy, antenatal and postnatal care

Treatment of Children with Severe Malnutrition

All children coming to health facilities need to be weighed and their weights CHARTED on the road to health card in the LISIO. Weights should be compared with previous plotting and those children NOT gaining weight investigated further. Children with severe malnutrition should be referred to hospitals or District Health Centres.

Community-based Therapeutic Care (CTC) is currently being piloted in Timor Leste.

Immunization of children and mothers

- Immunisation of the UNDER ONE target age group provides important opportunities for a range of integrated health interventions for mothers and children. Immunisation over a year is less useful, but still has some benefits;
- Vaccinating children with measles, tetanus, diphtheria, pertussis, polio, BCG and hepatitis B are part of the routine Expanded Program on Immunization (EPI) and should be done according to standard international guidelines;
- Vitamin A and deworming should be delivered with immunization

Facilities need to promote integrated service delivery to ensure that there are no *missed opportunities*.

Well-child visits of ALL children under five, whether ill or not, in conjunction with weighing, assessment and immunisation up to 24 months should be gradually institutionalised

Integrated management of pneumonia, diarrhoea and malaria

Assessing the whole child during consultation will allow the identification of other conditions such as severe malnutrition requiring treatment and/or referral. Management of pneumonia, diarrhoea and malaria is required through an integrated approach. A continuum of care is emphasised, where case management occurs in the community, at primary care health facilities and at the referral level.

Referral to hospital is necessary for children with severe pneumonia, diarrhoea and malaria.

- Pneumonia in children requires prompt diagnosis and treatment with antibiotics;
- Case management of diarrhoea requires oral rehydration therapy with oral rehydration salts (ORS) along with zinc. Antibiotics are indicated for dysentery only;

- Malaria treatment should follow national guidelines;
- Falciparum malaria with artemisinin-based combination therapies (ACT) based on a positive diagnosis with microscopy or rapid diagnostic tests
- Vivax malaria should also be diagnosed and treated.

Insecticide treated bed nets

Insecticide treated bed nets should be available as a preventive intervention for malaria. This is currently done by NGOs and though it is a “core” function of the MoH, it is currently NOT done by most facilities

2.1.4 Complementary Strategies for child survival

In order to strengthen the impact of the Child survival basic service package, the MCH program needs to work within a multisectoral MDG framework to promote gender equality and empower women as well as improvement in water, sanitation and the environment.

Birth spacing

An estimated 38% of all pregnancies occurring globally each year are unintended. Families require access to good reproductive health services as children born 3-5 years after a previous birth are about 2.5 times more likely to survive their infancy than children born earlier.

Prevention of Mother to Child Transmission (PMTCT)

PMTCT is not yet available in Timor, but will be introduced in 2007 at selected hospitals

Pre-pregnancy education

Antenatal visits are often provided infrequently and too late to avert many of the diseases and conditions that lead to maternal and child deaths. Pre-pregnancy visits can prevent many problems and should include:

- Diagnosis and treatment of anaemia, worms, malaria, TB, syphilis;
- Prophylactic administration of iron and folate, micronutrients and tetanus toxoid;
- Voluntary counselling and testing for HIV.

2.2 MDG 5 Reducing maternal mortality

2.2.1 Maternal Mortality

Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy. The WHO estimates that globally about 600,000 women die every year because of childbearing. Most deaths occur in the developing countries and 90% of them are preventable.

The knowledge already exists to reduce maternal mortality using low cost and culturally appropriate technologies. The Millennium Development Goal 5 calls for reduction of Maternal Mortality Ratio by 75% by 2015. “We know what works” and need to apply it to achieve MDG 5

Reproductive health interventions must reduce maternal mortality:

Facility deliveries and Basic Emergency Obstetric Care

The Timor Leste Maternal Mortality Rate (MMR) is about 880 per 100,000 live births, or roughly 1.2 deaths a day! A few well-targeted interventions aimed at getting more deliveries attended by skilled attendants in facilities and introducing effective Basic Emergency Obstetric Care (BEOC) services at (sub) district level could rapidly reduce this unnecessary burden on society to fewer than 200 per 100,000 **before** the target date.

2.2.2 Causes of Maternal Mortality

Maternal Mortality causes are well known internationally and can be either direct (obstetric) or indirect (medical). Approximately 2/3 of deaths are direct and 1/3 are indirect causes. The majority of these maternal deaths are preventable using simple technology that is easily available, even in rural and more remote areas. Prevention of these deaths is the major thrust of the 5th Millennium Development Goal (MDG), the National Development Plan (NDP) and the Basic Services Package. They are also the basis of Life Saving Skills training

Direct causes: Result directly from obstetric complications of pregnancy, labour, or the puerperium. Haemorrhage, sepsis, abortion and obstructed labour are the most common

Indirect causes: Result from worsening of existing conditions by pregnancy e.g. anaemia, malaria, hypertension, Sickle cell disease, malnutrition, diabetes, and heart disease.

The following table shows the main causes of maternal mortality in Timor Leste.

Table 9 Causes of Maternal Mortality (Percentages for SEARO)

Condition	Percentage	LSS Intervention (Explain)
Haemorrhage	23%	Active management of third stage; Manual Vacuum Aspiration
Sepsis	17%	Universal precautions;
Unsafe abortion	11%	Family Planning; Adolescent friendly health Facilities; Manual Vacuum Aspiration
Obstructed labour	11%	Use of Partograph;
Hypertensive disorders	11%	Antenatal Care;
Malaria	11%	Antenatal prophylaxis and treatment
Anaemia	11%	Antenatal Haematinics; improved diet
Other	5 %	

2.2.3 The Three delay model

Most maternal deaths occur in the household, far from any type of skilled birth attendant. Underlying these deaths is the issue of delay, which operate at three levels.

1st Level delay Decision to seek Care
2nd level delay Reaching appropriate care
3rd level delay Receiving care at the facility

A systematic response entails attacking the systemic weaknesses at EACH of the delay sites, using a [multi-sectoral approach](#) giving attention to community based or “demand-side” delays at the same time as improving maternal health Services.

Support to community-level interventions to increase access to health services is complex and time-consuming. However, work on the first two delays is vital if maternal mortality is to be reduced. [Increasing demand](#) without improving the quality of maternal health services is unethical. Interventions to increase community demand need to tie in with improvements in [health service quality](#). This has to focus around:

- Effective antenatal birth preparedness and planning to encourage women to deliver at facilities;
- Recognition of danger signs in pregnancy and childbirth;
- Community level planning of emergency transport and referral systems;
- Community involvement in construction of maternity waiting houses and birthing houses;

In childbearing, women need a continuum of care² with the skilled birth attendant at the centre of the activities:

- In the home with self-care and prevention;
- First level of health care (health post, health centre) where skilled personnel can attend 85% of deliveries which are “normal” ;
- If complications occur (15%), they are quickly referred to secondary level care (BEOC) or tertiary care (CEOC) depending on the seriousness of the condition.

The first delay – Decision to seek Care

This is inappropriate delay at the individual household level that postpones the initial decision to seek care. In Timor Leste, this is the main cause of delay, as shown by the fact that less than 10% of pregnant women choose to deliver in health facilities.

The table below shows that most of these factors lie outside the direct BSP intervention, but can be addressed by a focused *Behaviour Change and Communication* (BCC) program that uses an integrated mix of mass media, social marketing and IEC methods. These BCC messages need to be got across to communities and their leaders, school children as well as pregnant women.

Table 10 Solutions to first delay

Factors for first delay	Solution
Traditions, customs, social practices	ANC Birth planning by FHP and midwives in community Behaviour Change and Communication (FHPs and midwives) to community members on advantages of facility delivery;
Permission from family members	ANC Birth plan that involves family, spouse and communities
Ignorance	Awareness of danger signs, need for facility delivery; Antenatal information, education and communication ANC Facility birth preparedness and planning
Support from spouse / parent / partner	ANC preparedness, awareness and education; Spouse and family involvement in facility birth planning
Tradition of Home delivery	Encourage ANC planning for facility delivery Discourage home deliveries, even if no apparent complication;
Socio-economic factors	Community development through Community leaders, religious leaders, health workers
Inaccessibility of facilities	Increase coverage of Health facility maternity units, Improved transport systems and BEOC

ANC should focus on delivery planning and disease detection

ANC services do not have proven benefits for the mother

ANC does NOT lead to Facility **Delivery** by women with complications

Increasing numbers of facility deliveries

In order for women to WANT to use facilities, a degree of trust has to be established between women and health facility workers, particularly at the health post level where midwives and nurses should do regular community mobilisation visits. Possible ways of achieving this include:

² WHO: Making Pregnancy Safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva 2004

- **Antenatal care** where nutrition supplementation, STI and disease detection, appropriate education and planning of facility birth are carried out;
- **Home visits** to pregnant women during community mobilisation by FHPs, midwives and doctors to encourage facility deliveries
- Construction of maternity **waiting homes** where women can come to wait for delivery in a conducive environment
- Ensuring that ALL health facilities, including health posts, have appropriate **maternity units** or birthing houses and adequate communication and transport in case of emergencies
- Adequate numbers of skilled birth attendants distributed to where they are needed most.
- Community involvement in health facility management through village health committees that ensure accountability and quality of services.

The second delay – Reaching appropriate care

This is the delay that occurs between the household and the health facility. It is usually due to the woman's inability to access help in labour due to poor transportation or communication.

Table 11 Solutions to second delay

Factors in Second Delay	Solutions
Facility too far from community	Birth plan to facilitate preparedness
Poor communication	Mobile phones, 2-way radios and maintenance
Poor / lack of roads	Improved road network
Lack of vehicle or transportation	Community transport schemes and emergency funds

Increasing Physical Access

Interventions to reduce physical access barriers to maternal health services need to be intersectoral and must address community (demand-side) and facility (supply-side) levels. There are no simple solutions. Interventions usually fall into five key areas:

Table 12 Improving Physical access for facility deliveries

	Intervention	Activity
1	Improving community transport	Transport from communities to health facilities
2	Improving transport infrastructure	Bridges, walkways, roads and paths
3	Improving emergency transport	Transport from primary care to emergency obstetric care facilities Improving communications systems
4	Moving skilled health providers closer	Transfer skilled midwives to Health Posts in rural communities
5	Moving 'high-risk' pregnant women closer	Establishing maternity waiting homes, particularly in remote rural health posts.
6	Establish emergency funds	Community-guaranteed funds available for emergency transport payment to local transporters

The Third delay – receiving care at the facility

This delay is due to weak capacity and quality of the health services, which mean that the woman does not receive adequate care promptly on arrival at the health facility.

Table 13 Solutions to third delay

Factors in third delay	Solutions
Facilities close at lunch time, in afternoons and at night.	Expand opening hours; BEOC needs 24/7 services Improve supervision, staff management, control, discipline etc
Poor skills of health workers	Improve LSS, BEOC and communication skills
Unfriendly attitude of midwives/nurses	Interpersonal Communication, LSS and EOC skills enhanced;
Poor Infrastructure	Allocate space for maternity wards at every facility Build waiting houses and birthing houses with community involvement
Non availability of appropriate equipment	Necessary functioning equipment and trained staff to use it. Planned Preventive maintenance;
Risk factors not identified early	Use of Partograph in first stage of labour Life saving skills training for early diagnosis and referral
Insufficient supplies /consumables	Functioning systems to provide drugs and supplies

The reduction of maternal mortality cannot be realized by routine maternity services alone; the provision of BEOC services in addition to routine services is critical to reduce maternal mortality.

A basic Service package for reducing Maternal Mortality

Improving third delay is the major intervention possible through the BSP, but must be done in conjunction with other community-based interventions that address first and second level delays.

Safe delivery at every facility

The Safe Clean delivery program is mainly directed at reducing the third delay, by training skilled birth attendants to improve the quality and coverage of care at facility level. While it is the most important response of the health sector, it is NOT adequate in itself!

By 2008, every health facility, including HPs, should have at least one skilled birth attendant or a team (nurses, midwives and doctors) doing normal deliveries. This will include use of Partograph for the first stage and active management of the third stage of delivery.

With appropriate and ongoing training and support, midwives are capable of performing many interventions that were previously carried out only by doctors.

Improved midwifery services imply:

- At least ONE skilled attendant to do NORMAL deliveries;
- Redeployment of trained midwives out of towns to subdistrict HC and HP level;
- Upskilling of nurses to do normal deliveries and recognise danger signs;
- Maternity units or birthing houses at every facility, including health posts;
- Basic emergency maternity supplies and equipment, including radio communication;
- Regular supportive supervision by hospitals, districts, and health centres to ensure quality care.

Improve accessibility of BEOC

15% of all deliveries have complications that require active EOC intervention. Improving the quality of maternity services will increase use by women with obstetric complications, which means that emergency services will need to be improved.

