Kingdom of Swaziland

Ministry of Health

Swaziland Annual Health Statistics Report

2010

Strategic Information Department 2010

The 2010 report contains the Outpatient and Inpatient Information, Service Availability Mapping, HIV/AIDS, Notifiable Conditions, Male Circumcision (MC), Human Resource for Health. The Outpatient analyzed data is collected mainly from the Government, Mission, Non – Governmental Organization, and Industry health facilities. It comes from the monthly summary returns used in each of the Health facilities, summarizing visits by purpose of visit. The data elements are organized into nine groups:

- General morbidity
- Antenatal Care Services
- Child Health and Nutrition
- Post Natal Care
- Immunization
- Family Planning
- Interventions for women of child bearing age
- Infant/Child HIV Testing
- Miscellaneous activities

The inpatient information analyzed also in this report comes from the Admissions and Discharge sheets, which are used for recording hospital admission, occurred in health facilities for deliveries and other conditions.

- Service Availability Mapping (SAM)
- HIV/AIDS
- Notifiable Conditions
- Male Circumcision
- Human Resource for Health

Our sincere gratitude and acknowledgement are due to all health personnel for their dedication in the data collection, without whose cooperation and assistance it would have been not possible to produce this report. Clinic Supervisors played a major role in ensuring quality of the data and that the data is forwarded to the regions.

The office is also indebted to different partners for providing technical and financial support in ensuring that Strategic Information Department (SID) is strengthened. The office is also indebted to the Malaria programme for their encouraging efforts in the improvement of HIMS. We are grateful for the support given towards redesigning of the Human Resource Information System and also for the technical assistance provided by their IT specialist.

The Ministry extends its gratitude towards Enhancing Strategic Information (ESI) Swaziland, for the assistance in compiling this report. A special thanks goes to Emma Bicego for her technical assistance. We would like to thank Strategic Information Department staff for their tireless effort and for the important role they played in producing the report.

LIST ACRONYMS

AFP	Acute Flaccid Paralysis
AIDS	Acquired Immuno Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-retroviral Therapy
BBA	Birth before Arrival
CS	Caesarean Section
CSO	Central Statistical Office
DPT	Diphtheria Tetanus & Pertussis Vaccines
EPI	Expanded Programme on Immunization
FLAS	Family Life Association of Swaziland
FP	Family Planning
HepB	Hepatitis B Vaccine
HIV	Human Immune Virus
HIVDR	HIV Drug Resistance
HMIS	Health Management Information Systems
HRIS	Human Resources Information System
HTC	HIV Testing and Counselling
MC	Male Circumcision
MDR	Multi Drug Resistant
MoH	Ministry of Health
NGO	Non-Governmental Organization
NVD	Normal Virginal Delivery
OPD	Out-patient Department
PMTCT	Prevention of Mother-to-child Transmission
PSI	Population Services International
RHMs	Rural Health Motivators
RHMT	Regional Health Management Team
SAM	Service Availability Mapping
SCCS	Swaziland Country Cooperate Strategy
SDHS	Swaziland Demographic and Health Survey
SHIES	Swaziland Household Income and Expenditure Survey
SID	Strategic Information Department
STI	Sexually Transmitted Infections
TB	Tuberculosis
URI	Upper Respiratory Infection
WHO	World Health Organization

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1. INTRODUCTION

For efficient and effective health planning every nation needs a complete and accurate picture of its population's health, an account of its resources and how they are distributed. And every population due to its structure, developmental stage and environmental conditions of the country, have different health needs. It is therefore essential for every government to have up to date, complete and accurate health information statistics to help in planning and policy making.

The Ministry is committed to streamlining and integrating its data collection processes, in order to reduce the number of data collection tools used by facilities and to simplify the flow of information throughout the health sector. Indeed one of the main goals for the 2008-2013 WHO and the Kingdom of Swaziland Country Cooperate Strategy agreement is to ensure timely and accurate information and proper dissemination, (Swaziland CCS - 2008). According to the agreement, the government of Swaziland is committed to strengthen its strategic planning capacity by developing a national health information sharing and dissemination network. This will in turn improve health outcomes. By frequently checking the morbidity and population statistics, the country will ensure that the country's plans are in line with the population's health experiences.

The Kingdom of Swaziland is classified as middle income nation. However, the resources are not distributed equally such that more than 60 % of the population are poor (Swaziland Household Income and Expenditure Survey, 2009-2010, SAM, 2008). Uneven distribution of wealth in many developing countries implies uneven distribution and uneven access to resources. Additionally, the HIV epidemic, of which Swaziland is the epicentre, has further weakened the economy as it has disproportionally affected the economically active population through sickness and loss of life. TB and other opportunistic infections continue to be on the rise further increasing the burden of disease on the population. It has also been observed that diseases not endemic to Swaziland, such as malaria, and other diseases otherwise common in developed populations are on the increase.

This report will present a selection of the best available hospital records data that will paint a picture of how the Swaziland health system faired in 2010. It will show the extent and geographic distribution of the burden of disease within the Kingdom's facilities.

1.1   Purpose of this Report

The purpose of this report is to provide health statistics information as collected by Health Information Systems Unit of the Ministry of Health. The main objective is to provide a picture of Swaziland's population in 2010 as it pertains to its health status using the best available health facilities data.

1.2   Sources of Data

The statistics in this publication are based on a number of different routine data collection systems maintained by the Ministry of Health. These data collection systems cover not only health services managed by the Ministry itself, but also Mission and private-sector health services. They include:

Routine HMIS: this is the routine Health Information System managed by the Ministry's Health Statistics Unit in conjunction with a number of different programmes. It aims to record all inpatient admissions, all outpatient attendances at general, child health, immunisation, ante-natal, post-natal and family planning clinics, as well as data on family planning commodities.

HRIS: this is the Human Resources Information System developed by the Ministry's Health Statistics Unit and updated by the Personnel Unit. It holds all Ministry posts.

Swaziland Population and Housing Census: This is the centennial enumeration exercise carried out by the Central Statistical Office with assistance from UNFPA. The latest was carried out in 2007.

Swaziland Household Income and Expenditure Survey (SHIES) 2009-10: This is the second is a multipurpose survey of households in Swaziland, which collected information on the population's living conditions including, among others, education, health and employment to estimate the poverty levels and trends in the population.

Service Availability Mapping: This is the Service Availability Mapping exercise undertaken every two years by the Ministry of Health. This survey seeks to assess the upscale of health service delivery by generating

1. INTRODUCTION - *continued*

causes is not possible at this time therefore rates and ratios were calculated using Microsoft Excel. In some sections, especially the population characteristics, information was obtained from published reports.

1.6 Selected Population Characteristics

Table 2: Selected Demographic Characteristics, Swaziland 2006-7

INDICATOR		VALUE	SOURCE	YEAR
DEMOGRAPHIC CHARACTERISTICS				
SEX, AGE STRUCTURE				
	2007 Enumerated Population	1,018,449	Census[1]	2007
	Annual Growth Rate	0.9	Census	2007
	Sex Ratio: Male	47.3	Census	2007
	Female	52.7	Census	2007
MALE	Population <5	13.2	Census	
	Population 5 – 14	28.2	Census	
	Population 15 – 49	49.3	Census	
	Population 50+	9.3	Census	
FEMALE	Population <5	11.9	Census	2007
	Population 5 – 14	25.8	Census	
	Population 15 – 49	51.0	Census	
	Population 50+	11.3	Census	
	FERTILITY AND FP			
	Total Fertility rate	3.95[2]	Census	2007
	Currently using any FP method	50.6	SDHS[3]	2006/07
	Currently using any modern FP method	47.7	SDHS	2006/07
	MORTALITY			
	Neonatal	22/1,000	SDHS	2006/07
	Infant	107/1,000	Census	2007
	Childhood	38/1,000	SDHS	2006/07
	Under five	167/1,000	Census	2007
	Maternal (sisterhood method)	528/100,000[4]	SDHS	2006/07
	Maternal (Direct Method)	144/100,000[4]	Census	2007
	Life Expectancy	41.4 years	Census	2007

[1]Analytical Report of the 2007 Swaziland Population and Housing Census.
[2]Average number of children born to a woman by the end of her childbearing period.
[3]Swaziland Demographic and Health Survey Final Report
[4]per 100,000 live births

Source: SDHS, 2007
Table 2 presents some selected population characteristics according to the 2006-07 Swaziland DHS and the 2007 population census. According to the census results, the population of Swaziland was just above 1 million (1,018,449) in 2007 and grew at a rate of 0.9 % per year between 1997 and 2007.

The population is a young population with about 40 per cent of the population aged below 15 years and about 10 per cent of the population aged 50 and over. Total fertility rate in 2007 at 3.9 per woman is above replacement level but relatively low compared to other developing countries within the region. According to the DHS, it is observed that 50 per cent of all women aged 15 – 49 years were using some method of contraception, most of them a modern method. Mortality was high with an infant mortality rate of 107 per 1,000 live births resulting in a low life expectancy at birth of only 33 for men and 47 for females.

Tables 3 present some selected housing and household characteristics that give an indication of the population's economic status. Table 3shows some housing characteristics by region according to the DHS survey conducted in 2006 – 07. It is shown in this table that at regional level, generally, Hhohho and Manzini houses are more modern than Shiselweni and Lubombo houses with Shiselweni region fairing the worst. This pattern is true for all selected characteristics except for main floor type of houses where in all regions more than 80 per cent of houses has a finished, modern floor. Using housing characteristics as an indicator of economic status it can be inferred here that population in Shiselweni region has the lowest economic status in the country.

Table 3: Percentage distribution of some selected housing characteristics of the population by region and Rural Urban Residence, SHIES 2009-2010.

REGION/ RESIDENCE	SOURCE OF DRINKING WATER	TYPE OF TOILET FACILITY	HAS ELECTRICITY	TYPE OF COOKING FUEL	
	PIPED WATER	FLUSH TOILET	YES	ELECTRICITY	NATURAL GAS
Hhohho	67.3	24.4	44.6	22.1	13.3
Manzini	67.7	13.9	50.9	24.0	14.1
Shiselweni	42.8	9.5	31.2	3.9	5.9
Lubombo	54.2	29.0	42.4	11.0	17.9
Urban	87.0	41.8	66.2	52.7	23.1
Rural	45.2	8.7	31.2	13.9	6.7
TOTAL	**60.8**	**21.1**	**44.3**	**16.7**	**13.1**

Source: Swaziland Household and Expenditure Survey, 2009 - 2010

Education attainment can also be used as an indicator of the population's social and economic status; the higher the education attainment, the higher the economic and social status of an individual. Table 3 below shows the highest level of education attended by region and rural and urban residence according to the DHS results. It is observed again that Shiselweni region has the least population with a higher than secondary school education in both sexes. Shiselweni levels are almost similar to the rural population levels. It can therefore be concluded that Shiselweni region is the poorest of the four regions.

Table 4: Percentage distribution of the de-facto male and female household population age 6 and over by highest level of education attended by region and Rural Urban Residence, Swaziland DHS 2006-07.

	Educational level of household population							
	MALE				FEMALE			
	No education	Primary	Secondary	Higher	No education	Primary	Secondary	Higher
REGION								
Hhohho	13.2	48.9	30.4	6.8	14.1	46.4	32.5	6.2
Manzini	7.8	52.6	31.6	7.5	9.3	49.4	34.5	6
Shiselweni	13.1	58.6	25.6	2.5	13	54.4	29.3	2.7
Lubombo	16.6	57.5	20.8	4	19.8	53.6	22.9	2.7
RESIDENCE								
Urban	7.7	36.7	40.3	14.9	7.7	36.5	42.6	12.5
Rural	13.5	59	24.1	2.8	15	54.4	27.3	2.5

Source: Macro International Inc, MEASURE DHS STATcompiler. http://www.measuredhs.com,

2.0 HEALTH FACILITY INDICATORS

2.1 Outpatient Statistics

This chapter presents the best available statistics on outpatient visits in 2010 as recorded at all health facilities in Swaziland. The basis for this analysis is to identify which ailment contributes the greatest burden of disease on health resources. Knowing the burden of disease is essential for the country in order to better plan and assign its resources. Information collected from facilities was tallied and the top 20 diagnosis were identified and are presented in Table 2.1.

Table 5: Top 20 OPD services rendered according to diagnosis among patients who visited any health facility in Swaziland, 2010

	Male	Male	Condition	Female
1	Upper Respiratory Infection	167,336	Upper Respiratory Infection	212,169
2	Skin Disorder	99,218	Skin Disorder	111,605
3	Lower Respiratory Infection (Mild)	58,805	Hypertension	79,915
4	Acute Watery Diarrhoea	55,197	Lower Respiratory Infection (Mild)	72,100
5	Muskulo Skeletal Conditions	43,906	Muskulo Skeletal Conditions	71,204
6	Digestive Disorders	42,971	Acute Watery Diarrhoea	66,484
7	Hypertension	33,185	Digestive Disorders	59,403
8	Injury	33,087	Vaginal Discharge	31,556
9	Eye Diseases	26,295	Eye Diseases	30,002
10	Urethral Discharge	19,721	Other STI	25,596
11	Lower Respiratory Infection (Severe)	16,162	Injury	23,640
12	Ear Problems	15,803	Diabetes Mellitus	21,705
13	Diabetes Mellitus	14,790	Lower Respiratory Infection (Severe)	19,128
14	Oral Health Problems	14,777	Ear Problems	18,154
15	Other STI	14,694	Oral Health Problems	17,697
16	AIDS Presumptive	13,459	Diarrhoea With Blood/Dysentery	17,050
17	Diarrhoea With Blood/Dysentery	13,324	Dental Caries	15,527
18	Dental Caries	12,396	AIDS Presumptive	14,695
19	Genital Ulcer	10,507	Intestinal Worms	11,082
20	Suspected Pulmonary Tuberculosis	9,915	Gastric Ulcers	10,866
	TOTAL	**715,548**	**TOTAL**	**929,578**

Source: Routine HMIS, 2010

Table 4 shows the number of services rendered to patients by diagnosis and sex. It is observed in this table that there were more females seeking medical help than males. Several studies done in both developed and developing countries have also shown this pattern. It was reported in a study done in Japan that women tend to seek medical help than men because women are more aware of their health than men. But another study reported that men were less likely to seek help because they do not get adequate help when they see a doctor and tend to forgo seeking medical help altogether. In Swaziland the reasons behind the pattern will need to be investigated further in order to draw definite conclusions.

Upper Respiratory Infection (URI) is the most common reason both men and women sought medical help followed by skin disorders. It is important to understand that this data does not necessarily mean more people rather means more episodes of upper respiratory infections than any other complaint. The statistics also reveal that among women, hypertension is one of the top ailments that lead females to seek medical attention. It should be noted here that this data did not separate pregnant women therefore should be interpreted with caution.

Table 5 shows percentage age distribution of health facility use. It is observed that there were over 3 million facility visits in 2010. Of these visits, more than 64 % were to a government owned facility. This might imply that government owned facilities are more accessible than non-government owned facilities. Several factors may contribute to the government owned facilities being more accessible. First, there are more government facilities than all the other ownerships.