BEOC consists of six interventions:

1. Intravenous antibiotics;
2. Intravenous oxytocics;
3. Intravenous anticonvulsants;

4. Manual removal of placenta;
5. Vacuum Extraction (Ventouse);
6. Manual Vacuum Aspiration of post-abortal remnants.

Facility based deliveries and BEOC alone can achieve the MDG target of 75% maternal mortality reduction.

The MoH, with UNFPA support, has embarked on a training program which has trained midwives in BEOC at all five referral hospitals and the national hospital. This will be expanded so that there is a BEOC facility

- Every district by 2007;
- Every Municipality by 2008;
- Every subdistrict by 2010.

BEOC provision requires certain **preconditions** that need urgent action by the MoH and DHMTs:

- 24 hour a day, seven day a week call service
- At least two BEOC trained midwives or doctors per facility
- Full equipment and supplies for normal deliveries and BEOC
- All six interventions provided in the past three (or possibly six) months

While initially only some facilities will provide all six BEOC interventions, ALL maternity facilities with skilled attendants should provide at least some BEOC components, such as the intravenous drugs, (antibiotics, anticonvulsants, oxytocics). All should aspire to provide them before 2010.

Using this simple approach, the MMR can be reduced to 200 per 100,000 through providing clean deliveries and BEOC services alone, without caesarean section.

Train teams of midwives and doctors

Training nurses, midwives and doctors as a TEAM enables health facilities to cope with obstetric emergencies that would otherwise be referred to hospital.

- Every maternity facility needs at least midwife (or nurse) with LSS skills;
- Every BEOC facility should have at least two trained midwives (or a doctor and a midwife);
- All doctors, to be capable of offering BEOC services, need to be trained in LSS.

Boost staff morale

A better working environment is essential for the delivery of quality maternity services.

- Sufficient drugs, supplies and equipment;
- Housing with water and electricity close to the maternity unit;
- Team work and strong, supportive leadership and management;
- In-service or refresher **training** opportunities based on performance;
- Productivity-linked financial **incentives** to motivate individuals (skilled attendants) and institutions (facilities and districts) to perform better, based on achievement of targets for facility deliveries by skilled birth attendants;
- Prizes for best performing districts and facilities.

Maternal Mortality Audits

All maternal deaths, in facilities and out of facilities need to be documented.

Facility-based deaths should be thoroughly investigated in a supportive way to identify preventable causes of death and to look for lessons for improving quality.

Complementary Strategies

A number of interventions need to be strengthened to support the facility based deliveries and BEOC strategy. Many of these have more influence on child survival than maternal survival, but are essential for overall improvement of the maternal and child health services.

Antenatal Care

Coverage of ANC in Timor Leste is around 60%, and receives a large component of budgetary and midwife time allocation. Antenatal care is ideally delivered through four contacts spread throughout pregnancy.

Good quality ANC has acknowledged benefits to the baby in terms of growth, detection and treatment of infection and overall survival.

However, its contribution to reducing maternal mortality is not proven. Screening for high risk is not effective in reducing maternal mortality, as complications in pregnancy and labour can not be predicted.

ANC provides benefits to mothers by:

- Promoting birth preparedness through identifying danger signs and planning for delivery in facilities
- Nutrition supplementation through iron, folic acid
- Malaria prophylaxis through ITNs and anti-malaria drugs
- Identification of diseases such as hypertension, syphilis and HIV/AIDS and initiation of therapy

Postpartum Care

The risk of death decreases rapidly by 2 days post partum, so postnatal care should be focused on this period. Little evidence exists that routine postpartum care has benefits for survival of the mother, though it does benefit the newborn baby and serves as a good strategy for promotion of family planning.

Family Planning

Worldwide data suggests that reduction of unplanned and unwanted pregnancies would eliminate 25- 40% of all maternal deaths. Risks to high parity women, the very young and very old can be avoided by family planning, but the overall effect does not appear to be substantial, though the outcomes for improved health of children is convincing.

Family planning is safe – all methods are safer than pregnancy and delivery! It is also effective, albeit for a limited target group – women not wanting children.

Abortion

Unsafe abortions globally contribute to approximately 13% of maternal deaths. Exact data for Timor Leste is unknown. Medically induced abortion is illegal while induced abortions are common, but undocumented. There is a need to provide effective care for induced septic abortion, using manual vacuum aspiration, as a key component of the BEOC package.

Comprehensive emergency obstetric care

Comprehensive Emergency obstetric care (CEOC) involves the provision of caesarean sections and blood transfusion, and implies a hospital service. The international standard for this is a minimum of **1 CEOC facility per 500,000 people**. (i.e. 2 for the million people of Timor Leste)

Timor Leste already has SIX facilities capable of providing COEC, or one per 150,000 population, so has enough CEOC facilities. However the **quality** of these CEOC facilities needs strengthening as most hospitals are not reaching the “normal” rate for caesarean section which is **5-15% of all deliveries**. Timor Leste has a rate of just over 1%, which is unacceptably low.

2.3 MDG 6 Reducing spread of HIV/AIDS, tuberculosis and malaria

The 'HAST' conditions i.e. HIV/AIDS, Sexually Transmitted Infections (STI) and Tuberculosis (TB) have important clinical and health care relationships. The BSP proposes an integrated approach to HAST and malaria, in which the HIV/AIDS and STI program will work closely with TB, mosquito borne disease and MCH programs at implementation level.

2.3.1 The Rationale for an integrated HAST approach

The HAST group of diseases are closely linked in various ways:

1. STI increases the chances of acquiring and spreading HIV

The presence of genital ulcer disease and other STIs increase transmission of HIV infection. STIs increase the likelihood of HIV infection, on a sexual exposure to HIV, by 10-20 times.

**STIs increase risk of HIV infection 10-20 times.
HIV increases lifetime risk of TB by 20-50 times**

The prevalence of HIV is much higher in patients with STI because these diseases are usually acquired through the same risky sexual risk practices. STIs are one of the most important HIV risk factors.

2. HIV/AIDS immune deficiency increases the risk of active TB

In the presence of HIV there is an increase in the risk of developing active TB disease. This may be due to immune deficiency, or due to re-infection with new TB bacilli.

- Many TB patients are also infected with HIV. HIV infection increases the life time risk of active TB disease by 20-50 times.
- TB is common in HIV infected patients. TB is the commonest and life threatening HIV related disease. TB is more severe and has a higher chance of causing death.

3. Active TB makes the HIV disease worse

A person's HIV disease will get worse and progress more rapidly if there is active TB.

- TB increases the replication of HIV virus, causes higher HIV viral levels and speeds development of immune deficiency
- TB weakens the body and its ability to resist HIV
- Preventing STI will prevent HIV, which will in turn reduce TB.
- Currently TB is a common cause of illness and death at health facilities.

4. HIV/AIDS, TB and STI care is complimentary

From the above it can be seen that in many cases:

- patients with STI also have HIV infection and vice versa
- patients with TB also have HIV
- patients with HIV are at high risk of developing active TB
- Patients are usually worse off if they have dual infections

2.3.2 What does HAST integration mean for Timor Leste?

Implementation of an integrated HAST programme is within the capability and capacity of the existing health care services. This will **not** involve a significant increase in resources or services or an increase in the sophistication of care, procedures, knowledge and skills. In fact it should reduce costs and resources in the long term

- HAST should be integrated at all levels of care from home based, primary, secondary and tertiary care where appropriate.
- HAST integration promotes the cardinal principles of equity, especially with access and ensuring a continuum of care.

This implies:

1. **Functional integration** to promote effectiveness, efficiency and quality of health care delivery and strengthen existing systems.
2. **Systemic Integration** of HAST into the health system to further enhance the existing systems, rather than creating separate “vertical” programs.

Health care planners and providers should develop an integrated way of thinking and a linking of the diseases.

- Whenever HIV or TB or STI is addressed in policy, planning, training, care, resource allocation (staff, drugs, laboratory support etc) and service management, it should be seen as one issue and always dealt with as a group together
- Patients with TB should highlight the possibility of dual HIV infection.
- If the patient presents with a STI then HIV should also be considered.
- If a patient has HIV, automatically think about TB or STI
- Health care services should combine TB, STI and HIV services where possible and where relevant.
- Voluntary HIV counselling and testing (VCT) is the most important entry point into HIV care and should be actively promoted to form an integral part of STI and TB care as well.

HAST is an *integration* of already existing services.

HAST should not require additional services or cost

HAST is an *integration in the mind* set of health care planners, policy, administration and clinical care providers

2.3.3 Basic Services Package for HAST and Malaria

In order to meet MDG6, the BSP will focus on a few key preventive, promotive and curative interventions, integrating HIV/ AIDS, STI and TB programs at service delivery level.

The Malaria and Vector Borne diseases program will be integrated into the overall BSP and HAST activities using largely similar approaches to all other BSP interventions. While overall approaches should be the same, specific vector borne disease activities that are different to other HAST activities are:

- Distribution of long-lasting, insecticide-treated bed nets (ITNs) to pregnant women
- Integrated vector control

Improve Coverage of Prevention Services

An integrated BCC program must be developed that works with HAST, malaria, MCH and school health programs to provide information, education and communication for

- Pregnant women and children under 5 years for ITNs
- Pregnant women for STI and HIV screening and VCT
- MARGs population for condoms and lubricant, specialist STI and VCT services.
- Communities for vector control

Insecticide Treated Nets

ITNs are already distributed to all pregnant women and children under 5 years. This will form the bedrock of further HAST related preventive services.

VCT services

VCT training will include midwives and health staff providing TB and STI services in 2007 (Year 1 of the GF program).

- 5 Referral hospitals and district health centres
- 3 existing VCT facilities. (GVNH, Bairo Pite and Motael clinics)
- 4 new facilities in Dili and 3 districts (Baucau, Covalima and Bobonaro)

Other districts will be included in year two (2008 in the GF plan).

VCT will be integrated with other health services such as DOTS, antenatal care and STI treatment. TB patients will all get VCT and all PLWA will be screened for TB

Prevention of mother to child transmission (PMCTC) and ANC screening strategies will be developed by MCH, initially at 7 services sites in Dili and integrally linked with BEOC services.

Syndromic management

Syndromic Management of STI will be implemented along with VCT in 6 districts (37 HCs) that will be provided with

- Syndromic management and ANC STI detection training,
- Laboratory training, equipment and supplies for diagnosis of syphilis, gonorrhoea and Chlamydia.
- STI drugs according to reviewed guidelines.

All health facilities providing syndromic management will also provide DOTS treatment and eventually VCT.

Condoms

Condoms are funded by UNFPA and are distributed through the Family Planning Program for condom distribution in public access points such as universities, cafes and toilets. The HIV/AIDS Program will support free condom distribution boxes to all health Centres and elsewhere, accompanied by BCC leaflets. Condom distribution will be a Key performance indicator of all health facilities.

Blood safety

Blood safety and blood transfusion systems strategy, National Standards for blood transfusion services and guidelines of rational use of blood and blood products will be developed in year one of the GF project (2007)

Antiretroviral drugs for post-exposure prophylaxis for service deliverers are currently available in Dili and will be available at all 5 Referral Hospitals in year one.

Increased community involvement and behaviour change.

Integrated BCC materials will support all prevention activities. A BCC specialist will support the HAST and Malaria Programs to build prevention capacity among the staff of the MoH's Health Promotion and MCH Units.

A communication specialist will work on the development of an integrated communication plan for the HIV/AIDS, STI and TB Program and work closely with the Malaria and MCH programs.

- Strengthened community behavioural change for HAST and malaria prevention through developing capacity of small NGOs and community-based organizations (CBOs).

Behavioural change would promote effective ITN and condom use, Early Detection and Prompt Treatment (EDPT) for STIs, TB and malaria and VCT for high risk groups. Community understanding regarding mosquito breeding habits will ideally lead to the destruction of mosquito breeding sites.

This activity will strengthen overall community participation and understanding to enhance sustainability of the on-going interventions.

- IEC monitored by KAP studies.

The health promotion department of the Ministry of Health would produce all IEC material centrally to address HAST and malaria control activities.

In addition to the production of IEC materials, the studies would also assess the impact of IEC activities in terms of behaviour such as utilization of condoms and bed nets, safe sex behaviour and response of the community to EDPT and IEC material

HIV and STI Information

At present the HIV and STI data is extremely limited - a survey of risk and STI/HIV prevalence among high risk populations, based on 2003 data, and an estimated national prevalence based on an ad hoc seroprevalence survey in 2004. TB data is similarly poor, with limited reporting of TB from facilities.

The establishment of efficient **laboratory services** to support integrated public health activities including TB, Malaria, HIV/AIDS and STIs is crucial. There is program support for five years from St. John of God Pathology, who will support improvement of integrated laboratory services for the BSP at all levels

The HAST Program needs to provide strategic information to strengthen and expand TB, Malaria, STI and HIV surveillance at health centres and hospitals and the system of reporting to MoH. Strengthen HAST and other communicable disease surveillance at laboratories and the system of reporting to MOH;

Strengthen and Expand HAST and Malaria Treatment

- Microscopy established in all Health Centres (HCs) for Malaria, and at district level for TB and STIs
- Rapid Diagnostic Tests for Malaria in HPs, rural and remote areas
- Rapid tests for VDRL and HIV

The Ministry of Health needs to reinforce the need for prevention as a primary goal and at the same time ensure adequate treatment:

- A sustainable drug supply for all components of the HAST and Malaria program
- Well trained HAST and malaria care teams; this will include IRS house spraying teams
- Site monitoring and technical support;
- Integration of HIV diagnosis and care with TB-DOTS and STI programs;
- Strengthened MoH drug procurement and management systems
- That VCT is the entry point to prevention and care in the MCH and TB programs;
- Monitoring quality of laboratory services and establish a systematic process for verification of slide microscopy.
- Ensuring that prevention programs link closely with treatment programs;

The MoH provides all drugs free. There is a plan to introduce Artesunate Combination Therapy (ACT) supported by WHO in 2007, and it is essential that all patients using this be tested before treatment.

Strengthen Health Systems

It is essential that the HIV/AIDS program supports not only the overall HAST program, but also strengthens the implementation capacity of the MoH to provide a comprehensive response to all MDGs. There is a need for capacity building to strengthen an integrated health system.

Currently, there are 18 health facilities providing TB DOTS treatment and a reasonable TB reporting

system. An integrated Disease Surveillance (IDS) program is developing monitoring capacity for communicable disease control. However the routine HMIS system is ineffective for reporting STI and HIV. Two sites provide VCT/ STI services and ART, but there are no PMTCT, and no PEP sites. Not one STI site meets the expected criteria, though staff at 37 sites has been trained in syndromic management of STI.

Guidelines and strategy for integrated disease surveillance including malaria have been developed and are ready for implementation. The following activities should be part of the overall strengthening of the IDS

- Train DHMT members, physicians and nurses in HAST and malaria management, monitoring and evaluation of case management, monitoring and evaluation of the integrated program.
- Epidemiological bulletin to include analysed information on HAST and malaria.
- Training of MOH staff on outbreak investigation and epidemic response
- Recruitment of a medical entomologist to develop guidelines and train MOH staff in vector control

Multisectoral Response

The National AIDS Commission is responsible for facilitating a multisectoral response and not allowing HIV/AIDS to be seen as just a health problem requiring only technical health responses. A recent survey of the NAC found that the Commission was weak in important ways. This is currently being addressed.

The HIV/AIDS Program, together with the UN theme group agencies, will help the NAC reach its potential in its strategic monitoring role, with an Adviser working with the NAC team. The Program, through NAC, will fund a media training workshop relating to knowledgeable and responsible reporting on HIV/AIDS.

3 BSP Implementation framework

3.1 The District Health System

The Health Policy Framework (p 46-47) states that

“The role of the **DHMT** is to plan, supervise, coordinate, monitor, report and evaluate all health activities at the district level the team will carry out administrative, financial and logistical functions that fall under their jurisdiction”

The DHMT normally consists of

The head of district services	(DHS Chef)
The deputy head of district services	(DHS deputy chef)
District Public Health officers (DPHO) in charge of	
▪ Communicable Diseases	(CDC)
▪ Maternal and Child Health	(MCH)
▪ Environment, Nutrition and Health Promotion	(ENHP)
▪ Health Management Information System	(HMIS)

Key District roles

The role of the DHMT is currently not clearly defined and members do not have comprehensive job descriptions. Policy makers should develop clear guidelines to define the key role of the district, using the following principles with regard to the BSP:

- The district is the level at which policies are put into practice, where “top-down” planning meets “bottom-up” aspirations and the MDGs are achieved.
- The role of the DHMT is to provide overall logistic support and supervision, coordination and control, planning, monitoring and evaluation.
- Implementation of district plans should be carried out by the health centres and health posts

With the shift to municipalities, the actual roles may change slightly but the general principles will remain similar, with an emphasis on planning, coordination, support and monitoring rather than direct service delivery.

3.2 Primary Health Care

Primary Health Care (PHC) is the major focus of the Timorese MoH and all other components of the health system should be geared to supporting it. PHC is focused on providing accessible, affordable, appropriate health care being available at community level, with full participation and support of the community.

3.2.1 Family Health Promoter Program

The Family Health Promoter (FHP) Program is described in Draft Guidelines PSF Program (15 December 2005) and is a community based initiative implemented in 4 districts, supported by UNICEF, HAI and TAIS. It is anticipated that once workable strategies have been tested, the program will be rolled out across all districts.

The **overall goal** of the FHPP is to:

Engage and enable families and communities to enjoy increased health benefits because of coordinated support and utilisation of Family Health Promoters.

The FHP, as a volunteer, will provide NO clinical services– but will be the key to health promotion and behaviour change communication programs at community level. They will promote the use of health facilities for BSP and refer patients to health facilities for treatment.

3.2.2 Remote Area Strategy

Outside of Dili, an estimated 33% of the Timorese population lives beyond two hours walk from health facilities. This seriously affects the capacity of the government to provide them with even the most basic services.

In order to provide BSP to these communities, each district needs to undertake a **remote area mapping exercise** that involves all levels of the health service as well as community leaders and other ministries. This exercise should

- Identify HCs that do not provide facility based deliveries or other BSP activities and allocate space for deliveries, reallocate staff and upgrade housing for midwives
- Identify areas where large population groups are living outside the range of two hours walk from existing health facilities
- Plan and budget for a combination of mobile services and Family health promoters to ensure that all remote communities have regular access to the BSP
- Identify facilities that should have maternity waiting homes to ensure access to skilled birth attendants
- Close down inappropriately placed facilities that are not serving adequate populations, and open new ones where there are large underserved populations
- Upgrading busy HPs to HCs or downgrading HCs that are not providing services

3.2.3 Community based services

There is a lack of clarity currently on the difference between mobile clinics and outreach services and the following section needs to be subjected to further discussion regarding international nomenclature. For the purposes of the BSP:

- Outreach refers to services provided at an **existing** health facility,
- Mobile services are done at other sites e.g. schools, markets, community structures
- “Mop up” services are not done regularly, but according to programmatic needs

Community visits are carried out as part of all these processes, as well as in the catchment area immediately around health facilities.

Outreach services

This implies provision of services from a higher level of facility at the location of a lower level of facility through staff from the higher level travelling to the lower level with adequate supplies.

This may be hospital staff going to a HC or HP to provide services not normally provided there, or HC staff going to a HP to provide PHC services.

Mobile clinics

These services are conducted by health post and health centre staff on a ROUTINE (weekly, monthly or quarterly) scheduled and budgeted basis. The FULL range of mobile services is provided to communities that are over two hours walking from the facility, or at regular community gatherings such as markets.

The services will consist of a number of activities: registration, examination and diagnosis, service provision (ANC, immunisation, etc) and health promotion.

There are two options - motorcycle mobiles and vehicle mobiles

Motorcycle mobile clinics

One or two staff members, using a motorcycle to reach communities under an hour from the facility, will usually do these. Services may be provided at schools, community centres or under a tree.

These will normally be provided to small groups of people, so that one or two properly trained, multi-skilled staff can provide a full range of services.

Vehicle mobile clinics

All districts have vehicles that are supposed to do routine outreach and mobile services on a regular, scheduled basis. However these are currently not done for a variety of reasons. Each district needs to have a dedicated mobile team and to develop a schedule of mobile clinics that ensure maximum coverage of the BSP, using vehicles to go to distant places more than one hour motorcycle ride from facilities.

This will need detailed **planning** of logistics, equipment, staff training and community mobilisation, but is a crucial element of the remote areas strategy

An interesting model developed by Cooperative Café Timor (CCT) could have useful lessons for districts wishing to provide mobile services:

The Cooperativo Café Timor mobile model

They have a dedicated team of four people (driver, administrator, nurse and midwife) and a 4WD motor vehicle who do nothing but mobile clinics. Each mobile team serves four remote locations, visiting each one every week and provide a full range of services.

Locations are decided with full community participation (chefe de suco, PSF) who build a special structure for the mobile clinic

It is important that these visits are scheduled with the full cooperation of the FHP and local community, as they form the cornerstone of ongoing support to the FHP.

Community mobilisation visits

These should be done in communities close to facilities as well as mobile clinics. Here the focus is on community mapping, support to FHPs, risk identification and practical work with FHP and health committees on local health issues.

Mop up visits

These are punctual activities to ensure adequate coverage of specific programs such as EPI or eye services and they do not necessarily provide a full range of BSP services. They are normally provided 3 or 4 times a year, as needed.

3.2.4 Health Posts

The entry point into the public health service will be the Health Post (HP), situated at strategic Sucos within the sub-districts, serving 1,000 -5,000 people (200-1,000 households) The health post is the key to achieving MDG services, as it is here that the BSP and health promotion is provided and the principles of PHC implemented.

The HP provides **links** to higher level of referral and emergency services (through the radio communication system) and to the FHP program through community committees.

There will normally be at least FOUR health posts managed by the SDHC that **function as a unit** to provide services to a subdistrict (see Fig 6). Where there is no health post available, a **mobile clinic** will provide Suco level services on a regular basis to ensure adequate coverage of the sub-district.

Services

The health post will provide simple preventive and curative services including

- Health Promotion, Information Education and communication (IEC)
- Support of the FHP to encourage community mobilisation and education
- Normal deliveries at the facility, with referral of mother and child for complications
- Essential Newborn Care, including basic resuscitation
- Antenatal and postpartum care and family planning
- IMCI and basic curative care for communicable diseases including STIs
- Immunisation (daily where there is a fridge)
- TB DOTS follow up
- Mental Health patient follow up
- Water and Sanitation services on a regular basis

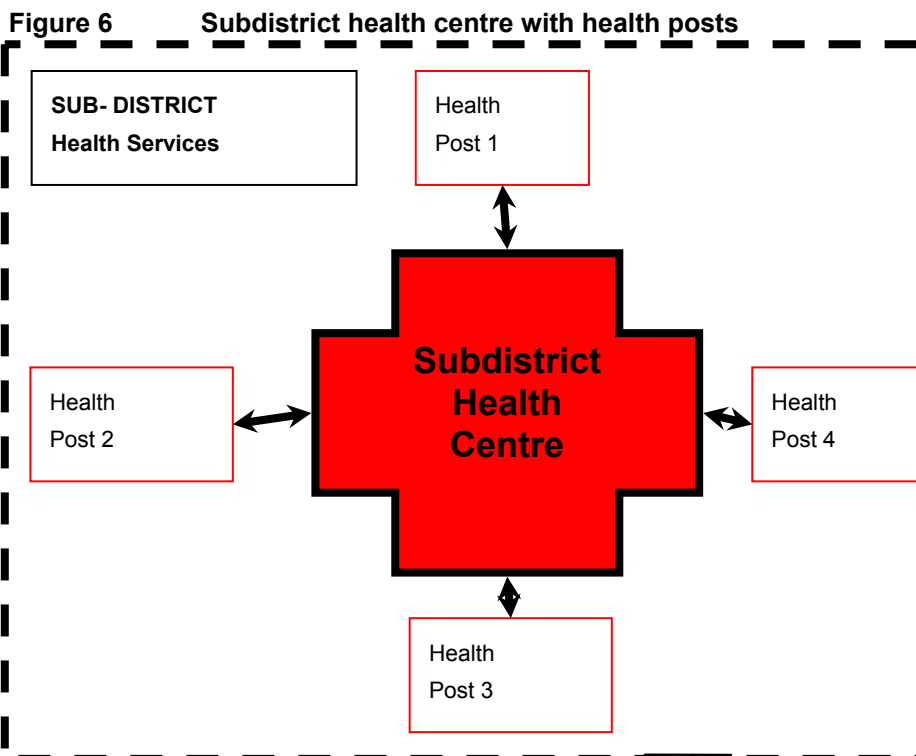
These services are briefly outlined in the Best Practices section of this document, but need to be further clarified in program - specific manuals and guidelines.

Integrated services are provided here according to the BSP guidelines and sufficient funds should be allocated directly to the facility to ensure that these are carried out both at the facility and in the community.

Infrastructure

The well functioning health post will ideally have the following

- An outpatient department working 8 hours a day, (with 24 hour emergency call)
- A maternity delivery unit (with 24 hour call)
- Maternity waiting home (with community support) where appropriate
- A functional 2-way radio or mobile phone for emergencies
- A motorcycle for mobile clinics
- A refrigerator for immunisation
- Solar power for light, refrigerator and radio (where there is no electricity)



This infrastructure will require considerable upgrading of existing and proposed HPs in an incremental manner over the next 5 years, during the HSSP implementation period and beyond.