Table 6: Distribution of Outpatient Visits by Type of Facility Ownership, Swaziland 2010

FACILITY OWNERSHIP	NUMBER OF OPD CASES	%AGE OF ALL OPD CASES
Government	1,930,598	64.2
Industry	239,949	8.0
Mission/NGO	648,354	21.6
Private	186,068	6.2
GRAND TOTAL	**3,004,969**	**100.0**

Source: Routine HMIS, 2010

2.2   Number of facilities/outreach by region and type

The service availability mapping assessment found a total number of 265 facilities in country as indicated in Table 6. The SAM survey report contains more detailed information about health services available in the country. The survey shows that 40% of health facilities are government owned and the rest are privately owned by NGOs, Missions, companies and individuals as indicated in Figure 1, SAM (2010). This means there are more government facilities to be accessed. Secondly government services are either free or have a minimum charge. These could be the reasons there seems to be more use of government facilities than the other facilities

Figure 1: Health Facility ownership, Swaziland 2010
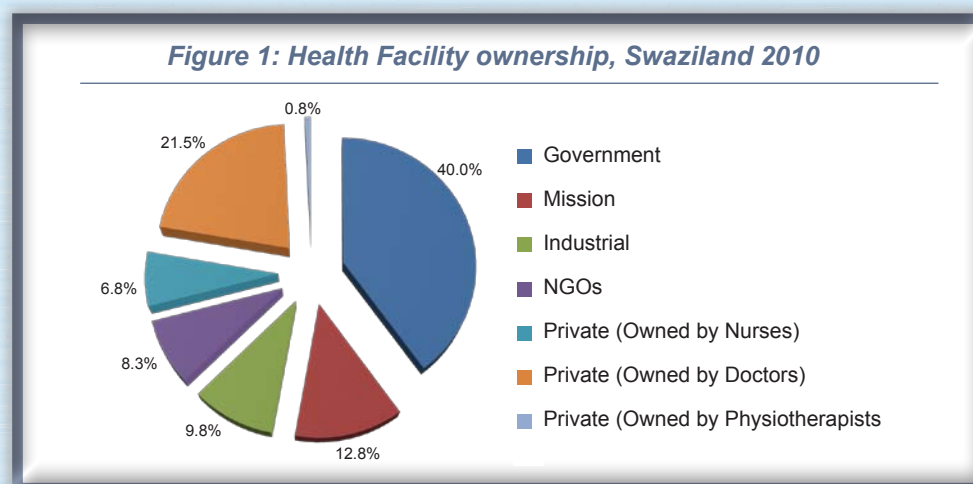
Source: Swaziland Service Availability Map (2010), Ministry of Health 2010

The service availability mapping assessment found a total number of 265 facilities in country as indicated in Table 6. The SAM survey report contains more detailed information about health services available in the country.

Table 7: Distribution of health facilities across regions by type, Swaziland 2010

LUBOMBO	HHOHHO		LUBOMBO		MANZINI		SHISELWENI		TOTAL	
	#	%	#	%	#	%	#	%	#	%
National Referral hospital	1	33%	0	0.0%	2	68%	0	0%	**3**	**1%**
Regional hospital	1	20%	1	20%	2	40%	1	20%	**5**	**2%**
Hospital	2	50%	1	25%	1	25%	0	0%	**4**	**2%**
Health centre	2	40%	1	20%	0	0%	2	40%	**5**	**2%**
Public health unit	2	25%	1	13%	2	25%	3	38%	**8**	**3%**
Clinic with maternity	4	16%	12	48%	7	28%	2	8%	**25**	**9%**
Clinic without maternity	49	26%	33	18%	76	41%	28	15%	**186**	**70%**
Specialized facility	10	34%	4	14%	14	48%	1	3%	**29**	**11%**
TOTAL	**71**	**27%**	**53**	**20%**	**104**	**39%**	**37**	**14.%**	**265**	**100%**

Source: Swaziland Service Availability Map (2010), Ministry of Health, 2010

3. INPATIENT STATISTICS

This section presents the inpatient statistics for 2010 at all facilities in the country. Figure 1 shows that most of the country's admissions were in Hhohho region followed by Manzini while Lubombo had less than half the number of admissions as in Hhohho. This is not in line with the population distribution of the country as enumerated in 2007, figure 2. This phenomenon could be because the central and referral hospitals are in Hhohho and Manzini regions.

Figure 2: Distribution of all inpatients by Region - Swaziland 2010

Source: Routine HMIS, 2010

Figure 3: Population distribution by region – Swaziland, 2007
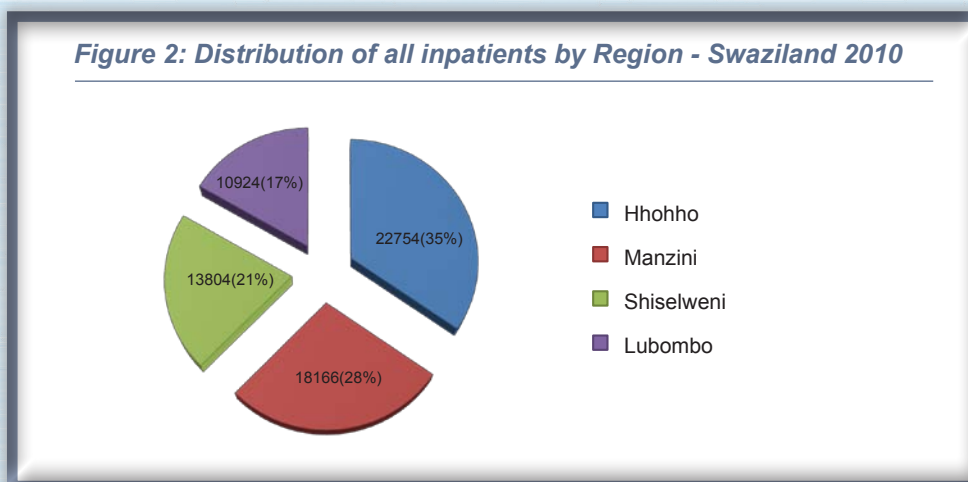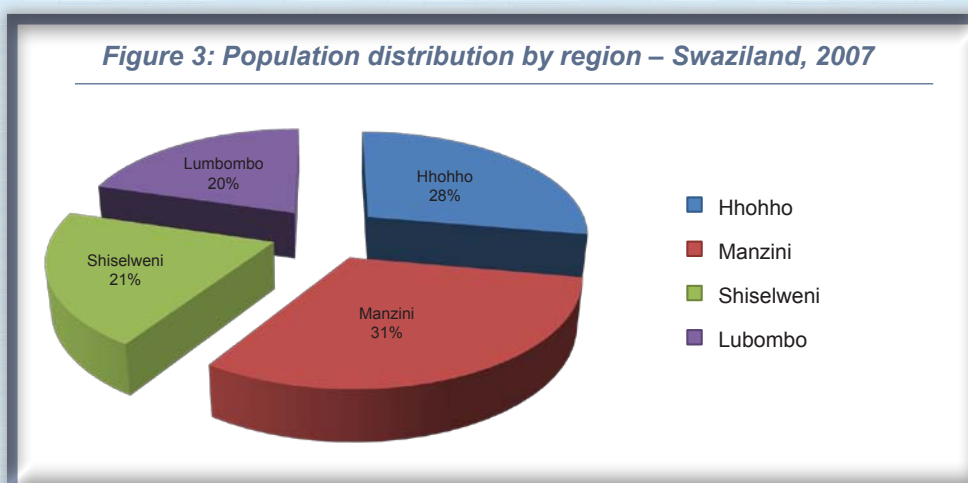
Source: 2007 Swaziland Population and Housing Census Analytical Report, Vol 3.

3.1   Monthly inpatients by region

Overall Hhohho facilities had more inpatient of all the regions and Lubombo had the least inpatients. The figures for each region show different patterns. Hhohho indicates relatively stable inpatient figures for most of the year except in December when the admissions are at about 25 % on the monthly average. It is assumed that this is because many people are away from the cities like Mbabane in December and therefore not many sick people. The other regions show fluctuations throughout the year but no remarkable differences.

Figure 4: Monthly in-patient numbers by region

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hhohho	2 255	2 050	2 196	1 998	2 062	2 070	2 099	2 097	1 971	1 707	1 602	647
Manzini	1 236	1 158	1 432	1 642	1 465	1 632	1 729	1 676	1 743	1 524	1 549	1 380
Shieselweni	1 014	1 106	1 249	1 227	1 168	1 077	1 221	1 105	1 252	1 072	1 103	1 210
Lubombo	940	566	653	893	1 066	995	1 030	1 046	958	954	964	859
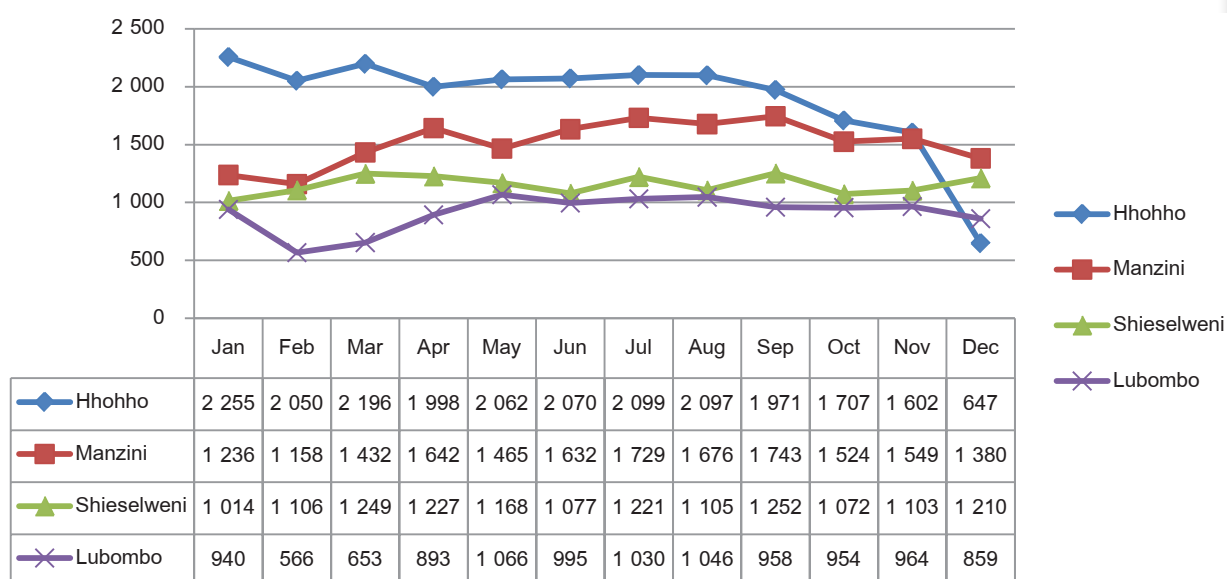
Source: Routine HMIS, 2010

3.2   Inpatient statistics by facility

Table 7 shows inpatient statistics by facility. It is shown in this table that the government hospital in Mbabane has the highest inpatient figures of all hospitals. More than half of all inpatient in Hhohho are from the Mbabane government hospital. The hospital is both a central hospital and a referral hospital and therefore gets many of its patients from the other regions. In Manzini about 75 % of all patients are admitted at Raleigh Fitkin Memorial Hospital, in Shiselweni most of the inpatient statistics originated from Hlatikhulu Hospital while in Lubombo most patients were at Good Shepherd Hospital.

Table 8: Admission by Facility, Swaziland, 2010

REGION	FACILITY	GRAND TOTAL	%
HHOHHO	Dvokolwako Health Centre	1,346	5.9
	Emkhuzweni Health Center	1,787	7.9
	Mbabane Government Hospital	13,835	**60.8**
	Pigg's Peak Government Hospital	4,081	17.9
	The Clinic (Mbabane)	1,705	7.5
HHOHHO TOTAL		**22,754**	
MANZINI	Mankayane Hospital	5,186	28.5
	Manzini Private Clinic (Imphilo)	1,375	7.6
	Philani Clinic (Manzini)	64	0.4
	Raleigh Fitkin Memorial Hospital	11,541	**63.5**
MANZINI TOTAL		**18,166**	
SHISELWENI	Hlatikhulu Hospital	8,678	**62.9**
	Matsanjeni Health Center	2,194	15.9
	Nhlangano Health Center	2,932	21.2
SHISELWENI TOTAL		**13,804**	

LUBOMBO	Good Shepherd Hospital	8,442	77.3
	Mhlume Medical Services	156	1.4
	RSSC Medical Services	137	1.3
	Sitobela Rural Health Center	1,609	14.7
	Ubombo Sugar Hospital	580	5.3
LUBOMBO TOTAL		**10,924**	
GRAND TOTAL		**65,648**	

Source: Routine HMIS, 2010

3.3   Causes of Admission

Table 9 shows number of admission by cause of admission among females. As expected the main cause of admission among females was delivery, which is really not a disease. In fact the data also shows many of the causes of female admission are pregnancy related. Disregarding delivery, it is noticed that the major cause of admission among females was pulmonary TB followed by AIDS. It is of concern to notice that there were 380 admissions of measles in 2010 and that this included people in age range 15-49. Measles is a preventable disease with immunization; this indicates that there are pockets of population not fully immunized in the country.

Table 9: Distribution of cause of admission among females by age group, Swaziland, 2010

	DIAGNOSIS DESCRIPTION	AGE					TOTAL
		<1	1-4	5-14	15-49	50+	
1	Normal Delivery				18,680	9	**18,689**
2	Pulmonary Tuberculosis	99	85	103	1,428	211	**1,926**
3	Acquired Immune Deficiency Syndrome	136	84	87	1,412	188	**1,907**
4	Other Nonifective Gastroenteritis and Colitis	516	253	72	707	206	**1,754**
5	Other Indications For Care or Intervention Related To Labour			1	1,569	1	**1,571**
6	Other Complications Of Labour and Delivery, Not Classified		1		953	1	**955**
7	Early or Threatened Labour	6	1	2	904	2	**915**
8	Pneumonia, Organism Unspecified	193	114	69	364	92	**832**
9	Diabetes Mellitus	2	1	12	187	513	**715**
10	Complications Following Abortion and Ectopic and Molar Pregnancies	3	1		581	3	**588**
11	Other and Unspecified Aneamias	5	10	13	449	66	**543**
12	Essential Hypertension	2		1	128	366	**497**
13	Spontaneous Abortion			2	428	4	**434**
14	Measles	175	22	80	102	1	**380**
15	Inflammatory Disease Of Ovary, Fallopian Tube, Pelvic Cellular			1	342	17	**360**
16	Bronchopneumonia, Organism Unspecified	60	46	27	180	44	**357**
17	Cataract	1		1	26	301	**329**
18	Other Disorders Of Urethra and Urinary Tract	3	8	3	278	36	**328**
19	Asthma	13	35	24	156	61	**289**
20	Missed Abortion				244	1	**246**
TOTAL		**1,215**	**661**	**498**	**29,118**	**2,123**	**33,615**

Source: Routine HMIS, 2010

Pulmonary TB is also the major cause of admission among males in Swaziland followed by Gastroenteris and AIDS. Again it is noticed that there were a good number of admissions due to measles, a preventable disease. It is noticed that injuries is one of the major causes of admission among men in Swaziland. It would be worthwhile to investigate the causes of the injuries if there are to be prevented or at least minimized in future thus an active surveillance system would need to be set up to determine cases by age and gender and any other variable that may be deemed necessary.

Table 10: Distribution of cause of admission among males by age group, Swaziland, 2010

	DIAGNOSIS DESCRIPTION	AGE					TOTAL
		<1	1-4	5-14	15-49	50+	
1	Pulmonary Tuberculosis	113	124	124	1078	313	**1,752**
2	Other Nonifective Gastroenteritis and Colitis	688	335	93	519	108	**1,743**
3	Acquired Immune Deficiency Syndrome	161	101	127	1,039	242	**1,670**
4	Pneumonia, Organism Unspecified	226	111	76	246	82	**741**
5	Diabetes Mellitus	12	4	6	138	287	**447**
6	Measles	170	49	85	92	2	**398**
7	Bronchopneumonia, Organism Unspecified	79	53	28	105	54	**319**
8	Superficial Injury Of Other, Multiple and Unspecified Sites	5	14	21	221	20	**281**
9	Essential Hypertension	10	3		73	189	**275**
10	Injury, Other and Unspecified	5	17	45	198	8	**273**
11	Other and Unspecified Protein - Calorie Malnutrition	118	111	17	4	6	**256**
12	Other and Unspecified Aneamias	15	9	16	166	37	**243**
13	Other Cellulitis And Abscess	23	28	34	115	30	**230**
14	Acute Upper Respiratory Infections Of Multiple or Unspecified Site	53	45	20	69	28	**215**
15	Cataract		3	14	36	157	**210**
16	Meningitis Of Unspecified Cause	14	4	18	149	21	**206**
17	Epilepsy	12	36	26	87	37	**198**
18	Disorders Of Fluid, Electrolyte and Acid - Base Balance	81	47	8	51	18	**205**
19	Fracture Of Tibia and Fibula	2	13	24	124	31	**194**
20	Fracture Of Radius and Ulna	4	17	85	76	10	**192**
TOTAL		**1,791**	**1,124**	**867**	**4,586**	**1,680**	**10,048**

Source: Routine HMIS, 2010

3.3   Admissions and deaths by age groups

Table 11 shows admission death rates by age and sex. By age it is shown that the highest admission death rates were among patients aged above 25. Comparing the death rates by sex, it is observed that male inpatient death rates in the age range 15 -34 were 3 times higher than that of females in the same age range. Among 35 – 44 year olds the male inpatient death rate was more than double that of the female inpatient death rate in the same age range. In fact, apart from the lower 2 age ranges, all male rates were higher than that of females.

Table 11: Admissions and hospital death rates by sex and age group, Swaziland 2010

AGE GROUP	NUMBER ADMITTED		NUMBER DEAD		ADMISSIONS DEATH RATES (%)	
	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE
0-4	3,823	4,945	479	546	12.5	11.0
5-14	1,364	1,949	85	103	6.2	5.3
15-24	16,427	1,828	310	117	1.9	6.4
25-34	14,247	3,344	794	567	5.6	17.0
35-44	4,862	2,549	468	568	9.6	22.3
45-54	1,825	1,566	251	308	13.8	19.7
55-64	1,482	1,241	187	249	12.6	20.1
65+	2,426	1,825	424	337	17.5	18.5
GRAND TOTAL	46,456	19,247	2,998	2,795	6.5	14.5

Source: Routine HMIS, 2010

4.1   Antenatal Care

Table 12shows distribution of women's first ANC attendance by region and trimester. It is observed in this table that women in Hhohho region are more likely to attend ANC in their first trimester than in the other regions. It is further observed that most ANC visits in Hhohho are non-risk ANC visits regardless of when the woman first went for ANC. This pattern is also true in the Lubombo region.

But in Manzini and Shiselweni regions, most ANC visits were for risk pregnancies and this is true for all trimesters. In general more than 60 % of all ANC visits in Manzini were risk pregnancy visits and about 50 % of ANC visits in Shiselweni were risk pregnancy visits.

Table 12: Distribution of ANC first attendance by trimester and region, Swaziland 2010

TRIMESTER	PREGNANCY RISK TYPE	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL
FIRST TRIMESTER	NON-RISK_	6,185	742	236	308	7,471
	RISK	468	1,041	204	169	1,882
First Trimester Total		**6,653**	**1,783**	**440**	**477**	**9,353**
SECOND TRIMESTER	NON-RISK_	4,296	2,459	2,143	2,806	11,704
	RISK	2,704	4,970	2,099	1,631	11,404
Second Trimester Total		**7,000**	**7,429**	**4,242**	**4,437**	**23,108**
THIRD TRIMESTER	NON-RISK	1,270	752	581	766	3,369
	RISK	853	1,518	662	425	3,458
Third Trimester Total		**2,123**	**2,270**	**1,243**	**1,191**	**6,827**
Total NON-RISK		**11,751**	**3,953**	**2,960**	**3,880**	**22,544**
RISK Total		**4,025**	**7,529**	**2,965**	**2,225**	**16,744**
GRAND TOTAL		**15,776**	**11,482**	**5,925**	**6,105**	**39,288**

Source: Routine HMIS, 2010

4.2   Child Birth Deliveries

Table 13shows the type of medical personnel in attendance at child birth in a medical facility. This information gives an indication of the level of maternal and child birth care available at health facilities in the country. It is encouraging to observe from this table that most of the births that occurred in a medical facility in the country, about 90% are attended to by a midwife. The pattern is similar in all the four regions.

Table 13: Number of birth deliveries by type of medical profession in attendance by region, Swaziland 2010

ATTENDANT AT BIRTH	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL	%AGE
Medical Officer	763	372	452	194	1,781	8.92
Midwife	5,601	6,849	2,651	2694	17,795	89.14
None	11	10	5	0	26	0.13
Nurse	8	12	12	1	33	0.17
Unknown	79	93	81	74	327	1.64

Source: Routine HMIS, 2010

Table 14 shows the type of delivery in the health facilities. It is observed here that about 90% of all deliveries were normal vaginal deliveries and the second most common deliveries were C-Section deliveries. Caesarean Section deliveries consisted of about 9% of all deliveries in the country. Shiselweni had the highest proportion of its births by C Section and the lowest were performed in Manzini.

Looking at regional level, Shiselweni had the highest proportion of itsdeliveriesby C Section and the lowest were performed in Manzini. Shiselweni region receives a lot of referrals from 1st level rural clinics and due to

poor referral mechanism from that level to regional hospital level this can happen. The challenges may begin from availability of transport (ambulance services) to availability of enough and skilled attendant at that level. The other reason is that since the closure of waiting huts in Hlatikhulu management of risk clients is very difficult in that they may arrive quite late for stabilization and normal delivery.

Table 14: Type of child birth delivery by region, Swaziland 2010

TYPE OF DELIVERY	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL	%
NVD + BBA	6,042	6,987	2,757	2,757	18,543	91.15
CS	767	364	185	440	1,756	8.56
Breech	5	11	21	11	48	0.24
Vacuum	2	2	0	0	4	0.02
Forceps	0	1	1	0	2	0.01
Unknown	6	1	0	0	7	0.03
Grand Total	6,822	7,366	2,963	3,209	20,360	100.00
% OF C SECTION DELIVERIES	11.2	5	6.2	13.7	8.6	

Source: Routine HMIS, 2010

Distribution of C section performed by facility is shown in figure 5. It is shown in this figure that most of the procedures were performed at the Mbabane Government Hospital where 578 surgeries were performed followed by Good Shepherd Hospital in Shiselweni with 435 surgeries. It is important to note that these hospitals are referral hospitals and some of these cases could have been coming from other facilities and could be high risk cases. It would be interesting to study the trend of deliveries over time to assess if C-section deliveries are really increasing as is generally believed to be the case.

Figure 5: Caesarean Section deliveries by facility
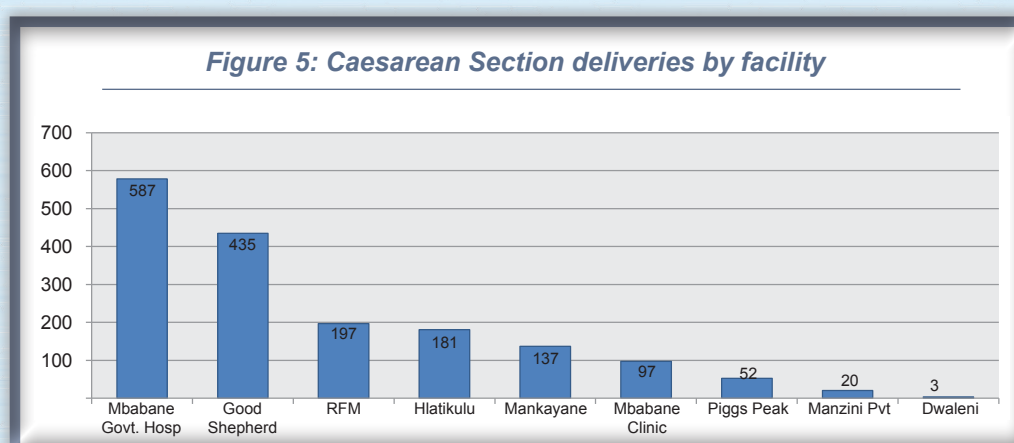
Source: Routine HMIS, 2010

Table 15shows the discharge status of mothers after child birth at a health facility. It is observed in this table that almost all mothers that gave birth at a health facility went home after giving birth. The table also shows 0.04% of all mothers were referred to another facility and that about 0.08% died due to child birth related causes. This could loosely be interpreted as the inpatient maternal mortality rate. It is also important to note that this data may not be the same with the statistics from the confidential enquiry into maternal deaths committee report. There is a challenge of charts going straight to the committee without being recorded at HMIS. This requires strengthening of the immediate notification system. Most of the maternal deaths occurred in Manzini region. The fact that there is a main referral hospital for maternal cases coming from at least 3 regions may contribute to this. Lower facilities may be referring late to this facility.

Table 15: Discharge Status of mother after child birth by region, Swaziland 2010

Discharge Status Of Mother	Hhohho	Manzini	Shiselweni	Lubombo	TOTAL	%AGE
Discharged	6817	7,352	2,961	3,200	**20,330**	99.85
Dead	0	11	1	3	**15**	0.08
Referred	3	1	1	3	**8**	0.04
Self-Discharged	0	1	0	2	**3**	0.02
Unknown	2	1	0	1	**4**	0.02
GRAND TOTAL	**6,822**	**7,366**	**2,963**	**3,209**	**20,360**	**100.00**

Source: Routine HMIS, 2010

Table 16 shows the status of the newly born babies at discharge. It is observed that 98% of the babies were healthy at discharge but 0.26% was sick and 1.55% died right after birth. Most maternity and child birth discharges are within 7 days of birth, this death rate then could be translated as the inpatient Neonatal Mortality rate.

Table 16: Discharge Status of Newly Born Babies by region, Swaziland 2010

Discharge status for Child	Hhohho	Manzini	Shiselweni	Lubombo	TOTAL	%
Healthy	6,373	7,203	2,877	3,130	19,583	98.02
Dead	80	85	78	67	310	1.55
Sick	4	39	7	1	51	0.26
Congen_Abnor	1	4	0	4	9	0.05
Select	1	9	0	5	15	0.08
Unknown	5	4	1	1	11	0.06
GRAND TOTAL	**6,464**	**7,344**	**2,963**	**3,208**	**19,979**	**100.00**

Source: Routine HMIS, 2010

4.3   Postnatal visit by age of child and region

Figure 6 shows how well women use postnatal services by region. Women are encouraged after giving birth to come back with the babies within seven days to have the baby checked and start immunizations at "well baby" visits. It is observed in this figure that most of the women that came back for check-up within 7 days of giving birth were from Manzini and Hhohho. Only 14% were from Lubombo. Women in Hhohho are more likely to bring the babies back to health facilities for follow up visits than in any other regions, 48% of all baby follow up visits were in Hhohho.

Figure 6: Distribution of mothers by postnatal visit within 7 days of birth and follow up visit by region.
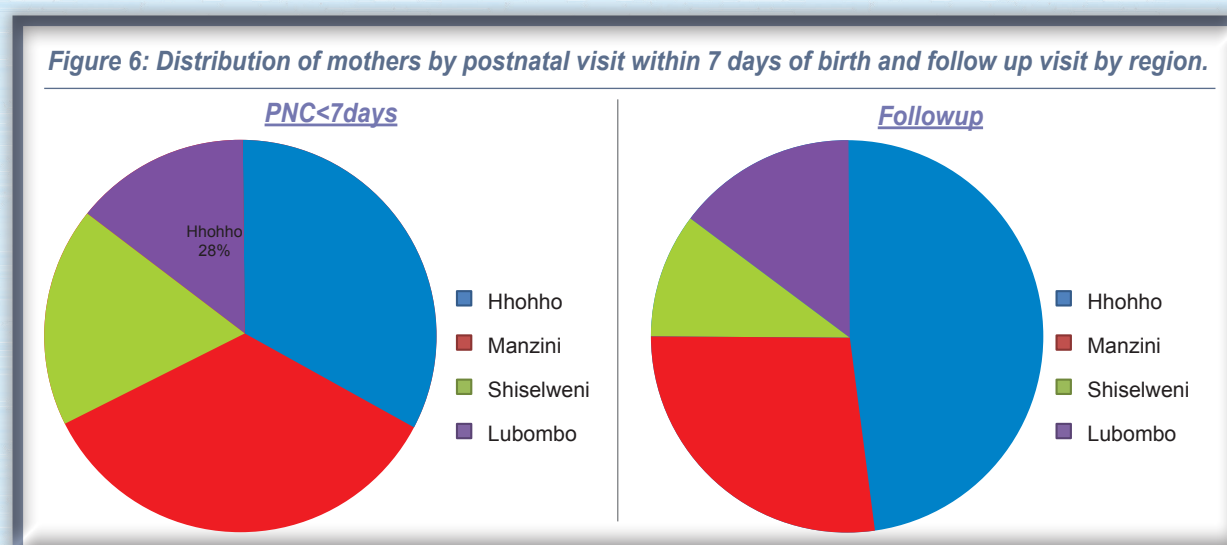
Source: Routine HMIS, 2010

4.4 Family Planning

Table 17shows % age distribution of women using any method of family planning by region. It is observed in table 17that male condom is the most common method of family planning used in 2010 followed by injectibles and oral contraception. This may be because male condoms are the most accessible and readily available item among all methods of family planning. It is also common practice for couples to use double method of contraception and the 2nd choice is almost always the male condom. The male condom is also used for prevention of sexually transmitted infections. The table shows that more than 1 million male condoms were distributed through the health facilities in 2010. The female condom still has not gained much ground despite being in use for some time now.