3.2.5 Subdistrict Health Centres

Subdistrict Health Centres (SDHC) will be situated at subdistrict level and provide care for 5,000 -15,000 people. They will have a wider range of staff (usually including a doctor) and provide technical and managerial support to FHPs and health posts in the subdistrict.

Services

SDHCs will provide a higher level of services than the health post (see annex 1). All will provide HP services PLUS:

- A full package of child care based on IMCI and regular immunisation;
- Facility based deliveries and management of emergencies;
- Emergency care for newborns >2 kg;
- BEOC in a phased approach (see box);
- Maternity waiting houses where there is good community participation;
- A few short-term (24 hour) observation beds to treat complicated cases;
- Dental services;
- Pharmaceutical services;
- Regular outreach at health posts to provide clinical and preventive services;
- Basic laboratory services for ANC, malaria and TB.

BEOC will be provided by teams of doctors and midwives
with appropriate infrastructure, training and equipment

- 2007 in all districts
- 2008 in all municipalities
- 2010 in all health centres

Infrastructure

In addition to the Health Post infrastructure, SDHCs will provide

- Basic Emergency Obstetric Care facilities;
- Observation beds for 24 hours;
- Basic laboratory facilities including microscopy and ANC disease detection;
- Dental equipment;
- Pharmacy;
- Mobile clinic facilities and outreach with vehicles.

The SDHC manager has the responsibility for coordinating all services at health posts in the sub-district to ensure the basic package of services is available to all citizens. Particular attention needs to be given to maximising use of existing vehicles for implementing the remote area strategy, rather than current individual use practices.

3.2.6 District Health Centres

District health Centres (DHCs) are situated at the 5 districts that do not have hospitals. They serve the entire district and are responsible for providing outreach and referral services to all facilities, and mobile services to remote areas

Services

District HCs will provide a higher level of services than the health post (see annex 1), as well as:

- Complicated curative cases requiring referral or in-patient treatment;
- BEOC in all districts by 2007;
- Newborn resuscitation using oxygen;
- Treatment for mental patients and the disabled;
- Eye care, Disability services (with NGOs);
- Outreach services to HCs and health posts;
- Pharmacy services for all health facilities in the district;
- Dental referral services;
- Vehicle based Mobile services to remote and rural areas;
- VCT activities/services and HIV testing and treatment.

Infrastructure

In addition to the SDHC infrastructure they will have

- In-patient beds for longer stay of more complicated patients;
- Laboratory services, including TB microscopy, HIV testing;
- Unit for VCT and PMTCT for HIV positive mothers.

3.3 THE HOSPITAL SYSTEM

The hospital services package supports and complements the BSP and provides referral services as part of the overall continuum of care starting in the community. It is governed by the Health Policy Framework and by specific legislation (Decreto-lei No. 1/2005 Estatuto Hospitalar). This legislation recognizes two levels of hospital services:

- Five referral hospitals
- The Guido Valadares National Hospital (GVNH) of Dili as the national referral hospital.

At present there is no private sector hospital, though this is envisaged as part of the public-private mix in the future.

3.3.1 Referral Hospitals

Services

The referral hospital is the second level of referral and offers a comprehensive level of services for patients referred in from the district PHC facilities. This is part of a continuum of care from health posts and health centres, with the availability of physical premises, technical equipment and skilled staff to attend to patients already in possession of a primary diagnosis.

While all referral hospitals will provide similar services, there will be slight variations in the scope governed by the differences in size, scope and environment. For example:

- Baucau has a large catchment area and numbers of specialists
- Oecussi is situated in an isolated enclave with a long journey from and to Dili

Table 14 Hospital staff and catchments (Source: Budget Analysis 2006/7; Census 2004)

Hospital	Beds	Districts served	Catchment population	Permanent staff (Total)	# Nurses	# Doctors
Baucau	114	Baucau, Lautem, Viqueque	100, 748 + 56,293 + 65,499 = 222,540	116	69	26
Maliana	24	Bobonaro	83,579	43	20	14
Suai	24	Covalima	53,063	43	13	11
Maubisse	24	Ainaro, Aileu Ermera, Manufahi	52,480 + 37,967 + 103,322 + 45,081 = 238,850	39	8	5
Oecussi	24??	Oecussi	57,616	36	15	11
GVNH		Dili	175, 730	272	159	79

The procedures to be done at Referral Hospitals (see annex 1) depend to a large degree on the level of skill and equipment available. Where there are specialist surgeons, obstetricians or paediatricians, obviously more complex services can be provided and more responsibility can be taken at hospital level. This is why the services are a MINIMUM list, with limits to be determined by hospital management.

Management

Management structures at referral hospitals have not to date been adjusted according to the legislation. Roles and responsibilities of hospital directors and boards need to be clarified as part of the hospital review process.

3.3.2 Guido Valadares National Hospital

The Guido Valadares National Hospital (GVNH) is defined by Section 18 of Government decree No 5/2003. Services available in the GVNH will be only on a referral basis:

- From the surrounding CHCs in Dili and neighbouring district facilities;
- For all other referral hospitals across the country.

Services provided

GVNH acts as the national referral hospital, and as such should see ONLY referral cases from other hospitals or health centres. There are written policies to this effect, but these are not enforced, meaning that an estimated 80% of outpatient services are in fact PHC services.

Similarly, over 3,500 of the 4,500 facility deliveries done in the country are done at GVNH. This means that many normal deliveries that midwives at HC level could do, are in fact done by doctors at the national referral hospital. This has significant human and financial resource implications.

Equipment

Much of the equipment at GVNH and other hospitals is of poor quality, with single-use equipment being reused. Many of the tertiary functions which could be provided at GVNH are not provided due to non-availability of basic equipment which is present but not functioning due to lack of maintenance.

Surgical services (including O&G) would be greatly improved with the following basic equipment

- Good quality 3-dimensional ultrasound
- Renal Dialysis machine
- Basic Chemotherapy drugs
- Full body CT scan

3.4 Linking Primary with Hospital Services

3.4.1 Hospital support to Health Centres

Hospitals are obliged by law (Decree 6) to support the health centres in their catchment areas. Most hospitals in the past provided monthly outreach clinical visits by specialists to health centres to see referred patients, train local doctors and nurses and to provide supportive supervision.

However, very few are doing this at present, due to “the situation”. All hospital managers realize the need for this support to surrounding health centres and have expressed the need for concrete assistance in planning for this activity. A dedicated budget line for outreach has been proposed for every hospital, and would be a strong incentive for providing this valuable service.

3.4.2 BSP Provision at hospitals

Most referral hospitals tend to provide direct access for patients coming off the street, who then go directly to doctors without any screening process. This is wasteful of scarce resources (particularly of Doctors time).

It is strongly recommended that referral hospitals do NOT see patients without a referral letter from a health centre, (as the GVNH already does).

Where necessary, hospitals should plan towards establishing a **separate Health Centre** near the hospital, or in the grounds of the hospital. This could be funded and run by the District PHC service and reduce the hospital budget, or the Municipality could contract the Hospital management to run such services (though they will probably be more expensive than DHMT- run services)!

3.4.3 Referral support:

A referral is, in effect the reversal of outreach and occurs when a patient requires a higher level of service than can be provided at the facility where the patient presents, at the time of presentation.

The responsibility for referral lies with the health practitioner attending the patient. Consultation with another health or medical professional by radio or telephone does not constitute a referral, although it may result in a referral being decided upon.

Ambulances should be used for emergency transport rather than routine patient transfer.

There should be a referral review mechanism to identify inappropriate referrals and a follow up system to reduce inappropriate referrals through education and training rather than censure.

Individual programmes, such as TB, or MCH, should determine the criteria for compulsory referrals to a specified level of facility.

Referral letters

A referred patient must always hand-carry a referral letter to give to staff at the location to which the patient is referred. A referral document should be completed in triplicate with copies distributed as follows:

1. Patient to hand-carry to referring health worker;
2. District health office copy for HMIS;
3. Originating facility record.

Referral role of Hospitals

The prime role of the referral hospital system is to receive and treat patients who have a secondary care condition that cannot be treated within the primary care facilities.

Government focus is on comprehensive primary health care that encourages services to be provided by PHC facilities. A well functioning hospital system will see only people with complicated illnesses and conditions being referred through the primary care services on again to the referral hospital. Those people requiring higher levels of attention will be referred to the national hospital for specialty services.

Hospitals will strengthen referral systems through:

- Regular supportive outreach services to see referred patients at lower level facilities
- Ongoing practical training and mentoring of health centre staff in management of complicated patients
- Sound management of their own systems, to see only referred cases
- Supporting districts in establishing communication systems and protocols,
- Clinical protocols for selection, documentation and care of transferees,
- Return of patients when appropriate, with adequate and documented feedback

Where necessary, referrals can also be made overseas from GVNH with support from Rotary overseas Medical Aid for Children or the Royal Australian College of Surgeons where appropriate.

4 Human Resources

4.1 Introduction

Implementing the BSP will require different kinds of teams of well trained and motivated health workers functioning at all levels of the health services that are well coordinated and actively managed both locally and centrally. These teams will need an appropriate mix of skills and knowledge to be able to perform the tasks required to achieve the MDGs. The MoH will need to move away from unskilled staff towards more highly skilled personnel as proposed in the draft 2005 National Health Workforce Plan (NHWP).

4.2 Existing HRD Strategies

The strategies for achieving HRD objectives are clearly set out in the Health Policy Framework of 2002 (3.3 pp 28-29). These include:

- Recruit available workforce giving priority to health posts and health centres;
- Establish staffing norms for numbers and skill mix at each level;
- Set up an efficient and responsive performance appraisal system;
- Provide incentives (financial, training etc) to favour redistribution of personnel to underserved areas and to reward productivity.

PHC facilities (HP and HC) will need to be flexibly staffed according to

- The population in the catchment area and its distribution;
- The services provided, (Immunisation, BEOC, DOTS, etc);
- The geography and terrain of the catchment area;
- The distance from higher referral facilities.

There will be need for some specialist staff such as dental, pharmacy and laboratory technicians, but in general services should be provided in an integrated way.

There is no need for specialised staff for “vertical” programs such as TB, mental or nutrition etc except at district level. These “specialists” should be empowered to provide in-service training, mentoring and technical supervision for the entire district according to clear criteria developed by the NHWP. The skill mix of the HC team should ensure that some staff will have these specialist skills in addition to generalist roles.

4.3 Health workforce implications

The **National Workforce Plan** (NHWP) of 2005 is due to be reviewed and formally approved in 2007 in the light of a changed workforce profile (increased number of doctors and the community based, MDG-oriented emphasis of the BSP). As part of this process, staffing norms will need to be defined for each type of facility and for populations.

Crucial issues to be addressed in the workforce plan will include strategies to

- Optimise effectiveness of doctors;
- Strengthen local clinical and managerial supervision, control and support;
- Community orientation of service providers;
- Improve basic emergency obstetric care skills;
- Promote modern management practices;
- Improve in-service training and supervision capacity at district level.

4.4 District Health management Team

The District Health management team (DHMT) is specified by law (Decree 5/2003) as being the District health chef assisted by a deputy and two District Public health officers. However, this has been expanded and most districts now have five or six DPHOs

1. Communicable Disease Control;
2. Maternal and child health;
3. Non- communicable Diseases;
4. Environmental health, Nutrition and Health Promotion;
5. Health Management Information System;
6. Logistics.

The **composition and skill base of the DHMT** needs to be urgently addressed by the District Health System Policy as part of the municipal decentralisation, NHWP and HSSP processes. The temptation to add more DPHOs to this team should be avoided, particularly in the light of proposed further decentralisation to Municipalities. Emphasis should be on increasing the managerial and technical skills of the DHMT rather than increasing their number.

DPHOs should be in charge of a cluster of integrated services responsible to the DHMT manager, rather than “vertical” program managers. Where necessary they can be given deputies for Pharmacy, Nutrition, Family planning, HP etc. These deputies should be directly responsible to the DPHO rather than Dili-based program managers.

It is strongly advised that

1. All DHMT members should have some form of appropriate local public health training (Certificate, Diploma, and Masters) in addition to practical management skills and technical training;
2. DHMT chef should be encouraged to get international MPH qualifications;
3. Local or international technical assistance should be placed at district level to support groups of DHMTs, to fulfil their role;
4. The IHS should be strengthened in its ability to provide formal local public health training for DHMTs;
5. The NHWP should create mechanisms for international collaborating partners to support talented young Timorese staff to go for international **public health training**, rather than the current focus on clinical specialisation.