Table 17: Distribution of family planning uptake by type of method used and region among women using family planning methods, Swaziland 2010

FP METHOD	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL
Male condoms	328,350	333,256	203,343	211,013	**1,075,962**
Injectibles	47,219	4,070	27,517	31,569	**150,375**
Orals	38,047	46,522	23,375	33,609	**141,553**
Female condoms	16,717	14,065	14,672	13,452	**58,906**
Foaming tablets	55	638	60	0	**753**
IUCD'S	126	331	31	3	**491**
Spermicides	34	5	10	0	**49**
Other	715	526	1199	564	**3004**
GRAND TOTAL	431,263	439,413	270,207	290,210	1,431,093

Source: Routine HMIS, 2010

4.5 Child Health and Nutrition

Table 17 presents the weight status of all under-five outpatient by region. It is observed that most of the children were of normal weight (97 %) only 1 % was overweight and 2 % were underweight. Regional patterns were similar to that of the national pattern.

Table 18: %age distribution of children under-five by Nutrition Status and Region, Swaziland 2010

NUTRITION STATUS OF CHILDREN	REGIONS				
	HHOHHO	MANZINI	SHISELWENI	UBOMBO	TOTAL
Normal weight	97.1	97.7	96.9	97.3	97.2
Over weight	1.1	0.9	1.2	0.9	1.0
Under weight	1.7	1.3	1.6	1.7	1.6
Severely under weight	0.1	0.1	0.2	0.1	0.1

Source: Routine HMIS, 2010

4.6 Child immunization

Detailed information about the child immunization in 2010 is available in a separate report "Swaziland Expanded Programme on Immunization". The report indicates that in 2010 the national routine immunization coverage at 75 % missed the Ministry of Health set target of 80 % coverage for 2010. It is indicated in the EPI report that this miss was due to low DPT/HEB/HIB3 coverage. The report observed that the major barriers in achieving and sustaining routine immunization coverage of 80 % or more were due to:
•   Irregular servicing and closure of some outreach sites due to personnel and transport shortages;
•   Interrupted supply of pentavalent vaccine experienced nationally for 3 months;
•   Inadequate supportive supervision to monitor adherence to standards;
•   Failure to implement Reaching Every District (RED) approach and
•   Data quality challenges at all levels.

Measles immunization coverage on the other hand increases from 72 % in 2009 to 85 % in 2010 as shown in figure 7. The country experienced a measles outbreak 2009 and all four regions were affected. This was due to an accumulation of non-immune individuals. In response to the outbreak, an integrated measles campaign was conducted in late 2010 targeting children 6 to 59 months. This resulted in a remarkable decline in the number of measles IgM positive cases and the high coverage rate.

Figure 7: DPT/HepB/Hib3 and Measles Coverage, 2001 to 2010
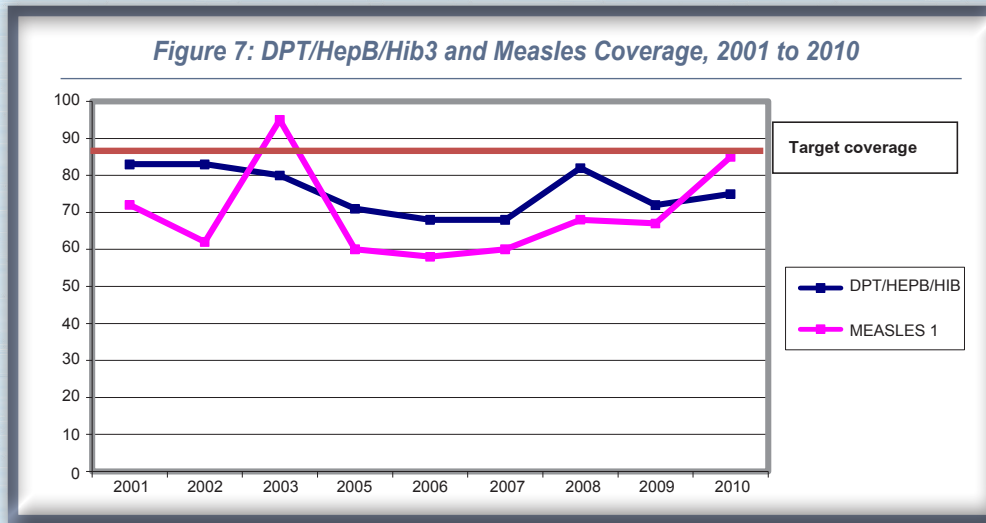
Source: Swaziland Expanded Programme Report, 2010

Regarding Polio, the EPI report indicated that the country has maintained and achieved all polio free certification indicators. A total of 17 AFP cases were reported in 2010 but all reported cases were classified and discarded as Non Polio AFP. This has been achieved through conducting active surveillance in all the regions, disease surveillance trainings, sensitization of clinicians and community health workers (Rural Health Motivators).

At regional level, Hhohho and Manzini attained a coverage rate of 80 and above for DPT/HepB/Hib1 while Lubombo and Shiselweni missed the target mark by 2 and 1% points, refer Figure 9. Measles coverage was above 80% for all regions while DPT/HepB/Hib3 was below 80% in all regions. Shiselweni had the lowest coverage at only 68%.
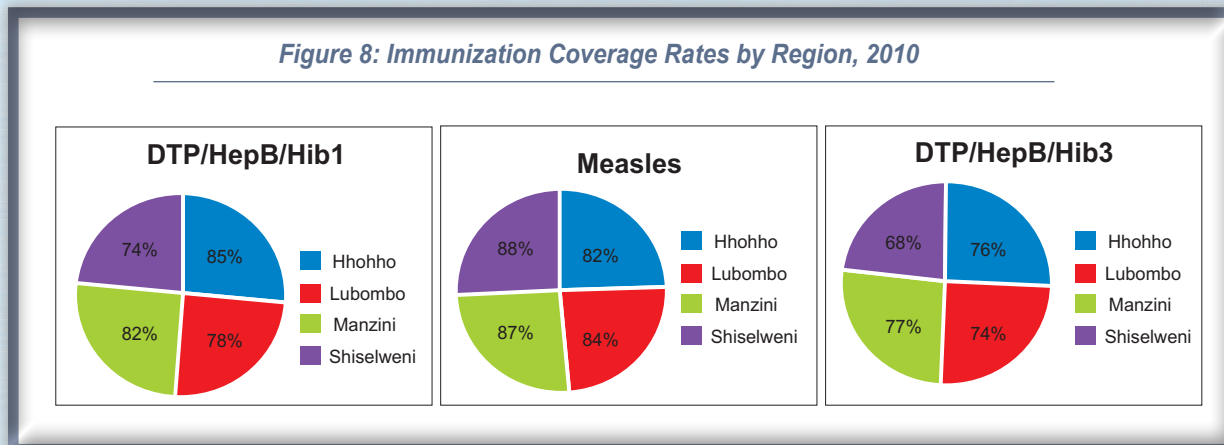
Figure 8: Immunization Coverage Rates by Region, 2010

Source: Swaziland Expanded Programme Report, 2010

Evidence confirms that ARV treatment and prophylaxis substantially reduces the risk of MTCT of HIV (WHO 2010). According to the WHO revised guidelines, women who are not already on ART should be initiated on ARV prophylaxis from as early as 14 weeks (second trimester) or as soon as possible when women present late in pregnancy, in labor, or at delivery. Swaziland PMTCT guidelines stipulate that pregnant women who are infected with HIV are eligible for ARVs either for their own health or for the prevention of MTCT.

While the "early initiation" of ARV prophylaxis may have started late in Swaziland, the current practice within the program is that women who are HIV infected are now initiated on AZT from as early as 14 weeks of pregnancy if CD4 count is above 350 and more emphasis given to early initiation of ART for those eligible for ART (CD4 less than 350 or WHO clinical stage 3 and 4). As more women are seen at ANC coming in already on ART, there is need to lobby for the availability of family planning at all ART initiation and refill sites, and strengthening of family planning counseling at all HTC sites. In 2010, fourteen per cent of HIV positive women were already on ART during their first ANC booking.

During ANC visits, 29,046 pregnant women were tested for HIV and of these, 98 per cent received their test results. This constitute of women who booked for ANC with an already known HIV positive status (5,384); women who were tested during their ANC visits (23,273) and those tested during labour and delivery (389) as this is seen as an opportunity for those who have missed HTC during ANC. There has been a tremendous improvement in terms of HTC uptake as it can be noted that about 81 per cent women are tested during pregnancy, compared to the 79 per cent reported in 2009.

Table 19: Number of women attending ANC services

	Total Number tested for HIV ANC	Number receiving HIV test results	Number testing HIV positive
ANC	23,273	22,575 (96%)	6,258 (27%)
Labour and Delivery	389	389 (100%)	124 (32%)
Already Known HIV positive	5,384	5,384	5,384
Total tested	29,046 (83%)	28,348 (81%)	11,776 (41%)
Estimate=35,000 pregnant women (UNDP, 2010)			

Source: Routine HMIS database, 2010

In 2010, the HIV prevalence was estimated to be 41.1 percent for ANC clients. Routine data for 2010 shows similar HIV prevalence among pregnant women. 11,776 pregnant women were HIV infected, which constitute to 41 percent. This figure comprises women who came in with an already known HIV positive status and those testing positive during routine HIV testing. The table above shows that the HIV prevalence during routine ANC HTC is 27 percent and 32 percent during labour and delivery for those who were never tested at ANC. About 16 percent of the women seen during ANC visits have an already known HIV positive status. This has been a major concern since it has not been ascertained whether these were intended pregnancies or not and the fact that this has shown an upward trend over time (10 percent in 2008 and 14 percent in 2009).

5.1   ARVs for Prevention of Mother-to-Child Transmission

HIV-infected pregnant women who do not meet the eligibility criteria for ARV treatment for their own health require an effective ARV prophylaxis strategy to prevent HIV transmission to the infant. In 2010 the country had moved from Single Dose Nevirapine to more efficacious regimen, which contains initiation of AZT from as early as 28 weeks and the intra-partum dose (AZT+3TC+ NVP). All HIV infected pregnant women who are not already on ART are expected to be given the intra-partum dose to take home and at the same time these women are expected to be staged clinically and CD4 count taken for eligibility of ART. All HIV infected pregnant women are assessed for ART eligibility through clinical staging and 8,879 were assessed through CD 4 count testing. One thousand eight hundred and twenty two (1,822) women were later initiated on ART, making a total of 2,873 pregnant women on ART by the end of 2010.

Those women not eligible for ART are expected to be initiated on the 28 weeks AZT, that is, if their Haemoglobin (Hb) is at the acceptable level for initiating AZT. Fifty eight per cent of HIV infected pregnant women were initiated on the 28 weeks AZT, whilst 1,051 (11 percent) only received the intra-partum dose. This shows an

improvement when compared to previous years where a majority of pregnant women only received single dose NVP and a few initiated on ART. The figure below shows ARVs given to pregnant women for prevention of MTCT.

Figure 9: Percentage of women given ARVs for PMTCT, 2010
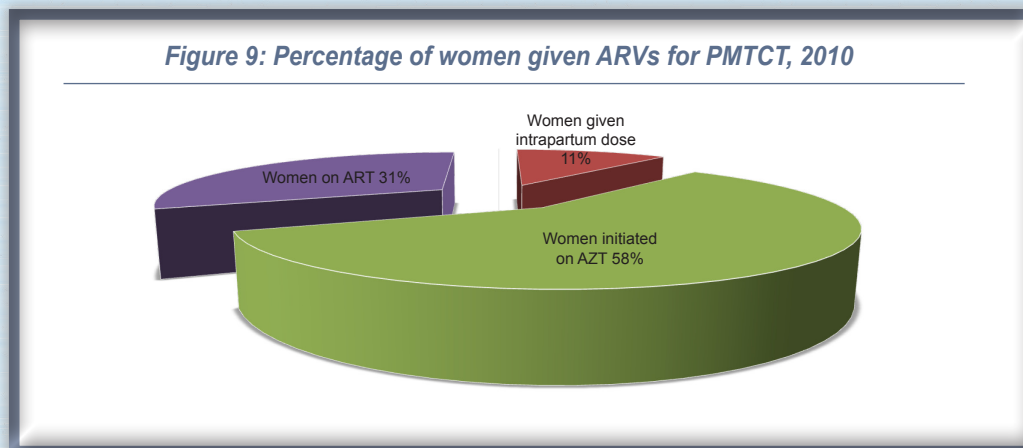
Source: HMIS database, 2010

5.2   Child Welfare Interventions

The ultimate goal of PMTCT is the reduction of MTCT; therefore interventions provided to the child are of great importance. Infants born from women living with HIV should receive a package of services, based on local needs and national policies that include HIV prevention, diagnosis, and treatment, as well as treatment for tuberculosis (TB), malaria, diarrhea, and other childhood risks as per the national guidelines. While data on number of HIV infected women given birth is not readily available and also considering the fact that not all women give birth in health facilities; an estimate of 10,432 is used. A total of 27,524 (92 percent) infants were seen at least once during child welfare visits and 9,157 were born to HIV infected women. From this denominator, 8,997 (86 percent) exposed infants received ARVs to prevent MTCT. The figure below shows child welfare PMTCT cascade.

Figure 10: Child Welfare PMTCT Cascade, 2010
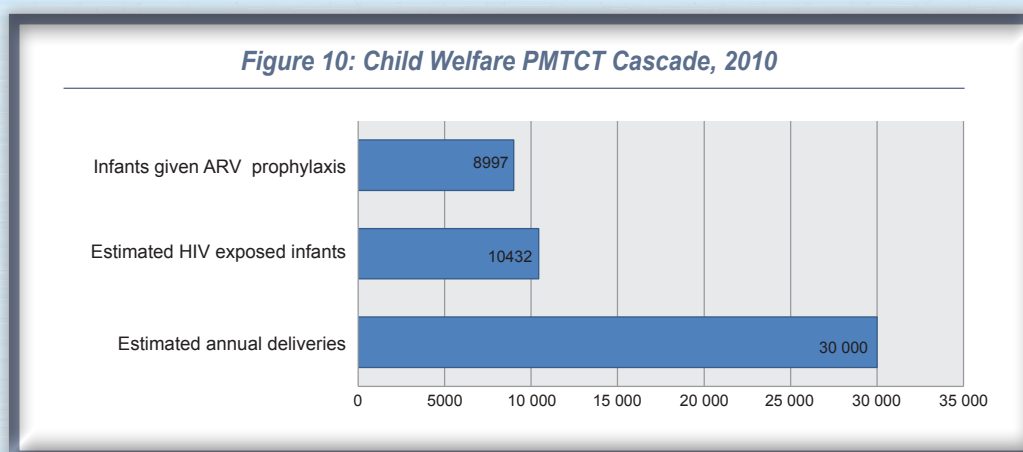
Source: Routine HMIS, 2010

6.1   Tuberculosis
6.1.1   TB Case Notification

A total of 11057 cases were notified to the national TB control program in 2010 which depicts a slight increase compared to the 11032 cases notified in 2009.