4.5 PHC facilities Staffing and management

Nurses and midwives, increasingly assisted by medical doctors (since the arrival of the Cuban brigade) predominantly staff PHC facilities. There is a need for a team approach to service delivery, thus minimising friction between different cadres.

This needs a reaffirmation from the MoH of the importance of team work and collaboration. The NHWP should clarify the different roles of each team member.

Staff, including midwives and skilled birth attendants, should be posted to the subdistrict (NOT individual facilities). Staff can be allocated to work on a rotation basis at health posts as required, at the discretion of the DHMT manager, in consultation with the SDHC manager.

4.6 Minimum staffing levels

This staffing pattern is based on the assumption that each health worker can see 15-25 patients a day, and that each midwife does 3 deliveries a week. If these basic targets are met, it is possible to achieve

- 2-3 visits per population per year and;
- 100% delivery coverage by skilled birth attendants.

Table 15 Proposed MINIMUM staffing levels for PHC facilities

Staff category	District Health Centres (Levels 3 & 4 merged)*	Sub-District Health Centres (Level 2)*	Health Posts
Manager + L5	1	1	0
Community Nurse # L4 *	1	1	1
Senior Nurse L4	1	1	0
Nurse L3	2	2	0
Community Midwife ∞ L4 *	2	1	1
Midwife L3	2	1	0
Doctor L6	2	1	0
Laboratory Technician L4	2	0	0
Assistant Laboratory Technician L3	1	1	0
Senior/Dental Nurse L4/3	1	1	0
Pharmacy Technician L4	1	1	0
Sanitation Technician	1	1	0
TOTAL	17	12	2

*= New post proposed – to be included in MTEF and HSSP

+ Minimum qualification: HC M&L Certificate /Diploma (Leadership & empowerment, HR & financial direction and control)

Minimum qualification: Diploma III Nursing (community engagement and outreach competent)

∞ Minimum qualification: Diploma III Midwifery (BEOC capable)

There is a change in emphasis proposed for HPs and SDHCs, where

- Nurses and midwives currently on L3 will be preferentially trained as Community Nurses and Community Nurses and upgraded to L4;
- Laboratory personnel will ensure that the services meet international MDG guidelines, particularly ANC disease detection;
- Assistant nurses will be contracted in where trained nurses are not available.

The enhanced status of the new cadres of community health workers will need to be formally approved by the MoH. The NHWP will develop new curricula and educational materials befitting the posts. The IHS will be central to this process.

4.7 Performance adjusted staffing levels

Staffing levels of health facilities will need to be adjusted according to performance.

Understaffing

Where health centres or health posts have a heavy workload, the DHMT and subdistrict managers may allocate additional staff on a temporary or permanent basis. This should be based on individual performance appraisal and facility workload considerations documented through the HMIS. This should be based on the overall workload of the district as well as in terms of reaching MDG targets

Facilities that are providing BEOC should be particularly favoured to ensure they can provide a 24/7 service.

Overstaffing

Where workloads are low, the factors underlying the situation need to be closely assessed and remedial actions such as supervision, technical control and mentoring introduced. Persistent low workloads should lead to staff being transferred to areas where they can be more effective.

Approximately 130 staff (over 10% of the workforce) will be flexibly allocated, in order to be able to respond to the performance-based needs of PHC facilities. Their allocation will need to be dealt with in the NHWP, MTEF and HSSP.

4.8 Incentives

Incentives to staff should be performance related and should favour staff working in rural and remote areas through affirmative action policies:

- Training to be upgraded to Community Nurses and Midwives;
- Realistic rural allowances (within expectations and civil service rules);
- Quality Housing (upgraded or new) with water and electricity at SDHC and HP level;
- Supportive supervision and in-service training;
- Overtime paid on the basis of actual number of FACILITY deliveries performed;
- Promotion prospects based on good performance appraisal and not only on length of service;
- Preferential possibilities for attending training, workshops, study opportunities and meetings;
- Cash incentives may be linked to the future Conditional Cash Transfers to community members who use health services (proposed by the World Bank). The cash “reward” for clients using a particular service needs to be divided between;
 - The client or end user of the service;
 - The individual health worker(s) providing the service;
 - The health service management, enabling them to hire in needed staff.

This will be a major challenge, as the government has no mechanism for providing these incentives, though the ministry of health in principle supports an incentive system.

4.9 Health Centre management

The HC manager is typically a nurse or a midwife. (S)he has the responsibility for scheduling, coordinating and monitoring all Health Centre, Health Post and mobile services to ensure the BSP is available to all people in the catchment area. The manager is crucial to local level adherence of approved service standards and protocols.

This will involve the following activities:

1. Operational Planning and target setting;
2. Mobile and outreach Services;
3. Staff Performance management and appraisal;
4. Resource Management;
5. Quality of Care and patient referral;
6. Community engagement through local health committees and other structures.

The roles and responsibilities of the SDHC, HC and district managers need to be clearly defined by the NHWP. Regular performance appraisals will monitor performance.

4.10 Doctors

Doctors are playing an increasing role as members of the Health Centre and Hospital teams in Timor Leste. Examples of good team harmony are apparent in several health facilities visited during the consultancy and factors promoting this should be built into the NHWP.

Doctors have multiple roles:

1. *Clinical Role*

To see patients once they have been registered, screened and basic signs observed by other members of the team. They are responsible for final diagnosis, treatment and appropriate referral in line with relevant best practice guidelines and protocols.

2. *Development role*

To provide ongoing mentoring and practical technical support to all members of the health team, both in the facility where they work and in the health facilities in the catchment area. This implies that they should have a regular rotating coverage of all Health Centres and Posts in the subdistrict using available transport. The HC and hospital managers should ensure that there is fuel for this function.

3. *Administrative*

Though doctors will not normally have a managerial role in the health centres, they should support management such as HMIS, by collecting and reporting data, analysis and dissemination of results.

4. *Community*

The **Cuban tradition** of community visits should be planned for and clear objectives set. Community visits should be encouraged at all health facilities, with teams of health workers visiting neighbouring communities, identifying public health risk factors, documenting health status of families, supporting FHPs and encouraging the community to use the facility.

The IHS needs to develop programs for doctors to support the NHWP

1. Orientation programs for all foreign trained doctors (National and international) to orient them to these roles;
2. Registration system for doctors in conjunction with the Medical Council;
3. Medical faculty.

4.11 Training programs

The BSP needs to be incorporated into the current and projected education and training programs of the IHS through the NHWP. Such programs should focus on the practical skills needed to achieve the MDGs. The details are outlined in the relevant chapters but would be focused on the following broad guidelines.

MDG 4	IMCI	CROSS CUTTING
	EPI	
	Growth Monitoring , Nutrition	Leadership
	Neonatal Care	Health Planning
MDG 5	Safe Clean delivery	Supervision and control
	BEOC	Health Promotion
	CEOC	General Management
	Family Planning	Resource management
MDG 6	Voluntary counselling and Testing	Pharmaceutical management
	HIV Treatment	Financial management
	TB DOTS	HMIS and data management
	STI Syndromic management	Laboratory skills
	Malaria treatment	
	Vector control	
Non – MDG	Eye Care	
	Mental health	
	Disability	
	Dental	

An important part of the decentralisation process will be the empowerment of DPHOs and other DHMT members to take responsibility for training, in-service mentoring and technical and managerial support to HC and HP staff. Hospitals should also participate actively in such mentoring and training programs. This would become the core business of the IHS, which will need considerable strengthening.

5 Monitoring & Evaluation

5.1 Health Sector Goals

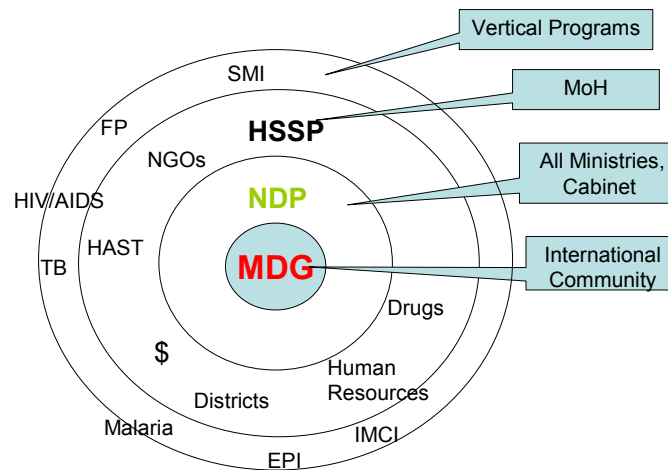
When monitoring the performance of the health sector, one has to bear in mind a range of different goals, targets and indicators consisting of, amongst others:

- Millennium Development Goals, the 8 international goals for overall human development, required for international comparison. The MDGs have 48 indicators and specific targets for achievement by 2015.
- NDP for the entire Timorese nation, with goals, objectives and indicators from each of the development sectors, including health.
- Health Sector Strategic Plan (HSSP) 2007-2012, for the entire health sector
- Program strategic and operational plans which focus on program activities at national level
- District strategic and operational plans for defined geographical areas

Each of these sets of indicators should be linked to each other and the M&E process at each level integrated so that measurement of one set of goals is related to the others:

Figure 7 Monitoring and evaluation Hierarchy

Monitoring and evaluation Hierarchy



5.2 BSP Indicators

A set of 28 Key performance indicators (KPI) has been developed (annex 3) to measure the performance of the MoH in implementing interventions for the BSP, using routine information sources. While some of the data is collected in the current HMIS, it is expected that the revised HMIS will collect all this data, report it regularly, analyse it at local level and disseminate the results widely so that it can be used to improve service performance.

A larger set of MoH indicators (including the KPIs) is also presented (annex 4) that will be collected from a wider set of sources, including performance assessments, record reviews and community surveys.

All these indicators need to be clearly defined for numerator and denominator as well as source and frequency in the proposed national data dictionary.

**The revised HMIS should collect all BSP Key Performance Indicators
They should be analysed and discussed monthly at all levels**

5.2.1 Selection criteria

The crucial factor in selecting indicators is their linkage to health goals and objectives – i.e. collecting only data that is USEFUL in measuring progress towards set targets.

The following criteria were used in selecting the Indicators:

1. Indicators measure interventions for which the MoH can be held responsible;
2. Quality data can be collected reliably;
3. The data is relevant to users in terms of timeliness, adequacy and usefulness;
4. The indicators accurately measure results;
5. The indicator is Valid and conforms to internationally agreed performance criteria and can be compared at international levels;
6. Data is easy to collect and does not place an undue cost (human, financial or time) on the front-line data gatherers;
7. The data sources for the indicator can be clearly identified.

5.2.2 Denominators

A major problem with calculating indicators in Timor Leste is getting accurate data for denominators. Population data projections by suco and aldeia level are currently available at the Department of National Statistics. Every effort must be made to provide districts, municipalities and subdistricts with this data.

5.2.3 Indicator Types

Indicators can be of different types and it is important to measure BSP activities at different levels of the process – inputs (investments), process, outcomes (performance) and impact.

Table 16	Indicator types
Inputs	Direct investments into programmes or projects. These include financial, human and other resources.
Outputs	Goods and services generated, arising from the inputs invested in an intervention. The health sector is solely responsible for outputs.
Outcomes	The level and extent of utilisation of goods and services by the target group. The health sector has diminished control over outcomes: they can be attributable to the programme or not. Outcomes can be negative or positive.
Impacts	The overall quantitative and qualitative benefits of intervention that lead to a change in the health of the population. Impacts can be attributed to the programme or not and may be negative or positive.

Annex 3 shows the KPI indicators (and a few others) subdivided into these categories.

5.3 Monitoring and Evaluation

M&E is important for two reasons

- **Accountability:** upwards to donors, downwards to beneficiaries and outward to the public at large, increasing transparency
- **Learning:** internally in the form of improved performance assessment and externally through influencing or advocacy, using information to make a difference

The BSP approach requires the establishment of a comprehensive M&E system that will improve participation, transparency and accountability in the management of health affairs. It will promote linkages and consultations among various players in the implementation of health development programmes and make health services accountable to communities.

The M&E system for the BSP is based on a set of indicators and evaluation criteria, and reporting structures that should provide timely feedback on progress towards the agreed results.

The **core functions** of the M&E system are data collection, analysis and use:

1. Identification of agreed **indicators** that are reliable, appropriate, valid, easy to collect, sensitive and specific (RAVES) as specified above;
2. **Baseline** data to get an idea of current status;
3. Setting of realistic **targets** that are specific, measurable, accurate relevant and time bound (SMART);
4. Ongoing **data collection** on identified indicators by all role-players;
5. **Data analysis** at different levels;
6. Reporting and **dissemination** of results;
7. **Data use** for operational and strategic planning.