Figure 11: Notified TB cases
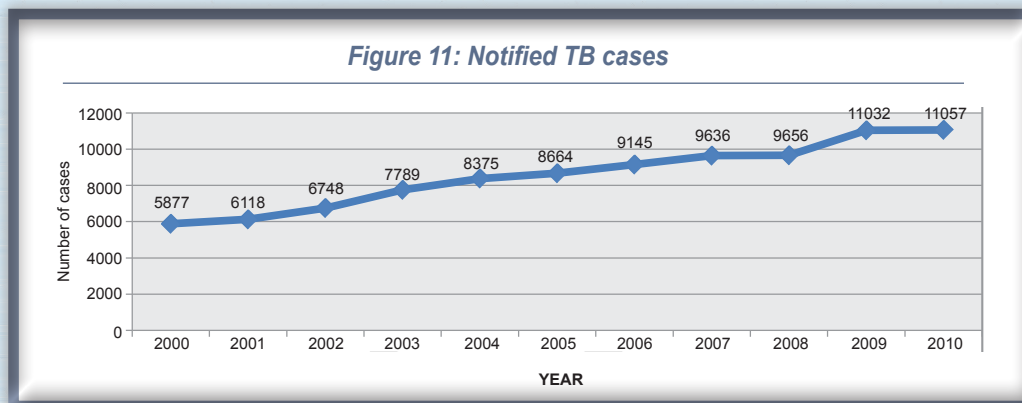
Source: NTCP M&E, 2010

An analysis of case notifications for the country over the last two decades shows a corresponding increasing trend since year 2000 up to 2009 where the graph shows a gradual decline. Case notifications for new and relapse cases as depicted in figure 3 below also increased in the last two decades with notable peaks since the early 2000s.

Figure 12: Notification trend
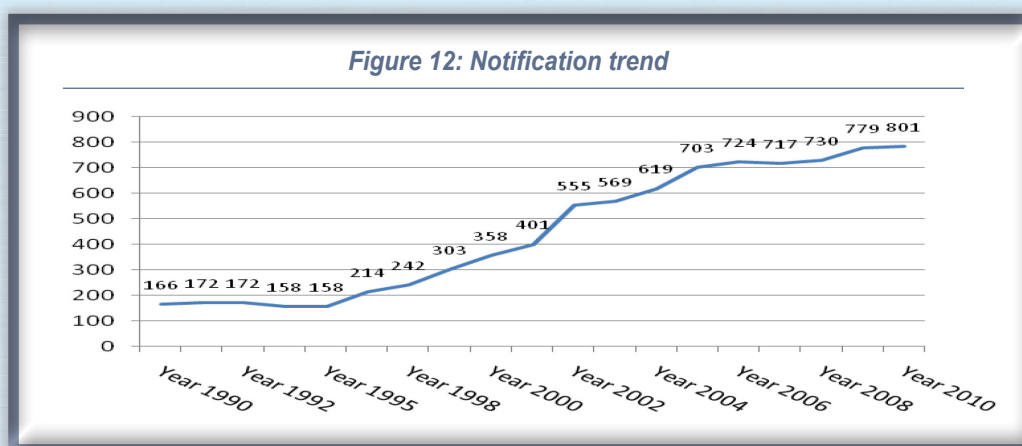
NTCP M&E, 2010

New and relapse cases accounted for 76% of the total notified cases which gives a notification rate of 801/100 000. This marks a steady but not significant increase in case notifications over the last two years.

Notified smear positive cases decreased from 32% in 2009 to 26% in 2010 which reflects a decline in case finding for the period under review. This decline is explained by the converse relationship observed when comparing pulmonary positive case in 2009 vs. smear not done cases of the same year and the same variables for 2010. In 2009 it is noted that while there was a high case finding for smear positive cases there was a low rate of smear not done however, in 2010 the rate of cases not diagnosed by smear increased and it was followed by a decrease in rate of smear positive cases notified. Consequently, the reasons for this have to be identified to improve the case finding for the year 2011.

6.1.2   Regional Distribution of Notified TB cases

The TB burden in most of the regions of the country appears to have decreased compared to 2009 when looking at absolute numbers. Whereas the proportion of cases notified in Manzini region increased from 30% in 2009 to 35% in 2010 the same could not be said of the other regions.

6. DISEASE TRENDS - *continued*

Table 20: TB case notification rates by region

REGION	POPULATION		SM+		ALL CASES		CNR SM+		CNR All	
	2007 (census)	2010 (Projected)	2009	2010	2009	2010	2009	2010	2009	2010
Hhohho	282,734	289,797	844	737	3,186	2,939	254	254	960	1,014
Lubombo	207,731	213,424	550	506	1,887	1,801	221	237	757	844
Manzini	319,530	328,506	1,268	1,151	3,259	3,860	352	350	905	1,175
Shiselweni	208,454	214,470	826	528	2,700	2,457	342	246	1,119	1,146
TOTAL	1,018,449	1,046,196	3,488	2,922	11,032	11,057	295	272	933	1,045

NTCP M&E, 2010

Whereas in 2009 the Shiselweni region recorded the highest TB burden as measured by the case notification rates for both smear positive and all TB cases, the Hhohho region recorded the highest TB burden in 2010 with 254/100 000 for new smear positive case and 1014/100 000 for all TB cases. Lubombo region though recorded increased notification rates for both smear positive and all cases compared to 2009 had the lowest TB burden (237/100,000 for SS+ cases and 844/100,000 for all cases) when compared to the rest of the regions, however, as a proxy for incident cases this is still high compared to the 300 cases per 100 000 benchmark for high incidence as set by WHO AFRO.

6.1.3   TB notification in children

A per WHO guidelines on TB, a high index of suspicion for TB among children is maintained by the NTCP hence children who are contacts of smear positive patients are examined for TB as soon as possible. Whereas in 2009 a total of 1115 cases were notified 1731 were notified in 2010 which is 16% of all notified TB cases indicating 6% increase from the 10% recorded in 2009.

Figure 13: TB notification in children
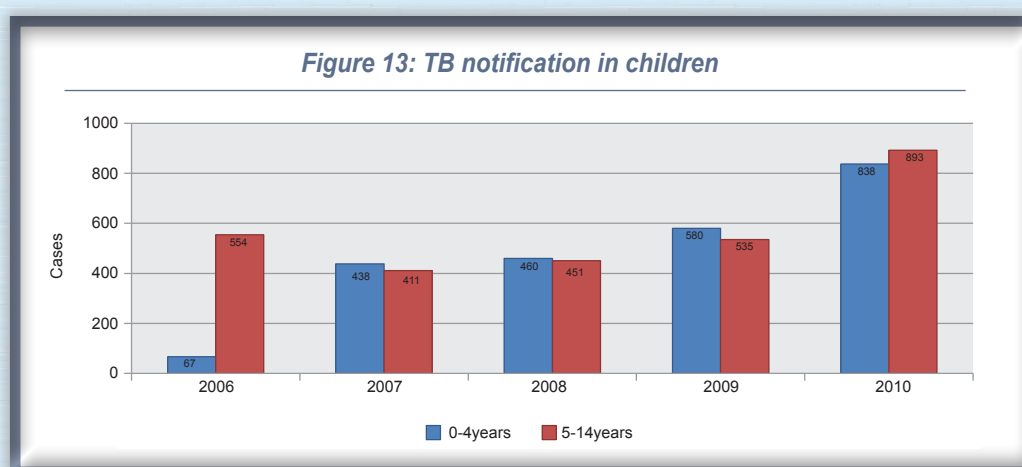
NTCP M&E, 2010

6.1.4   TB/HIV Co-infection

As a result of the high HIV prevalence among the Swazi population (26% according to the Demographic and Health Survey 2007) the proportion of TB patients also co-infected with HIV at any given time is also very high. Comparing the co-infection rates for 2009 and 2010 it is evident that the rates have not changed much save for the 1% decline from 83% to 82%.

Figure 14: HIV prevalence among TB patients
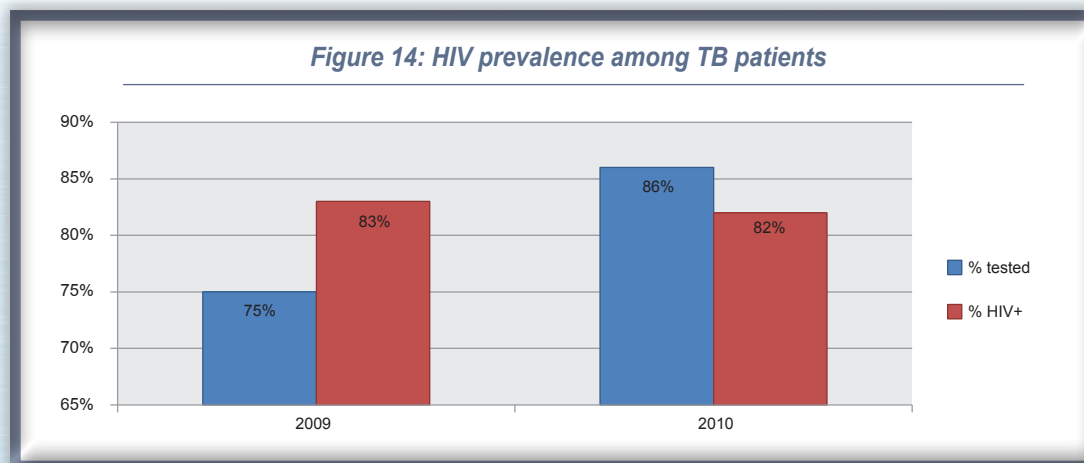
NTCP M&E, 2010

The uptake of HIV counseling and testing services by TB patients have improved drastically compared to 2009. Whereas only 75% of registered TB patients tested for HIV in 2009 the proportion increased to 86% in 2010 largely because of the functional collaborative mechanisms between TB and HIV care programs particularly the integration of TB in HIV care and vice versa.

6.1.5 Notification of Drug Resistant TB

Results of the drug sensitivity testing (DST) survey conducted in 2009 show that Swaziland has a high prevalence of MDR in both new and retreatment cases, with 7.7% and 33.4% respectively and according to the latest World Health Organization Global Tuberculosis report 2010, of the 4% (n=298) notified new cases that were tested for MDR-TB in 2008 6% (n=6%) were later confirmed MDR-TB cases.

Figure 15: Notification of Drug Resistant TB
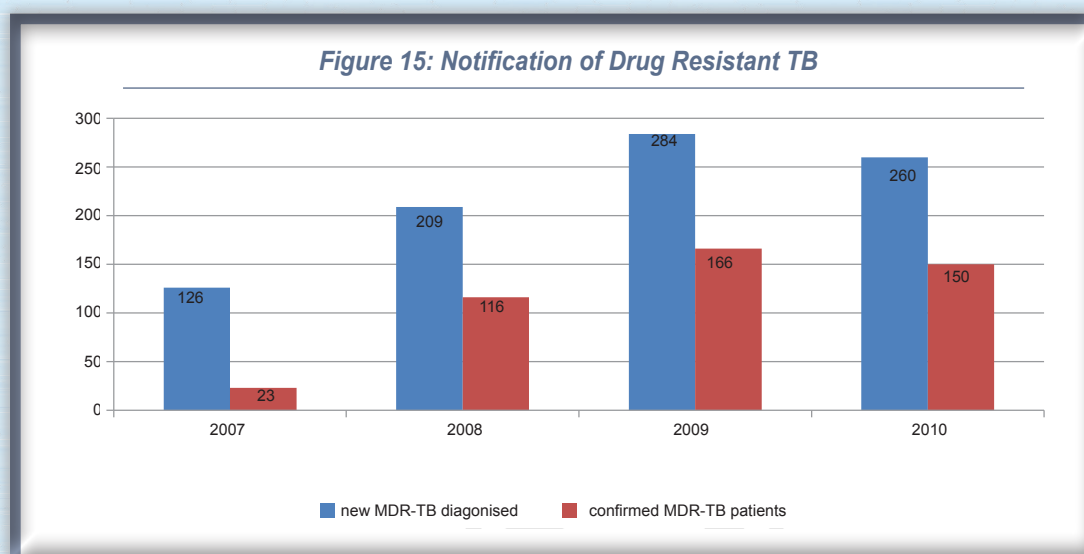
NTCP M&E, 2010

Comparing the number of new MDR-TB patients diagnosed between 2007 and 2010 with the number of MDR-TB patients that are started on treatment it can be observed that only slightly above 50% of confirmed MDR-TB patients are started on treatment on the exact same year they are diagnosed for MDR-TB. This being the case, caution must be practiced when using this data as these observed disproportionate spread of MDR-TB patient with regard to treatment initiation could be due to poor documentation and data aggregation errors.

6.1.6 TB Case detection and treatment success

The world health organization in its recommendations for 2010 and beyond upheld the use of the incidence, prevalence, mortality, treatment success rate and the case detection rate for all cases as the main indicators

in monitoring progress in TB control up to 2015 drawing attention to their linkage to the MDGs and Stop TB Partnership targets.

a)   TB case detection rate

The national TB control has recorded progress in improving TB case detection for all TB forms. While over the last five years the program has monitored the progress in case detection for new sputum smear positive cases only, this move has since been phased out by the WHO in favour of monitoring case detection of all TB forms.

Table 21: Case Detection rates for all forms of TB by region 2009-2010

Region	Population		All TB cases		CDR All	
	2009 (PROJECTED)	2010 (PROJECTED)	2009	2010	2009	2010
Hhohho	290,322	289,797	3,186	2,939	92%	81%
Lubombo	207,373	213,424	1,887	1,801	76%	67%
Manzini	321,428	328,506	3,259	3,860	85%	93%
Shiselweni	212,223	214,470	2,700	2,457	106%	91%
TOTAL	**1,036 864**	**1,046,196**	**11,032**	**11057**	**90%**	**84%**

NTCP M&E, 2010

Compared to 2009 the case detection rate for all TB forms dropped in 2010 by 6%. Except for Manzini region, case finding dropped in all the regions in 2010 with Shiselweni region recording the highest percentage decline in detected cases (15%) followed by Hhohho (11%) and Lubombo (9%), respectively.

b)   TB Treatment Success rate

To this end the national TB control program is recorded great gains in TB control which has culminated into the continued improvement in the TB treatment success rate from 58% in 2007 to 69% in 2010.

Figure 16: TB treatment success rate
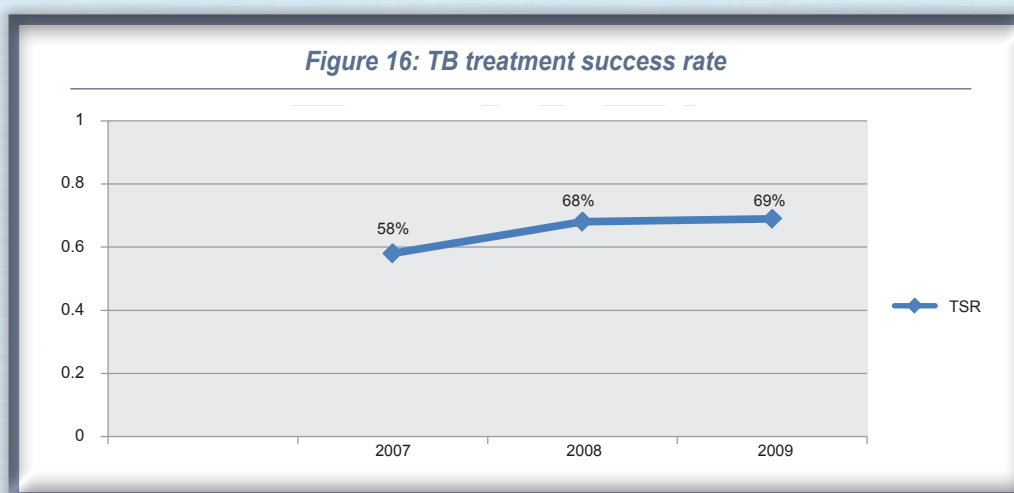
NTCP M&E, 2010

No significant differences were noted in cure rates of the cohorts registered in 2008 and that of 2009 save for the 2% increase from 50% to52%. A similar trend to that observed for the 2008 cohort was observed with the 2009 cohort regarding the trend in completion rates wherein it further dropped to 16% indicating a 2% decrease from that of the 2008 cohort.A regional disaggregation of treatment outcomes indicates that except for Lubombo all the other regions recorded a 71% treatment success rate. A further disaggregation of favourable outcomes shows that Shiselweni region had the highest proportion of cured patients (61%) while the least proportion of cured patients was recorded in Lubombo. With regards to patients completing treatment Shiselweni region recorded the least whereas Manzini recorded the highest number than the rest of the regions.

Table 22: Regional disaggregation of Treatment Outcomes 2009 cohort

Region	Registered	Cure	Completed	Died	Defaulted	Failure	TSR
Hhohho	866	479	140	98	42	64	71%
Lubombo	573	225	102	76	42	34	57%
Manzini	1,128	568	228	99	83	109	71%
Shiselweni	833	510	81	76	78	33	71%
TOTAL	3400	1,782	551	349	245	240	69%

NTCP M&E, 2010

c) Treatment Outcomes for TB/HIV Patients

About 65% of co-infected patients were successfully treated 51% of who was cured and 14% completed treatment.

Figure 17: Treatment outcomes for TB patients
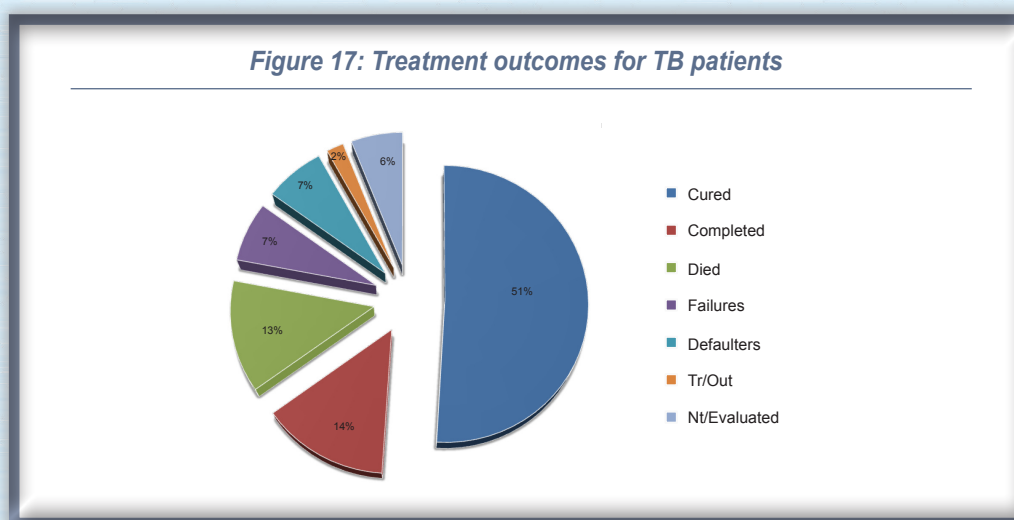
NTCP M&E, 2010

Compared to 2009, the death rate for co-infected patients increased by a percent from 12% to 13% while the failure and defaulter rates remained the same as those recorded in 2008, 7% apiece.
Only 2% of the cases were transferred out which marks great improvements in this indicator compared to the 6 percent which was recorded at TB program.

d) Unfavourable Treatment Outcomes

Compared to 2009 the programme recorded significant improvements with regards to minimizing the magnitude of unfavourable treatment outcomes in 2010. Whereas deaths occurring to TB patients before completing treatment was 10% in 2009 the figure increased by only one percent in 2010 making the TB death rate to be 11% which though not a significant increase is still higher than the 5% threshold stipulated by WHO.

Figure 18: Regional disaggregation of unfavourable treatment outcomes
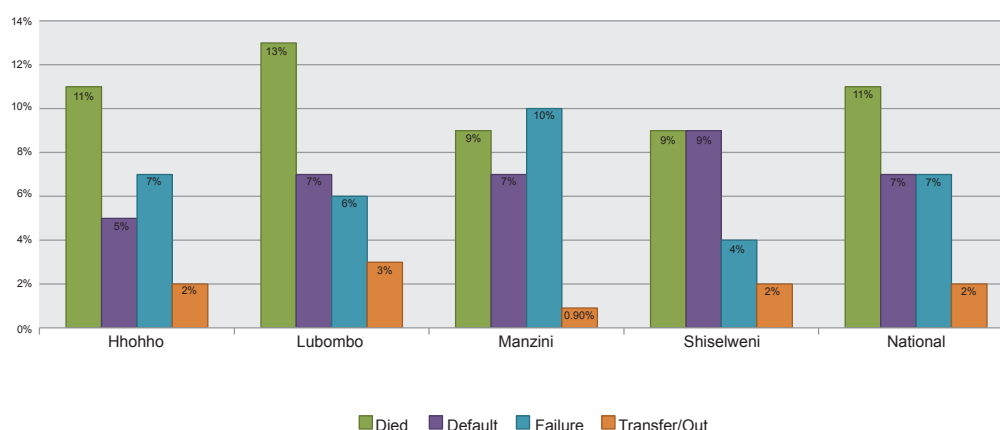
NTCP M&E, 2010

As first noted in 2009, the default rate decreased from 11% for the 2007 cohort to 8% for the 2008 cohort and for the 2009 cohort it further declined to 7% and this is as result of the improved defaulter tracing mechanism which seeks to restart patients on TB treatment while they are interrupters prior to being defaulters. The failure rate remained at 7% in 2010 just as in 2009 which though steady is still 2% higher than the 5% threshold recommended by the world health organization.

6.1.7   Multi-drug resistance TB

a)   Interim Outcomes for MDR-TB Patients

The interim outcomes of MDR-TB patients indicate that most patients are converting after 6 months on cat IV treatment though the proportion of those that die before completing 6 months on treatment is significantly high.

Table 23: Interim Outcomes for MDR-TB Patients

Number started on treatment		Bacteriology results at 6 months on treatment			No Longer on treatment		
		Negative (Smear & Culture)	Positive (Smear /Or Culture)	Culture & Smear Unknown	Died	Defaulted	Transfer out
Male	12	8	1	3	0	0	0
Female	36	19	12	2	3	0	0
Total	48	27	13	5	3	0	0
PERCENTAGE		56%	27%	10%	6%	0	0%

NTCP M&E, 2010

For the cohort that started treatment in January 2010 and assessed in June the same year 56% were culture and smear negative, 27% were still culture and/ smear positive while for 10% the result for smear or culture at 6 months of treatment were not known. Apart from the 6% of patients that died before completing 6 months of treatment there were no defaulters and transfer-outs.

With the cohort that started on treatment in April –June 2010 the proportion of deaths before 6 months of treatment increased by three folds compared to the January- March 2010 cohort. This depicts a high mortality rate for MDR-TB patients during the intensive phase of treatment.

Number started on treatment		Bacteriology results at 6 months on treatment			No Longer on treatment		
		Negative (Smear & Culture)	Positive (Smear /Or Culture)	Culture & Smear Unknown	Died	Defaulted	Transferred out
Male	14	2	3	7	2	0	0
Female	20	8	3	5	4	0	0
Total	34	10	6	12	6	0	0
PERCENTAGE		29%	18%	35%	18%	0	0

NTCP M&E, 2010

b)   Final Treatment Outcomes for MDR-TB Patients

The first ever cohort of MDR-TB patients put on treatment by the NTCP recorded very poor treatment outcomes at the end of the 36 months of treatment. Only 25% of the patients were cured while 66% had unfavorable treatment outcomes i.e. defaulted 58% and failures (8%). One patient was reportedly on treatment at the end of 36 months of treatment.

Patient Group		Cured	Treatment completed	Failed	Defaulted	Died	Transferred Out	Still on treatment	TOTAL
New	F	0	0	0	0	0	0	0	0
	M	0	0	0	0	0	0	0	0
# Previously treated with First-line drugs only	F	3	0	0	5	0	0	1	9
	M	0	0	1	2	0	0	0	3
# Previously treated with both first and second-line drugs	F	0	0	0	0	0	0	0	0
	M	0	0	0	0	0	0	0	0
TOTAL		3 (25%)	0	1 8%)	7 (58%)	0	0	1 (8%)	12

NTCP M&E, 2010

Compared to the first ever cohort of MDR-TB patients which had only 12 patients the 2007 cohort comprised of 23 patients.

Table 26: Final Treatment Outcomes for MDR-TB Patients 2006 cohort

Patient Group		Cured	Treatment completed	Failed	Defaulted	Died	Transferred Out	Still on treatment	TOTAL
New	F	0	0	0	0	0	0	0	0
	M	0	0	0	0	0	0	0	0
# Previously treated with First-line drugs only	F	2	2	3	8	0	0	5	20
	M	0	0	0	1	1	0	1	3
# Previously treated with both first and second-line drugs	F	0	0	0	0	0	0	0	0
	M	0	0	0	0	0	0	0	0
TOTAL		29%)	2 (9%)	3 (13%)	9 (39%)	1 (4%)	0	6 (26%)	23

NTCP M&E, 2010

The treatment success rate for the 2006 MDR-TB cohort was 25% however, for the 2007 cohort the treatment success rate declined to 18% depicting a significant 7% decline in successfully treating MDR-TB patients. This situation necessitate investment of resources in ensuring that MDR-TB patients are traced and put on treatment before they become defaulters as this has negative impact on the overall outcomes of MDR-TB patients.

6.1.8 Monitoring Smear Conversion

According to the Swaziland Drug Sensitivity Survey of 2009 about 7.7 % of all new TB cases and about 33.4 % of all retreatment cases are drug resistant hence a high index of suspicion for drug resistance is no longer maintained only for retreatment cases but also for new smear positive TB cases more especially those that do not convert at either two or three months which justifies the need to monitor conversion rates for smear positive cases.

Figure 19: Conversion rates for smear positive cases 2009

NTCP M&E, 2010
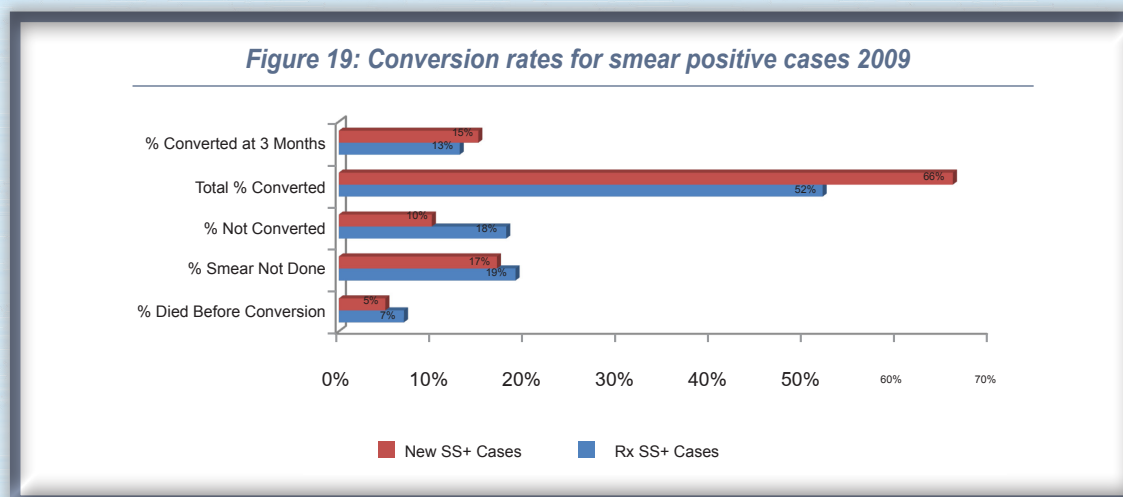
Figure 20: Conversion rates for smear positive cases 2010
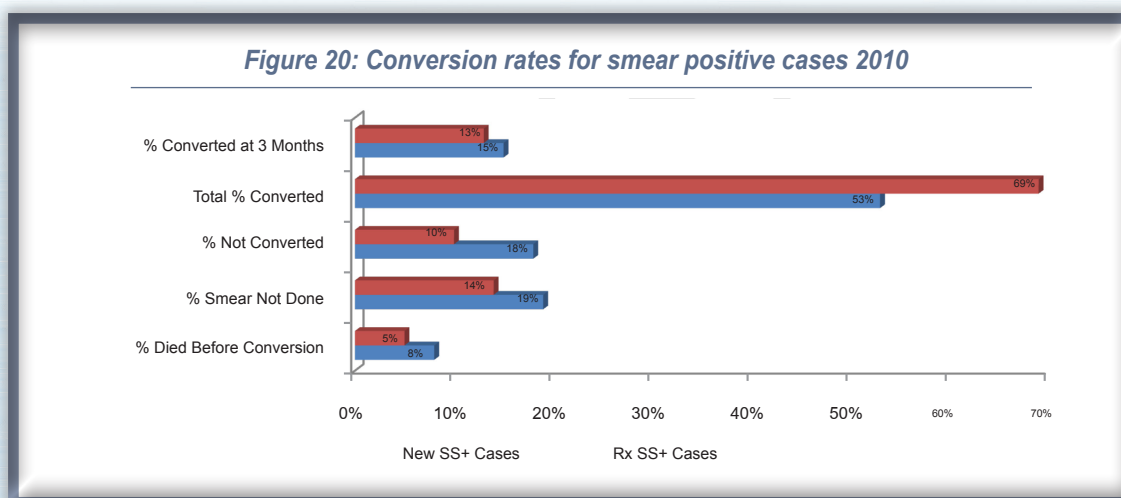
NTCP M&E, 2010

The conversion rate at 2/3 months for new smear positive cases increased from 66% in 2009 to 69% in 2010 indicating a 3% increase in total of patients that convert at 2/3 months after treatment initiation. An increase was also noted with conversion rates for retreatment smear positive cases from 52% in 2009 to 53% in 2010 indicating a 1% increase in overall total conversion for retreatment cases. There were noted declines in proportion of cases not done smears at 2/3 months for the new smear positive cases from 17% in 2009 to 14% in 2010 while for retreatment cases the proportion remained the same as that recorded in 2009 at 19%. This can be attributed to the increased emphasis on sputum samples by health workers as well as effective health education rendered to patients by health workers during consultation visits. The proportion not converted remained the same for both new and retreatment cases and such cases are mandatory for culture and DST.