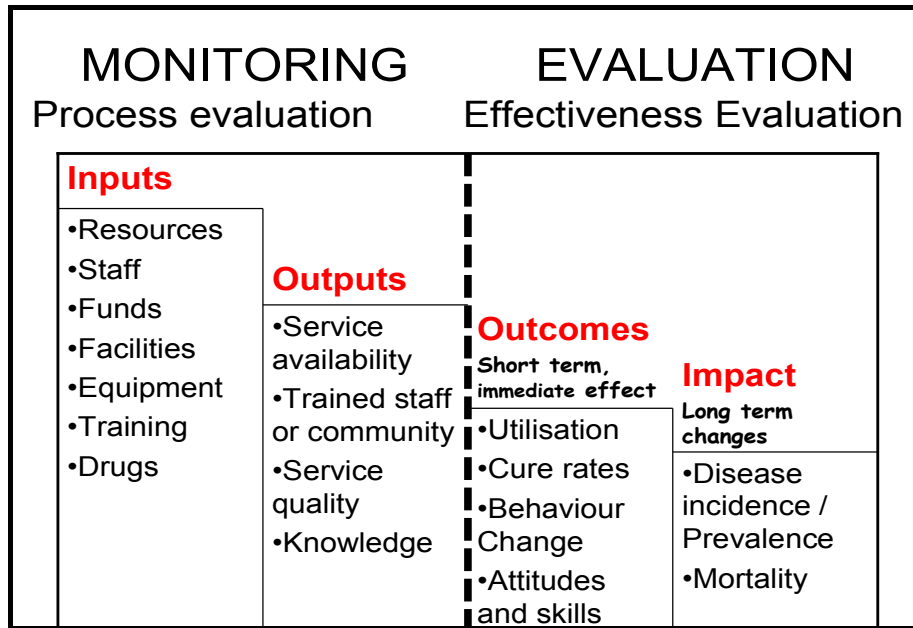
5.3.1 Monitoring

Monitoring is a continuous and periodic follow up of activities. It gives ongoing routine and regular descriptive information on progress, using the six epidemiological questions:

- **Who** is carrying out activities;
- **What** is being done in terms of ongoing project activities;
- **When** activities have occurred in relation to plans;
- **Where** service delivery is at any given time relative to the targets agreed;
- **Why** certain activities are being carried out, and for whom;
- **How** to make adjustments to improve efficiency.

Monitoring looks mainly (but not exclusively) at inputs and outputs, as shown in the schematic figure below.

Figure 8 The relationship between monitoring and evaluation



5.3.2 Evaluation

Evaluation takes place periodically and gives overall information on achievements or failures:

- **Who** has benefited;
- In **what** way;
- To what extent.

It is concerned mainly with outcomes and impacts of inputs and outputs. Evaluation complements monitoring; when indicators from routine, ongoing monitoring show that the programme is going off track; evaluation helps to clarify realities and trends observed within the monitoring system by addressing the questions

- **Why** targets and outcomes are or are not being achieved?
- **What** caused the changes being observed?
- How or what was the sequence or process that led to successful (or failed) outcomes and compliance and accountability questions?

Evaluation determines the **relevance, efficiency, effectiveness, impact** and **sustainability** of activities so that lessons learnt are incorporated into the decision-making process and operational framework.

5.4 The information Cycle

The Information cycle is an easy way of conceptualising the complex activities involved in monitoring and evaluation, starting with collecting data which is then processed into useful information using indicators, which are then analysed and presented using tables, graphs or maps. Information is then interpreted and used by management teams at each level.

5.4.1 Data Collection

BSP monitoring for health will strengthen existing management systems, work synergistically with them and not set up any new parallel data collecting or reporting systems.

Data collection for the BSP will be based on a set of proposed indicators outlined in annex 3. These indicators will be discussed with different programs and district level managers. Consensus will be reached on a final list for the HMIS.

These indicators should not require any additional data to be collected – and should reduce data load significantly by clarifying the HMIS focus.

Data Frequency

Routine data will be processed and reported according to how often it is used at the next level up.

Table 17 Type of data related to frequency

Frequency	Type of data
Weekly	Disease Surveillance requiring urgent action
Monthly	Facility service delivery data reports
	District reports
Quarterly	Some Tuberculosis data
	Integrated Performance Appraisal
6 monthly	MDG, NDP progress reports
Annually	Annual district reports, facility reports
	Record reviews, Joint Annual Review
	National MDG progress report, Statistical Bulletins

Data sources

BSP M&E will use existing data sources already producing data for the health sector such as the Routine HMIS, epidemiological surveillance and the census. Quarterly participatory performance assessments, supervision reports, Annual register surveys, programmatic surveys, administrative and finance systems will be gradually introduced to strengthen the overall M&E process.

A **data dictionary** will be developed that will define clearly source of both Numerator and Denominator for every indicator in the HMIS, as well as purpose, use and actions to be taken for every indicator.

Routine HMIS

The routine HMIS has been running with a new set of forms since 2006 but is not well established in any districts, with poor coverage and reporting rates. It covers

- Routine service activities;
- Special programs;
- Some aspects of disease surveillance.

It will be strengthened to become the core component of the M&E system.

Epidemiological surveillance

The **Integrated Disease Surveillance** (IDS) reporting system is the trigger for action by the response teams and covers notifiable diseases. It will be incorporated into the HMIS as part of the strengthening and integration process.

Census

A Census is conducted every 10 years (1990 and 2004) and is a major source of baseline information for most socio-economic indicators. The next census will be in 2010. Projections of population by district and by subdistrict are already available and these should be made generally available and used as a first line for estimation of coverage of services.

5.4.2 Data processing

The BSP M&E process will be fully integrated into ongoing M&E activities of the health sector, and should strengthen existing analysis, but not add an additional reporting burden.

The NDP will be monitored together with the BSP and the HSSP by a participatory and transparent process, including all the stakeholders in the health sector at all levels.

Reporting

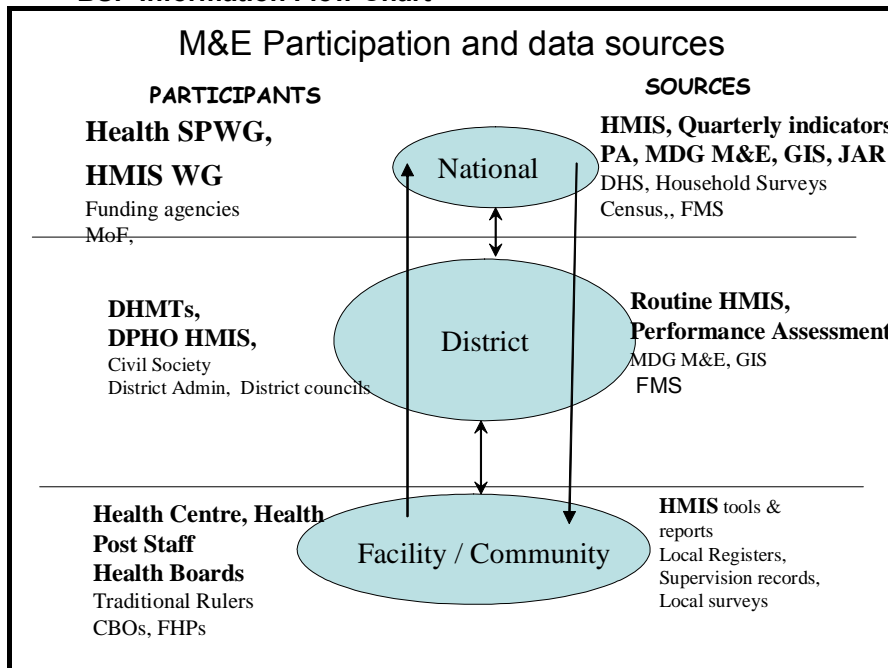
Reporting of BSP indicators will be integrated into routine reporting at facility, district, provincial and national levels and will be the main focus of the HMIS.

1. BSP Progress Reports will be produced by:
 - a. Districts (semi-) annually, based on the Key Performance Indicators;
 - b. The MoH will consolidate the district reports.
2. Annual Evaluation will be a consolidation of semi annual progress reports (including BSP) from all levels;
3. Mid Term Evaluation will be done after three years of HSSP implementation.

Information Flow

The flow of information between community and national level needs to be a two way communication - i.e. community collecting data for levels above and higher levels providing regular and effective feedback to lower levels as shown in the figure below.

Figure 9 BSP Information Flow Chart



5.4.3 Data use for action

Once data has been analysed and reports produced, the next stage of the monitoring process is the use of the reports. The following table identifies the major users and potential uses of each level of report.

There will need to be extensive training in use of information for self assessment as this is not well done at present.

Table 18 Users and Uses of Data at Various levels of the BSP Monitoring System

Institutional Level	Responsibilities	Users	Main Use of Data
National Level • Ministry of Health • MDG related programs • Collaborating Partners	• Compilation and analysis of indicators • Baseline service data • Compilation and analysis of financial data • Compilation and analysis of budget information • Administrative & Socio-Economic data,	• Parliament, Cabinet, Central Ministries • Ministry of Health • Spending Agencies, Sector Advisory Groups; • Non-Governmental Organisations, • Cooperating Partners • Civil Society	• Policy and decision making; • Management decisions • Resource Allocation; • Fiscal Management; • National Planning and Economic Management; • Accountability and Transparency;
District Level • District Health Management Team • (Municipal Authorities)	• Analysis of data for KPI indicators • Self assessment • MDG progress reports • CCQI	• Line Departments • District / Municipal authorities in other ministries • Special priority programs • NGOs, FBOs • Cooperating Partners	• M&E of BSP, MDGs, NDP, Local projects • Quality assurance • Project Management; • Local Planning, Resource allocation • Budgeting, Accounting
Facilities (Hospitals, HC and HP) Community level	• Generation of data • Quality control • Initial analysis of indicators • Presentation in graphs • Dissemination	• Health Staff of all types • Family Health Promoters • Community Based Organisations • Neighbourhood health committees	• Quality Service Delivery; • Decision making on development activities • Needs Identification; • Advise on local resource requirements

5.5 Building blocks for M&E

The MoH needs to ensure that all necessary participatory, consultative and technical processes are in place for the BSP M&E process.

- **Strategic plan working group** (SPWG) meetings are held weekly to address Strategic planning related issues and should in addition address BSP monitoring;
- **HMIS working Group** should meet monthly (weekly if needed) and will have representation of MoH officials, NGOs, program managers and CPs;
- **DHMT meetings** should discuss self assessment monthly, based upon analysis of facility indicators. Similar meetings should be held at facility level;
- **BSP Performance assessments** are to be carried out twice annually by districts/ municipalities and reported to national level. They should measure systems outcomes and progress towards MDGs and BSP targets;
- **Joint Annual Review** is to be held annually. This should be the major annual evaluation for central level and focus on effectiveness, impact and sustainability of MDGs and the BSP;
- The **Routine HMIS** should produce regular data from all facilities. This should include relevant data from all BSP programs and provide information on progress towards MDGs and BSP targets.

5.5.1 M&E at National level

Within the MoH, the Department of Health Information, Monitoring and Evaluation (DHIME) is the coordinator of M&E activities. The HMIS working group should represent all data users and meet at least monthly, though preferably weekly (at first). It will need to be substantially strengthened to be able to fulfil its role.

The **Health Annual report** and **Statistical Bulletin** are proposed as regular analysis of available data and their publication should be used to disseminate progress towards the MDGs and BSP. The first reports will

be produced in 2007, for 2006.

A Joint **Annual Review** is proposed, during which the ministry, together with its development partners, will review progress in the health sector each year. This process should be institutionalised and provide an annual evaluation of achievements of the HSSP and document progress towards MDGs and the BSP.

5.5.2 M&E at Districts

The M&E system will work in a decentralised manner to support implementation of the BSP at DHMT and facility level. Strengthened local level decision-making is an important component of the BSP and the proposed M & E process is designed to build capacity of the DHMT (particularly DPHOs) to support districts, facilities and communities, to make informed health decisions.

To do this, self-assessment must become a regular part of DHMT meetings and data quality control, analysis and dissemination a core function of the DPHO (HMIS) and DPHOs in charge of MDG programs.

Training and capacity building to equip the DHMT to effectively monitor and evaluate programmes needs to be built into the M&E process. Production of regular high quality feedback is needed to stimulate an exchange of ideas between levels and between different programs at district levels.

5.5.3 M&E at Facilities

All facilities should collate data into a monthly report. This report should be checked for quality (completeness, correctness and consistency) and then the data analysed locally to produce performance indicators for the facility.

The information needs to be displayed on hand-drawn graphs and then discussed at team meetings where the entire team does self- assessment of performance.