6.2   Diarrheal Diseases by type and region

Table 5.2 shows number of cases of diarrhoea by type and region. Overall 66 % of all diarrhoea cases were acute watery diarrhoea cases. This was the most common diarrhoea in all regions. Lubombo region registered the highest number of diarrhoeal with blood cases than the other regions and this accounted for 25 % of all diarrhoea cases in the region. This could be attributed to the lack of safe drinking water in Lubombo. Hhohho had the highest number of suspected cholera cases in all regions. Overall there were 267 reported cases of suspected cholera, most of them in Hhohho region. It is noticed that Shiselweni had no suspected cholera cases for the year 2010.

Table 27: Number and percentage of diarrheal cases among out patients by type and region, all facilities, Swaziland 2010

DIARRHOEAL DISEASE	HHOHHO		MANZINI		SHISELWENI		LUBOMBO		SWAZILAND	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Acute Watery Diarrhoea	32,311	65	34,452	69	26,572	69	28,346	59	121,681	66
Diarrhoea With Blood/ Dysentery	9,033	18	5,295	11	4,195	11	11,851	25	30,374	16
Diarrhoea With Severe Dehydration	246	0	591	1	933	2	1,146	2	2,916	2
Diarrhoea With Some Dehydration	3,518	7	2,677	5	3,663	10	3,539	7	13,397	7
Persistent Diarrhoea	4,474	9	6,654	13	3,090	8	2,854	6	17,072	9
Suspected Cholera	212	0	30	0	0	0	25	0	267	0
GRAND TOTAL	49,794	100	49,699	100	38,453	100	47,761	100	185,707	100

NTCP M&E, 2010

6.3   Sexually Transmitted Diseases by Type and Region (from surveillance programs)

Tables 20 and 21 show the distribution of Sexually Transmitted Infections (STI) among females and males respectively in Swaziland in 2010. The tables reveal that there were more cases of STI among females than among males, 23,120 and 14,865 respectively. The most common symptom for STI cases among females was vaginal discharge and among males was male urethritis. Though they were more cases of genital ulcer syndrome among females than among males, proportionally among males this accounted for more that 20% of all STI while it accounted for 11% among females.

Table 28: Distribution of STI cases among females, Swaziland 2010

TYPE OF STI	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL	%
Vaginal Discharge	2,307	4,552	1,393	2,006	10,258	44.4
Lower Abdominal pains	1,534	1,976	879	1,522	5,911	25.6
Genital Ulcer Syndrome	674	851	496	615	2,636	11.4
Genital Blisters without Ulcers	89	362	45	63	559	2.4
Genital Warts	134	545	68	146	893	3.9
Other STIs	307	1,239	281	310	2,137	9.2
Asymptomatic Partners -Female	184	370	75	97	726	3.1
TOTAL	**5,229**	**9,895**	**3,237**	**4,759**	**23,120**	**100**

NTCP M&E, 2010

Table 29: Distribution of STI cases among males, Swaziland 2010

TYPE OF STI	HHOHHO	MANZINI	SHISELWENI	LUBOMBO	TOTAL	%
Male Urethritis	1,704	3,526	855	1,357	7,442	50.1
Genital Ulcer Syndrome	724	1,268	319	704	3,015	20.3
Genital Blisters without Ulcers	139	476	48	89	752	5.1
Genital Warts	144	459	44	111	758	5.1
Scrotal Swelling Syndrome	44	203	62	64	373	2.5
Other STIs	293	960	263	232	1,748	11.8
Asymptomatic Partners –Male	182	387	124	84	777	5.2
TOTAL	**3,230**	**7,279**	**1,715**	**2,641**	**14,865**	**100**

NTCP M&E, 2010

6.4   HIV and AIDS
6.4.1   HIV ANC Surveillance

A report for the 12th HIV Sentinel Surveillance has been compiled and presented to all stakeholders after they were announced by the Honourable Minister during the launching of the World AIDS Day Commemoration. A bigger stakeholder was held during the HIV/AIDS Indaba where the results were widely distributed. The latest results are showing a stabilization as observed by the overlapping of the confidence intervals and the point prevalence is 41.1% and with a significantly decline amongst the adolescents from 32% in 2006 to 20.4% in 2010. As shown in the following graph.

Figure 21: HIV Prevalence trends

	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010
HIV Prevalence	3.9	16.1	26	31.6	34.2	38.6	42.6	39.2	42	41.1
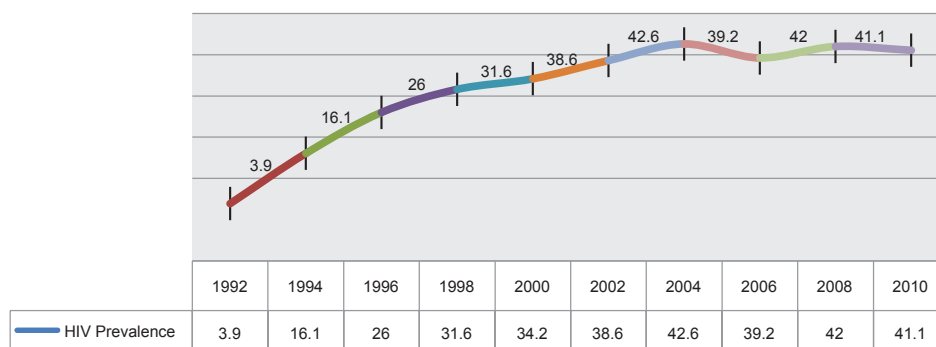
Source: HSS 2010

The HIV prevalence is showing a decline especially amongst the adolescents; and of note is that amongst those aged 15 years there was none testing positive. This might be an indication that there is a decline of incidence. On the other hand, Prevalence is highest amongst clients whose partners are ten years and above older than them (51%) indicating high risky intergenerational sex as observed in the DHS. In addition, having multiple sexual partners renders one prone to HIV acquisition. The survey has further provided the evidence of unmet need of reproductive health, even amongst those with known HIV positive status. A high proportion of the respondents (63%) reported that they had not planned for the pregnancy.

The prevalence of hepatitis amongst women was 5.8%; and all the regions were affected and the highest being the Lubombo Region and lowest was Hhohho Region. Considering the transmission rate, this is a public health concern. Hepatitis B virus is extremely resistant.The prevalence of syphilis is 8.1% which has shown an increase from 3.1% in 2008. The prevalence of syphilis increases with age lowest being amongst those aged less than 19 years and highest amongst those aged 40 years and above. There is an observed new paradigm shift of the re-emerging of sexually transmitted infections which the sector will need to closely observed.

6.4.2   Hiv Incidence ss Projected

Adult HIV incidence is the percentage of susceptible (uninfected) adults aged 15 to 49 who are newly infected with HIV in a year. In 2008 the HIV incidence was estimated at 2.9% and this is expected to gradually decline over the years to reach 2.18% by the year 2015, which is close to the country's target of 2.3% by 2014. The trend in the incidence rate for adults aged 15-49 years is reflected in Figure 8 below.

Figure 22: HIV Prevalence trends

Incidence Rate (15-49)

Year	2008	2009	2010	2011	2012	2013	2014	2015
Incidence Rate	2.93	2.71	2.61	2.52	2.43	2.35	2.27	2.18
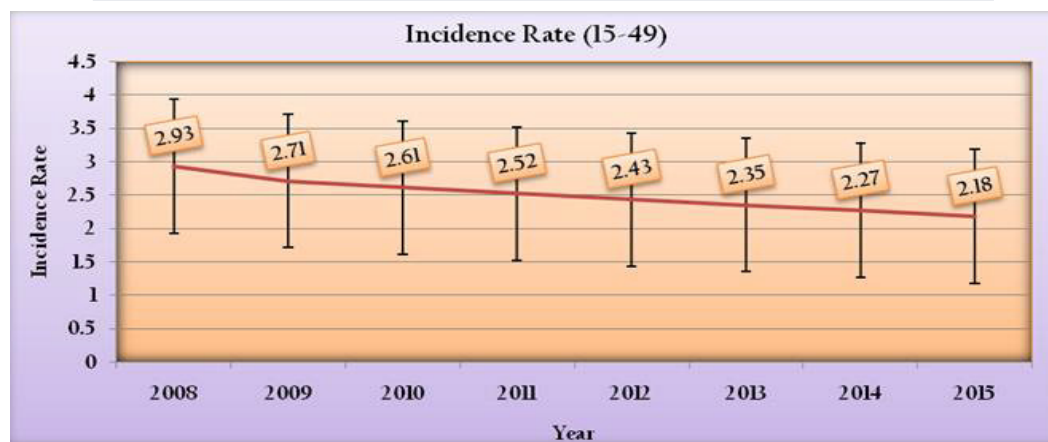
Source: SPECTRUM, 2010

The number of new HIV infections attributable to these incidence rates for the years 2008 to 2015 is shown in figure 4. These new HIV infections occur within a narrow range commencing at 12,611 in 2008 and remaining at around 11,000 a year from 2009 to 2015.

6.4.3   HIV Prevalence

The key findings is that the prevalence amongst the productive age group seems to be leveling off around 26% whilst the incidence is expected to decline over the years to reach 2.18% by the year 2015. It is estimated that by the year 2015, the number of people living with HIV will be 214, 210 and out of those 198,668 will be adults aged 15 and above as shown in the figure below whilst the rest will be children between the age 0 -14 years.

Figure 23: HIV Prevalence

Estimated number of People Living with HIV: Adults 15+

	2008	2009	2010	2011	2012	2013	2014	2015
Total	165,876	171,362	177,196	182,792	187,974	192,166	195,752	198,668
Male	69,149	71,602	74,270	76,892	79,371	81,420	83,196	84,671
Female	96,727	99,759	102,926	105,900	108,602	110,746	112,556	113,997
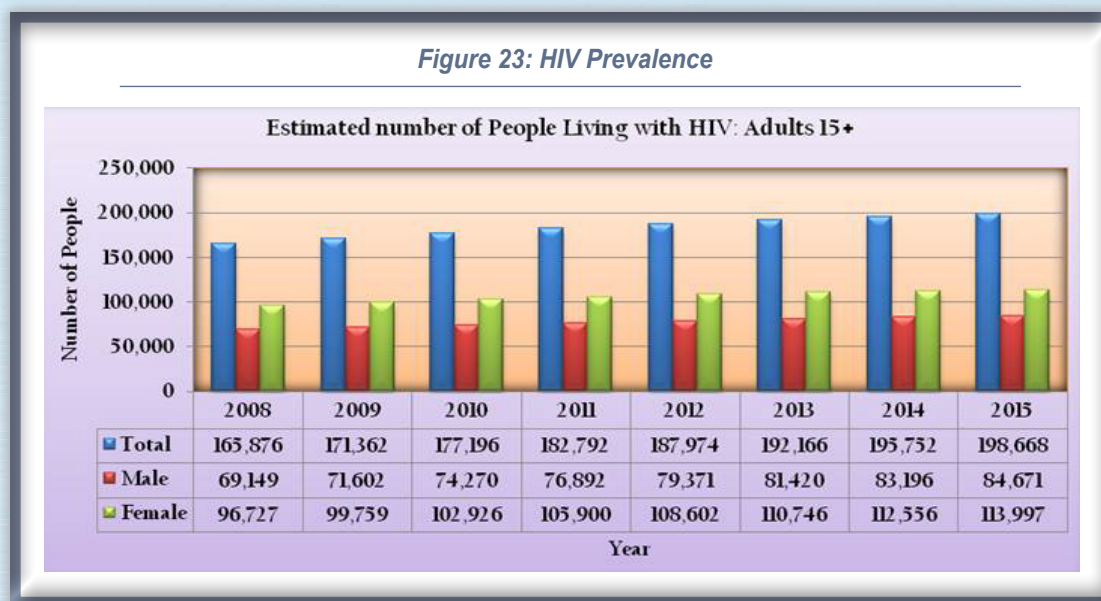
Source: SPECTRUM, 2010

6.4.4   HIV Drug Resistance Study

Data collection the HIV drug resistance is ongoing since the inclusion criteria are pregnant women less than twenty five years and coming for the first time at Hlatikhulu and Nhlangano. This will assist the ministry in assessing the level of resistance in the country and if it's less than 5% that will be acceptable but more than that then the study will assist in developing new interventions for the management and reduction of resistance in the country.

6.4.5   Life Expectancy

The overall life expectancy according to the latest Census (2007) is 43.31 whilst among males is 42.22 and in females is 43.13. This has shown a significant decline since in 1997 the overall was 60 years and among males was 58 and 63 in their counterparts. The decline may be attributed to the high HIV infection amongst the productive age group.

6.5   ART Service Coverage

The roll-out of antiretroviral therapy began in 2003 and since then we have observed a significant increase in the number of facilities providing ART services. In a bid to ensure that more people have access to ART services the already established initiation sites started to provide ART outreach services to clinics around their catchment areas By the end of December 2010 there was a total of 97 sites providing ART services showing an increase of about 39% compared to the 70 sites in 2008.

Table 20 below shows that out of the 97 sites 32 have the full capacity to (doctors, equipment etc.) provide comprehensive advanced level HIV/AIDS services including ART services. These constitute 18 public/mission facilities, and 14 private facilities. The remaining 65 sites are outreach sites and they mainly do drug refills for

ART patients Manzini has the most roll out sites with a total of 14 and Shiselweni with the lowest number 6 roll out sites.

Table 30: Facilities offering ART by Region

REGION	ROLLOUT SITES	OUTREACH SITES		TOTAL
		INITIATION + REFILL	REFILL ONLY	
Hhohho	7	7	4	18
Manzini	14	7	16	36
Lubombo	5	6	12	23
Shiselweni	6	13	0	19
TOTAL	32	33	32	97

Source: APMR, 2010

6.5.1   New Enrolment

A total of 17, 803 people were enrolled on ART during the period Jan-Dec 2010. This comprised of 16,131 adults and 1,672 children. This show a 33% increase when compared to 13,362 in 2009. Some of the contributing factors include but not limited to the move from 200 CD4 count eligibility criteria to 350 as stated in the latest ART guidelines. This saw additional people enrolling in the programme at an earlier stage. Table31, below show new ART enrolment distribution by region. Manzini has the highest number of people (6212) enrolled on ART in 2010 followed by Hhohho with a total of 4572 people. Lubombo and Shiselweni follow respectively.

Table 31: Number of people initiated on ART (Jan-Dec 2010)

REGION	AGE, SEX CATEGORY						TOTAL
	ADULTS (15+)			CHILDREN(0-14 YEARS)			
	MALE	FEMALE	SUB TOTAL	MALE	FEMALE	SUB TOTAL	
Hhohho	1,428	2,649	4,077	242	253	495	4,572
Manzini	2,020	3,685	5,705	233	274	507	6,212
Lubombo	1,214	2,069	3,283	173	220	393	3,676
Shiselweni	1,028	2,038	3,066	152	125	277	3,343
TOTAL	5,690	10,441	16,131	800	872	1,672	17,803

Source: APMR, 2010

6.5.2   Cummulative Enrolment

By the end of the year, 59,802 people were actively on treatment constituting 54,084 adults and 5,718 children. This indicates a good performance for the programme as active enrolment is above the targeted 46,071 people by the end of the 2010.