Annex 1 Services provided by level

MDG 4 REDUCE CHILD MORTALITY					
Documents used	Mobile clinic	Health Post	Subdist HC	Distr HC	Ref. Hosp.
LISIO	Yes	Yes	Yes	Yes	Yes
Registers: Under five and immunisation	Yes	Yes	Yes	Yes	Yes
IMCI Protocol	Yes	Yes	Yes	Yes	Yes
Standard Treatment Guidelines	Yes	Yes	Yes	Yes	Yes
WHO Hospital Care for Children Protocol	No	No	Yes	Yes	Yes
Malnutrition protocol for hospitals	No	No	No	Yes	Yes
COMMUNITY LINKAGES					
Identification, follow up of children under 5	Yes	Yes	Yes	Yes	No
Community mapping of AT RISK children and families	Yes	Yes	Yes	Yes	No
Community care of malnutrition (therapeutic feeding)	Yes	Yes	Yes	Yes	No
Record Child Deaths in community	Yes	Yes	Yes	Yes	No
Support to FHP program and community leaders	Yes	Yes	Yes	Yes	No
Mothers groups to support breastfeeding	Yes	Yes	Yes	Yes	No
BEHAVIOUR CHANGE AND COMMUNICATION					
Nutrition education, Deworming	Yes	Yes	Yes	Yes	Yes
Food supplementation , Vit A, Iodine, Micronutrients	Yes	Yes	Yes	Yes	Yes
Weigh ALL children, Identify NOT gaining weight	Yes	Yes	Yes	Yes	Yes
Referral of malnourished children	Yes	Yes	Yes	Yes	Back
Breast Feeding: Exclusive 1 st 6 months	Yes	Yes	Yes	Yes	Yes
Breast feeding: Complementary > 6 months	Yes	Yes	Yes	Yes	Yes
Insecticide Treated nets	Yes	Yes	Yes	Yes	Yes
Immunisation promotion, Community IMCI	Yes	Yes	Yes	Yes	Yes
ORS demonstrations, diarrhoea prevention& treatment	Yes	Yes	Yes	Yes	Yes
IMMUNISATION		By 2010			
Cold chain - functioning refrigerator	No	Yes	Yes	Yes	Yes
Birth Immunisation BCG, Polio 0, Hep B	Yes	Yes	Yes	Yes	Yes
Daily Immunisation services	No	Yes	Yes	Yes	Yes
Provision of mobile Immunisation services	Yes	Yes	Yes	Yes	No
OUTPATIENT MANAGEMENT OF SICK CHILDREN					
Acute Respiratory Infection	Yes	Yes	Yes	Yes	Yes
Diarrhoea with NO dehydration, mild dehydration	Yes	Yes	Yes	Yes	Yes
Oral Rehydration corner functioning	No	Yes	Yes	Yes	Yes
Nutrition rehabilitation and cooking demonstration	No	Yes	Yes	Yes	Yes
Rapid Test of malaria	Yes	Yes	Yes	Yes	No
Microscopic examination of blood for parasites	No	No	No	Yes	Yes
Outreach IMCI to community	Yes	Yes	Yes	Yes	No
Postnatal checkup (days 0,2,7)	Yes	Yes	Yes	Yes	Yes

MDG 4 REDUCE CHILD MORTALITY					
	Mobile clinic	Health Post	Subdist HC	Distr HC	Referral Hosp.
INPATIENT MANAGEMENT OF SICK CHILDREN					
24 hour observation Beds	No	No	Yes	Yes	Yes
Inpatient over 24 hours	No	No	No	Yes	Yes
Admit children with severe malaria, malnutrition, measles, ARI, dehydration,	No	No	No	Yes	Yes
Emergency triage and treatment (ETAT)	No	No	Yes	Yes	Yes
Prevention of Mother to Child Transmission	No	No	No	Yes	Yes
Treatment of HIV +ve children (see guidelines)	No	No	No	No	Yes
Referral documentation	Yes	Yes	Yes	Yes	Yes
NEONATAL CARE (see also Maternal interventions)					
Essential Newborn Care, initiation of Breast Feeding	Yes	Yes	Yes	Yes	Yes
Identify and refer small and sick neonates	Yes	Yes	Yes	Yes	Yes
Treat Sick and small neonates	No	No	No	Yes	Yes

MDG 5 REDUCE MATERNAL MORTALITY

Documents used	Mobile Clinic	Health Post	Subdist HC	Distr HC	Referral Hospital
LISIO	Yes	Yes	Yes	Yes	Yes
Standardised ANC, Delivery registers	Yes	Yes	Yes	Yes	Yes
Use of partograph in first stage of labour	No	Yes	Yes	Yes	Yes
IMPC: Pregnancy, childbirth, Postpartum, newborn	Yes	Yes	Yes	Yes	Yes
IMPC: Newborn Problems	No	No	Yes	Yes	Yes
IMPC: Complications in Pregnancy and childbirth	No	No	Yes	Yes	Yes
Standard Treatment guidelines	Yes	Yes	Yes	Yes	Yes
COMMUNITY LINKAGES AND SUPPORT					
Support of FHP in promoting Safe motherhood	Yes	Yes	Yes	Yes	No
Mobile provision of ANC, PNC, FP	Yes	Yes	Yes	Yes	No
Identification and follow up of pregnant women	Yes	Yes	Yes	Yes	No
Community mapping and pregnancy Register	Yes	Yes	Yes	Yes	No
BEHAVIOUR CHANGE AND COMMUNICATION					
Demand creation for ANC, facility delivery, PNC, FP	Yes	Yes	Yes	Yes	Yes
Safe Motherhood messages	Yes	Yes	Yes	Yes	Yes
ANC education	Yes	Yes	Yes	Yes	Yes
Birth preparedness, Facility delivery promotion	Yes	Yes	Yes	Yes	Yes
Postnatal care education	Yes	Yes	Yes	Yes	Yes
Breast Feeding education	Yes	Yes	Yes	Yes	Yes
Family planning demand creation, education	Yes	Yes	Yes	Yes	Yes
Insecticide treated net distribution,	Yes	Yes	Yes	Yes	No
Recognition & referral of danger signs in pregnancy	Yes	Yes	Yes	Yes	No
Emergency transport planning with community	Yes	Yes	Yes	Yes	Yes

MDG 5 REDUCE MATERNAL MORTALITY

	Mobile clinic	Health Post	Subdist HC	Distr HC	Referral Hosp.
ANTENATAL CARE					
Detect and refer Obstetric complications	Yes	Yes	Yes	Yes	Yes
Vitamin A, Iron and folate supplementation	Yes	Yes	Yes	Yes	Yes
Tetanus Toxoid immunisation, IPT for malaria	Yes	Yes	Yes	Yes	Yes
Pregnancy Test	Yes	Yes	Yes	Yes	Yes
Haemoglobin, Urine testing	Yes	Yes	Yes	Yes	Yes
Detection and treatment of Syphilis,	No	No	Yes	Yes	Yes
Detection of hypertension	Yes	Yes	Yes	Yes	Yes
VCT, referral for treatment of HIV,	No	No	Future	Yes	Yes
Anonymous HIV testing of 15-24 year old ANC	No	Future	Future	Yes	Yes
DELIVERY					
		By 2010	By 2007		
Active management of third stage	No	Yes	Yes	Yes	Yes
Resuscitation of baby	Basic	Basic	Yes	Yes	Yes
Maternity waiting home	No	Yes	Yes	Yes	Yes
Detect and refer emergencies for BEOC	Yes	Yes	Yes	No	No
Emergency radio communication	No	Yes	Yes	Yes	Yes
BEOC IV Antibiotics, Oxytocics, Anticonvulsants	No	Yes	Yes	Yes	Yes
BEOC Ventouse, MVA, Manual removal of placenta	No	No	By 2010	By 2008	Yes
CEOC (Caesarean section and blood)	No	No	No	No	Yes
Maternal Death Audit	No	Yes	Yes	Yes	Yes
Home Delivery		Emergency Only			No
POSTNATAL CARE					
PNC checkup (Day 1, Day 3, Day 7)	Yes	Yes	Yes	Yes	Yes
Postnatal Family Planning	Yes	Yes	Yes	Yes	Yes
Postnatal Sterilisation	No	No	No	No	Yes
Emergency Care of Sick Neonate	No	No	No	Yes	Yes
FAMILY PLANNING					
Condom distribution	Yes	Yes	Yes	Yes	Yes
Combined oral contraceptives initiation, follow up	Yes	Yes	Yes	Yes	Yes
Injectable contraception	Yes	Yes	Yes	Yes	Yes
IUD Insertion	No	Yes	Yes	Yes	Yes
Implant	No	No	Yes	Yes	Yes
Permanent Methods - Sterilisation	No	No	No	Yes	Yes
Infertility management	No	No	No	Yes	Yes

MDG 6 Reduce Spread of HIV/AIDS, TB, Malaria and other Diseases

	Mobile Clinic	Health Post	Subdist HC	Distr HC	Referral Hospital
Documents					
Use of TB DOTS guidelines	-	Yes	Yes	Yes	Yes
Use of HIV guidelines	-	Yes	Yes	Yes	Yes
Use of STI syndromic management guidelines	Yes	Yes	Yes	Yes	Yes
Use of malaria treatment guidelines	Yes	Yes	Yes	Yes	Yes
Standard Treatment Guideline use	Yes	Yes	Yes	Yes	Yes

MDG 6 Reduce Spread of HIV/AIDS, TB, Malaria and other Diseases

Service	Mobile clinic	Health Post	Subdist HC	Dist. HC	Referral Hospital
COMMUNITY LINKAGES AND SUPPORT					
Community Mapping (Malaria breeding, TB, PLWA)	Yes	Yes	Yes	Yes	No
Vector control Malaria, Dengue	Yes	Yes	Yes	Yes	No
Follow up PLWA, TB patients	Yes	Yes	Yes	Yes	Yes
Contact Tracing, TB, STI, HIV	Yes	Yes	Yes	Yes	Yes
Start support groups for PLWA, TB patients	Yes	Yes	Yes	Yes	Yes
Participate in World AIDS day, World TB day etc	Yes	Yes	Yes	Yes	Yes
BEHAVIOUR CHANGE AND COMMUNICATION					
Community Awareness HIV, STI, TB, malaria, Dengue	Yes	Yes	Yes	Yes	Yes
Awareness promotion of HIV/AIDS and destigmatisation	Yes	Yes	Yes	Yes	Yes
Increase Demand for ITN, TB & STI treatment, VCT	Yes	Yes	Yes	Yes	Yes
ITN Promotion and distribution	Yes	Yes	Yes	Yes	No
IPT for Pregnant women	Yes	Yes	Yes	Yes	Yes
Referral of suspects for TB sputum tests	Yes	Yes	Yes	Yes	Yes
Referral for VCT	Yes	Yes	Yes	Yes	Yes
VCT	NO	No	Yes	Yes	Yes
Condom promotion, distribution, demonstrations	Yes	Yes	Yes	Yes	Yes
Nutrition support for PLWA, TB Patients	Yes	Yes	Yes	Yes	Yes
BCG Immunisation	Yes	Yes	Yes	Yes	Yes
OUTPATIENT TREATMENT					
DOTS, ARV Follow up	Future	Future	Yes	Yes	Yes
DOTS , ARV initiation	No	No	No	Yes	Yes
Malaria Rapid Test	Yes	Yes	Yes	Yes	Yes
Malaria slide Testing	No	No	Yes	Yes	Yes
Malaria Treatment in line with protocols	Yes	Yes	Yes	Yes	Yes
Syndromic management of STI	Yes	Yes	Yes	Yes	Yes
Contact Tracing of STIs, TB, HIV	Yes	Yes	Yes	Yes	Yes
TB sputum tests	No	No	No	Yes	Yes
HIV Rapid Test - STI patients, TB patients, clinical suspect	No	No	Future	Yes	Yes
Breastfeeding options for HIV positive women	No	No	No	Yes	Yes
INPATIENT TREATMENT					
Manage Complicated cases of TB, STI, HIV	No	No	No	No	Yes
Manage Complicated cases of Malaria	No	No	No	Yes	Yes
Chest X-ray diagnosis of Sputum -'ve TB suspects	No	No	No	No	Yes

NON- MDG Services

Service	Mobile clinic	Health Post	Subdist HC	Distr. HC	Referral Hospital
DENTAL					
Health promotion	Yes	Yes	Yes	Yes	Yes
Extraction	No	Yes	Yes	Yes	Yes
Restoration	No	No	No	Yes	Yes
First Aid	No	Yes	Yes	Yes	Yes

NON- MDG Services					
Service	Mobile clinic	Health Post	Subdist HC	Distr. HC	Referral Hospital
EYE CARE					
Health promotion (UV exposure, Refraction, Red eye)	Yes	Yes	Yes	Yes	Yes
Vitamin A supplementation	Yes	Yes	Yes	Yes	Yes
Vitamin A deficiency identification, treatment, referral	Yes	Yes	Yes	Yes	Yes
Red Eye management and referral	Yes	Yes	Yes	Yes	Yes
First Aid to Injuries (Referral if needed)	Yes	Yes	Yes	Yes	Yes
Newborn conjunctivitis treatment	Yes	Yes	Yes	Yes	Yes
Refraction, presbyopia identification & correction	No	No	No	Yes	Yes
Cataract identification, referral	Yes	Yes	Yes	Yes	Yes
Cataract Removal	No	No	No	No	Yes
MENTAL HEALTH					
Health promotion	Yes	Yes	Yes	Yes	Yes
Acute Psychosis treatment	No	No	No	Yes	Yes
Anxiety Treatment - Post traumatic Stress etc	No	No	No	Yes	Yes
Depression management	No	No	No	Yes	Yes
Epilepsy detection and referral	Yes	Yes	Yes	Yes	Treatment
DISABILITY					
Health promotion	Yes	Yes	Yes	Yes	Yes
Identification and referral of disability (Physical, mental, blindness, hearing,)	Yes	Yes	Yes	Yes	Yes
Assess and treat physically disabled persons	No	No	No	No	Yes
Physiotherapy services	No	No	No	Yes	Yes
Wheelchair distribution	No	No	No	Yes	Yes
Prosthesis distribution	No	No	No	Yes	Yes

Pathology Strategic Plan - Lab Services and Lab categories

Test/Service	Test details	Subdistr HC	District CHC	Regional Hospitals	Dili Hosp	National Lab
Phlebotomy						
Collection of blood		•	•	•	•	•
Collection of urines/swabs		•	•	•	•	•
Collection of body fluid			•	•	•	•
Haematology						
Hb		•	•	•	•	•
Blood Film			•	•		
Simple Haematology	Hb, WCC, Platelets	•				
Routine Haematology	Films, ESR		•	•	•	•
Special Haematology					•	•
Coag. studies	PT, APTT, Fib					•
Flow Cytometry						•
Malaria		•	•	•	•	•
Blood Group			•	•	•	•
Blood Transfusion				•	•	•

Pathology Strategic Plan - Lab Services and Lab categories

		Subdistr HC	District CHC	Regional Hospitals	Dili Hosp	National Lab
Biochemistry						
Glucometer	Glucose	•	•	•	•	•
General Biochemistry				•	•	•
Thyroid Function Tests		•	•	•	•	•
βHCG						•
Iron Studies	Fe, Ferritin					•
B12/Folate						•
Hormone studies	FSH, LH, Prog					•
Blood Gas	pH,pCO2,pO2				•	
Serology						
HIV			•	•	•	•
Hepatitis B	HepB Core, HepB surface					•
Hepatitis C, Rubella						•
VDRL/Syphilis			•	•	•	•
Dengue				•	•	•
Microbiology						
Urinalysis	Dipstick	•	•	•	•	•
Urine	Microscopy	•	•	•	•	•
Faeces	Microscopy	•	•	•	•	•
TB	Microscopy-AFB		•	•	•	•
Gram Stain				•	•	•
CSF/Fluids	Microscopy			•	•	•
Urine	Microscopy, Culture, Sensitivity					•
General swab	Isolation, Culture, Sensitivity					•
Wound swab	Aerobic/Anaerobic ICS					•
CSF/Fluids	Isolation, Culture, Sensitivity					•
Mycology, Blood Culture						•
NOTE ... Health posts will NOT have formal laboratories - only rapid tests for HB, Malaria, Urinalysis etc.						
+ ... Proposed BSP service		• ... Laboratory Policy				

Annex 2 MINIMUM Referral hospital care and Support functions

NOTE: The following services are provided IN ADDITION to services provided by District Health Centres listed above

SECTION	REFERRAL HOSPITAL	NATIONAL HOSPITAL
OUT-PATIENTS	(OPD)	
Basic Curative Services	Diagnosis Treatment Referral	
Dental Services:-	Health Education, preventive programme Basic sepsis control Extraction Caries evacuation, simple fillings	
Basic Ophthalmic Services:-	Prevention of blindness Promotion of eye care	
Referred Patients	Referred Medical and Surgery Patients Referred Psychiatric Cases Referred Social Work Services Referred Rehabilitation Services	
CASUALTY	24 hour accident and emergency services Minor operations in casualty	
MEDICINE		
Communicable diseases	Severe Infectious diseases HIV/AIDS counselling, diagnosis, treatment Sexually transmitted diseases TB (Sputum-'ve, extra-pulmonary)	Dengue tests
Non-Communicable diseases	Arthritis, Asthma, Diabetes Hypertension, Cardiac failure Poisoning and Drug Overdose	
Geriatric Care	Palliative care for terminally ill Conditions of older persons	
OBSTETRICS AND GYNAECOLOGY		
Antenatal Care	Pelvic Assessment Urine tests (Pregnancy, Glucose, Albumin) Blood tests (Hb, HIV, Syphilis) Presumptive Treatment for malaria Voluntary counselling and Testing for HIV Ultrasound Scan, Doppler	

SECTION	REFERRAL HOSPITAL	NATIONAL HOSPITAL
Normal delivery	Use of Partograph Intra-partum ultrasound, Doppler Planned delivery of baby 1.5 kg – 2.5 kg PMTCT Planned breech delivery Vaginal delivery after previous C/ section	
Basic Emergency Obstetric Care	Vacuum extraction (Forceps delivery) Oxytocin augmentation Removal of retained placenta Manual Vacuum Aspiration Intravenous Antibiotics	
Comprehensive Emergency Obstetric Care	Caesarean section Emergency blood transfusion Postpartum sterilisation Repair of 3rd degree tear	
Other	Emergency hysterectomy	
GYNAECOLOGY	STI and HIV diagnosis & management Post-abortion Care, Molar Pregnancy Cervical Cancer Screening (Pap Smear collection)	High Vaginal Swabs, Colposcopy Mammography (future) 3D Ultrasound (Future) Chemotherapy Histopathology (Future)
Family Planning	Family Planning counselling Tubal Ligation, (Vasectomy by surgeons) IUD insertion, Norplant (Also DHC)	Paracentesis
Infertility	Infertility management (Salpingogram) Menopause management (Drug)	Hormonal Assay, Semen analysis,
O&G Surgery	Hysterectomy Laparotomy Pelvic abscess drainage Minor surgery: Vulvar, Endometrial biopsy Cervical polypectomy Breast biopsy (Surgeons)	Operative Laparoscopy Laparoscopy (Future) Colposcopy
PAEDIATRICS		
Neonatal care	Care of sick and small neonates <2kg Resuscitation, include intubation, oxygen Nasogastric feeding Phototherapy Intravenous fluids and antibiotics	
Nutrition	Malnutrition treatment and rehabilitation Anaemia	
Communicable diseases	Fever Malaria Pneumonia Diarrhoea with dehydration, Gastroenteritis Infectious diseases HIV/AIDS Meningitis	

SECTION	REFERRAL HOSPITAL	NATIONAL HOSPITAL
Non-communicable disease	Rheumatic fever Asthma mobilization Child Abuse	
PSYCHIATRY	Depression Para- or threatened suicide Acute psychosis Acute anxiety or panic attacks Post-traumatic stress	
SURGERY	Referral Hospital	GVNH
GENERAL	Umbilical hernia repair Appendectomy Inguinal hernia repair Incision and drainage of abscesses Cardiothoracic management of pneumo/ haemothorax Laparotomy (Where surgeon) Breast Cancer Screening and management	Tumour surgery Penetrating Abdominal Injury Thoracotomy Thyroid surgery
ENT	Tonsillectomies and Adenoidectomies Tracheostomies	
NEUROSURGERY	Scalp suturing Identification of injuries, concussion & intracranial pathology	Craniectomy Subdural, Extradural Hydrocephalus
EYE	cataracts (visiting teams) Enucleations Meibomian cysts and abscesses Eye injuries first aid and referral	Regular visiting teams Cataracts All except laser Surgery
ORTHOPAEDICS	Fractures and dislocations needing PoP Traction (skin & skeletal) Tendon repair Amputations Aspirations / injections of joints	Plate and screw Congenital deformities NOT Spinal surgery NOT arthroscopy, Joint surgery
PLASTICS	Medium-sized burns and skin grafts Plantar wart excision/cauterisation Practical care of extensive wounds Debridement	Extensive burns, contractures Rotational flaps NOT free flaps
TRAUMA	Major/multiple trauma triage Resuscitation	NOT low consciousness
UROLOGY	Circumcision Vasectomy, Varicocele Hydrocelectomy Suprapubic catheterisation	Urethral reconstruction NOT ureter surgery
VASCULAR	Conservative management of varicose ulcers, Deep vein thrombosis, incompetence	Varicose Veins, Vascular trauma
OCCUPATIONAL HEALTH	Diagnosis and treatment of occupational-related diseases Occupational hygiene Information and referral services	

SECTION	REFERRAL HOSPITAL	NATIONAL HOSPITAL
REHABILITATION SERVICES	Provision of basic assistive devices Rehabilitation	
PREVENTIVE	Health Education	
THEATRE	Minor operations < 30 minutes, (60 – 80%) Major operations, i.e. >30 minutes. (10-30%)	

Annex 3 BSP Key Performance Indicators by type

Program	Input	Output	Outcome	Impact
Child Health	% facilities with functioning cold chain	% Children fully immunised <1 year *		
Malaria	% planned houses sprayed with IRS	% ANC clients receiving IPT	Malaria case fatality rate < 5 years*	
		% malaria cases confirmed		
Reproductive health		% Births assisted by skilled health personnel*	Caesarean section rate	(Institutional) Maternal Mortality Ratio
		1st ANC coverage	Couple year protection rate	
HIV/ AIDS and STIs	Number of condoms issued annually per male 15-49 years	Male Urethral Syndrome treatment rate		HIV prevalence 15-24 year old pregnant women
Tuberculosis		% TB Case detection rate	TB cure rate (using DOTS)	
Human Resources	% Districts with [WHO standard] Staff3 / 1000 Population ratio	Health centre staff workload (patients per day)	U5 PHC facility Attendance Rate *	
	% health centres with 100% minimum professional staff *	% PHC professional staff trained in MDG-related skills		
Finance	% MoH Budget released to district level*			
Essential Drugs		% Facilities out of stock of tracer drugs & vaccines		
HMIS		% Health facilities reporting on time each month	% Districts doing annual reports	

³ Drs, Nurses, Midwives

Program	Input	Output	Outcome	Impact
Infrastructure	Population per health centre	% attendances provided by mobile services		
Hospitals	% Districts with [WHO standard] Beds / 1000 population	Bed Occupancy rate		
TOTAL	8	12	6	2

Annex 4 MDG Interventions and Key Performance Indicators

MDG Goal	Intervention	ROUTINE HMIS INDICATOR
MDG 4. Reduce Child Mortality	1. Accessible, affordable health care	1. <5 years PHC facility Utilisation Rate
	2. Antenatal Care	2. 4 visit ANC coverage
	3. Care of the newborn	3. Neonatal Mortality Rate (Institutional)
	4. Improved nutrition of children: micronutrient supplementation	4. % children receiving Vitamin A supplementation
	5. Growth Monitoring	5. % children weighed
	6. Immunization of children	6. % Children immunised against measles <1 year
	7. Integrated management of childhood illnesses	7. % facilities with functioning cold chain 8. % children treated according to IMCI Protocols
MDG 5. Reduce Maternal Mortality	8. Skilled attendance during pregnancy, delivery and post natal care	9. % Births assisted by skilled health personnel at the health facility
	9. Basic Emergency Obstetric Care	10. % facilities reporting all 6 BEOC functions in past 6/12
	10. Comprehensive emergency obstetric care	11. Caesarean section rate
	11. Family Planning	12. Couple year protection rate
	12. Reduce MMR	13. (Institutional) Maternal Mortality Ratio
MDG 6. Reduce the spread of HIV/AIDS, STIs, Tuberculosis and Malaria	13. TB Case detection	14. % TB Case detection rate
	14. TB Treatment with DOTS	15. TB cure rate (using DOTS)
	15. Malaria treatment	16. % malaria cases confirmed
	16. Malaria Treatment	17. Malaria case fatality rate < 5 years
	17. Malaria prevention by house spraying	18. % planned houses sprayed with IRS
	18. Malaria prevention in Pregnancy	19. % ANC clients receiving IPT
	19. STI treatment	20. Male Urethral Syndrome treatment rate
	20. STI Prevention	21. Number of condoms issued annually per male 15-49 years
	21. Voluntary counselling and treatment	22. % pregnant women tested for HIV/AIDS
	22. Reduce HIV prevalence	23. HIV prevalence 15-24 year old pregnant women
NON MDG activities	23. Ensured supply of essential drugs	24. % facilities out of stock of tracer drugs & vaccines