Table 32: Number of people who are actively on ART by Dec 2010

REGION	AGE, SEX CATEGORY						TOTAL
	ADULTS (15+)			CHILDREN(0-14 YEARS)			
	MALE	FEMALE	SUB TOTAL	MALE	FEMALE	SUB TOTAL	
Hhohho	5,947	11,329	17,276	1,116	1,094	2,210	19,486
Manzini	5,976	11,127	17,103	662	692	1,408	18,511
Lubombo	3,644	6,061	9,705	562	714	1,276	10,981
Shiselweni	3,332	6,668	10,000	450	374	824	10,824
TOTAL	18,899	35,185	54,084	2,790	2,928	5,718	59,802

Source: APMR, 2010

On another note the cumulative number of people ever enrolled in the programme increased to 76,701 by the end of the 2010. Note that the difference between the cumulative numbers of people ever put on ART and the ones actively on the programme are the people who died, stopped treatment, or lost to follow-up from the programme.

6.4.3   Survival Rate

Evidence show that Anti-retroviral therapy prolongs life and enhance the quality of life for people with living with HIV. This treatment is known to delay the progression of HIV to AIDS, as a result people who are known to be HIV positive and have a CD4 count of <350 are initiated on ARVs. By the end of 2010 the survival rate at 12 months after initiation was estimated to about 84%.

6.5   Other Selected Health Conditions

This section presents some of the disease that could be exacerbated by life style and/or life style of an individual. Figure 25 shows the number of individuals that visited a health facility in 2010 with symptoms of a few of these diseases. The figure shows that they were more than 88,000 injuries attended to in all health facilities in Swaziland in 2010. These injuries are inclusive of all causes. It would be interesting to know how many of these accidents are domestic accident or farm related injuries are.

Figure 25: Number of out-patients by life style or genetic symptom
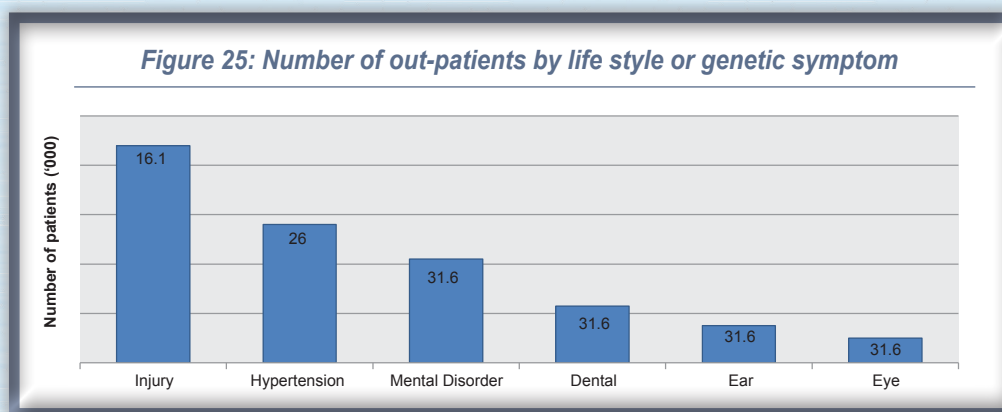
Source: APMR, 2010

It is also noticed that more than 65,000 cases of hypertension in the reference year. Hypertension can be associated with unhealthy diets, lack of exercise and can also be attributed to stress. Stress can also affect a person's mental health. The data shows that there were about 42,000 cases with mental related problems in 2010 alone and these are the cases seen in a medical facility. It can be inferred that at population level, the figure is much higher. This indicates a great need for an increase in mental health facilities in Swaziland. The figure also shows a good number of dental, eye and ear cases seen in the health facilities. These problems could be hereditary or life style health problems. While the information we have here does not indicate that the cases were a disease or a checkup visit, it indicates people are more aware of their health. This section brings out some of the health issues that need to be looked at more deeply in future for a healthy nation.

7. OTHER SERVICES

7.1   Male Circumcision

Table 6.1 shows number of male circumcision (MC) performed at different sites in the year 2010. The table shows that PSI and FLAS are the favoured places that men go for the procedure. Figure 6.1 shows the number (in thousands) of male circumcision performed at all facilities by month. It is observed that about 30 % of all circumcisions were performed in August. This was when PSI was running the back to school campaign and this shows the impact of the campaign. Detailed information for male circumcision by month and site is presented in appendix.

Table 33: Number of MCs performed at site in 2010

MC SITE AND MONTH	TOTAL	MC SITE AND MONTH	TOTAL
PSI	8,219	PSI Outreach Mahlabaneni (TLC)	4
PSI Outreach - Kaphunga	79	Magubheleni	411
MSI	678	FLAS Outreach - St Phillips	227
Mkhiwa	32	MSS Outreach Tikhuba	34
RFM	408	MSS Outreach LATTIC	32
Hlatikhulu	60	FLAS Outreach - Sithobela	245
FLAS Mbabane	1,622	Dvokolwako	105
Good Shepherd	181	Mpuluzi	10
Bhekinkhosi	175	Hlane	48
FLAS Manzini	1,615	Ndzevane	32
PSI Outreach - Siteki	1,517	Siphofaneni	7
Piggs Peak Hospital	722	Tambuti	26
PSI Outreach - UNISWA	8	Dwalile	19
OSSU - Ngonini	27	Lubulini	15
NATICC	646	Nhlangano H.C.	87
Mankayane	757	MSI Outreach OLOS	114
MSI Outreach Hosea	140	MSI Outreach Sigangeni	15
MSI Outreach Piggs Peak	651	MSI Emkhuzweni	511
MSI Outreach Horo	17	PSI Outreach- Nhlangano H.C.	943
MSI Outreach Motshane	4	Bhawini	152
PSI Outreach Simunye	915	MC Saturday	108
PSI Outreach Nkhaba	20	**TOTAL**	**21,645**

Source: Routine HMIS, 2010

Figure 26: Number circumcised
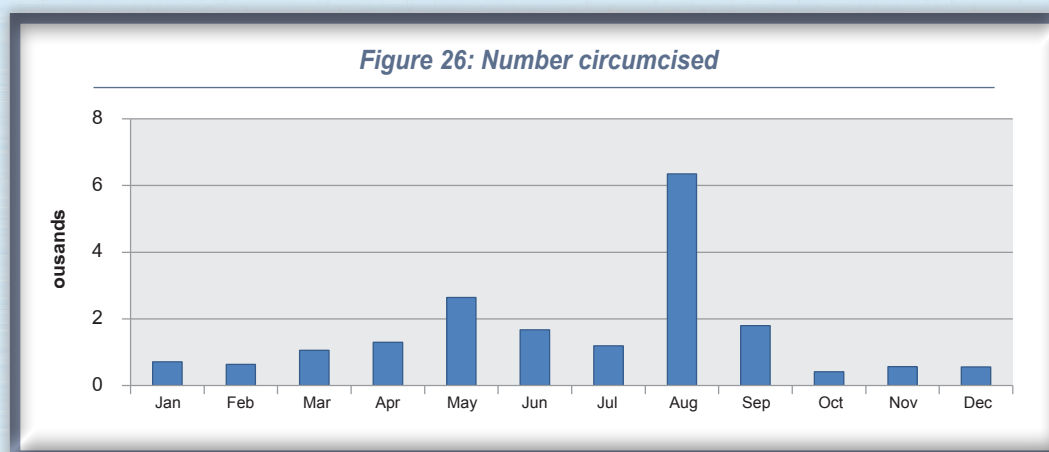
Source: Routine HMIS, 2010

7.2   Male Circumcision by age group

By age group it is observed that the youth and young men are taking to the message to circumcise. This data shows that about 60 % of all men circumcised were youth in 2010 were youth. This is very good news for the HIV transmission prevention programs as research has shown that there is at least a 50 % increased chances of HIV prevention among circumcised males. The male circumcision campaign led by PSI should be commended for their efforts. New born circumcision however is still not common in Swaziland as this data only recorded 10 infants who were circumcised in 2010.

Figure 26: Number circumcised
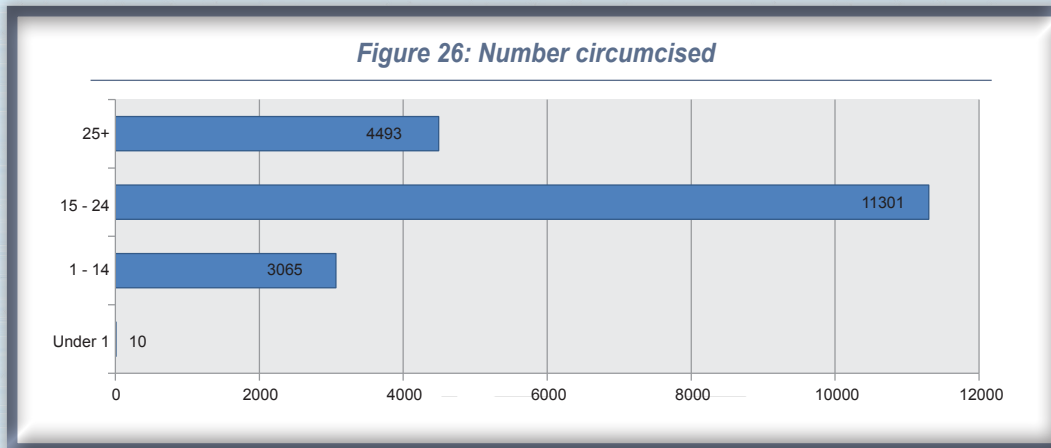
Source: Routine HMIS, 2010

8.1 Number and distribution of health personnel.

Table 25 shows the distribution of personnel in the Ministry of Health as of December 2010. The data shows that there were more than 3,000 personnel in Ministry of Health of whom 41.4 % were nurses and 35.3 were support staff. The nurses include all nursing categories from a staff Nurse, Nursing Sister, Nursing Assistant to the matron. The support staff includes all labourers, maintenance workers, to drivers. Specialized categories such as laboratory staff and psychologists for example have very few personnel as outlined in Table 32.

Table 34: Distribution of Established and currently filled positions in the Ministry, Swaziland - 2010

POSITION	ESTABLISHED POSTS	CURRENTLY FILLED POSTS	% OF TOTAL PERSONNEL
Administration	224	179	5.9
Biomedical Engineering	35	33	1.1
Dental	71	47	1.5
Environmental Health	122	114	3.7
Health Education	29	16	0.5
Laboratory	114	42	1.4
Medical	126	107	3.5
Medical Imaging	47	22	0.7
Nursing	1,505	1,265	41.5
Nutrition	77	62	2.0
Other Paramedical	78	26	0.9
Pharmaceutical	60	37	1.2
Physiotherapy	30	16	0.5
Psychology	11	5	0.2
Social Welfare	3	2	0.1
Support Staff	1,152	1,078	35.3
GRAND TOTAL	**3,684**	**3,051**	**100.0**

Source: HRIS, 2010

Table 34shows vacant positions existing in the ministry or the deficit of personnel for the ministry to function at its optimum. Generally the Ministry has more than 630 vacant posts accounting for 17.2% of its established positions. Many of the specialized health professions are more than 50% understaffed. It is observed that the greatest deficit in the ministry's personnel is in other paramedical and Laboratory staff followed by Psychologists and Medical Imaging personnel. All these categories have more than 50% of their established posts vacant.

Table 35: Distribution of Established and vacant posts in the Ministry, Swaziland - 2010

POSITION	ESTABLISHED POSTS	VACANT POSTS	% VACANT
Administration	224	45	20.1
Biomedical Engineering	35	2	5.7
Dental	71	24	33.8
Environmental Health	122	8	6.6
Health Education	29	13	44.8
Laboratory	114	72	63.2
Medical	126	19	15.1
Medical Imaging	47	25	53.2
Nursing	1,505	240	15.9
Nutrition	77	15	19.5
Other Paramedical	78	52	66.7
Pharmaceutical	60	23	38.3
Physiotherapy	30	14	46.7
Psychology	11	6	54.5
Social Welfare	3	1	33.3
Support Staff	1,152	74	6.4
GRAND TOTAL	3,684	633	17.2

Source: HRIS, 2010

In order to assess the strength of the health system in the country, analysing the qualifications of the medical personnel is very essential. Unfortunately in this data set only nurse's qualifications could be analysed. The data shows that only 218 of the 1260 nursing personnel (17 %) have at least a diploma and above. This shows that there is a great need to strength the country's capacity in the medical field.

This report primarily used data collected from health facilities with supplements from other reports. The data was collected by healthcare workers as they delivered services in the various facilities in 2010. It is limited to the information on patients and clients that accessed health facilities in the reference year. It is however assumed that these patients and clients are representative of the population at large.

The available data was determined by the facilities' reporting tools developed by the responsible institutions. All public facilities use tally forms developed by the Ministry of Health while other facilities use their own tools suited for their needs. This makes data collection on a national level difficult because combining the different tools is sometimes impossible. Furthermore, the Swaziland health system still uses ICD 9 while most of the world is using ICD 10 and in some countries 11. It is recommended that the ministry updates its data collection tools and system to be in line with international standards and that all facilities, including private and NGO should be encouraged to use this national data collection tool for comparability and completeness of health data.

The available information indicates that Upper Respiratory Infections (URI) and skin diseases were the commonly presented symptoms among out patients in 2010. Most of these patients visited a government facility. Among in patients Pulmonary TB and AIDS were the top causes of admission in the country's health facilities. At regional level, Hhohho Region had the most in patients in 2010 and more than 60 % of these patients were admitted at the Mbabane government hospital. It was observed that monthly inpatient figures for Hhohho region fluctuated more than the other regions. The figures were unusually low for the month of December. It is not clear whether this was due to incomplete reporting or that admissions are really low in Hhohho in December.

Inpatient death rates by age and sex for age range 0 – 14 indicate a slightly lower rate among males than females but for ages 15 and above, the male admission death rates are much higher than female admission death rates. On average the male admission death rates are 44 % higher than the female admission death rates. This should be interpreted with caution because this pattern does not reflect the 2007 census results which showed much higher rates among women than among men in age range 15 – 39. This could however mean that either males go to health facilities too late for effective treatment and therefore die at the facility or that more women die in the homes than at a health care facility. Families and communities should be encouraged to bring any sick person to a health facility early enough so that the patient could be treated and possibly saved.

The report only contains information on women's reproductive health and not men's reproductive health because of data availability. It would be ideal to also look at male reproductive health to fully analyse and understand the population's reproductive health. In any case, the trend on women's reproductive health is worrying because it indicates a very low "healthy" ANC coverage rate. It is shown that many women come to ANC when they suspect a problem with the pregnancy hence the high "risk" ANC visits. Women should be encouraged to attend ANC in the first trimester of each pregnancy. If possible incentives should be given to women who attend ANC before 12 weeks of gestation. For this to be possible though, there should a provision of early pregnancy tests in all health facilities that should be used to confirm a woman's pregnancy when they visit the facility.

Postnatal visits are very important for the health of children and therefore the nation. It is noticed in this report that not many people in Swaziland understand this crucial part of their children's health. The under-five clinic policy should be strongly enforced and this might also help with improving immunization coverage rates. While immunization cannot be forced, people need to be made aware of the effects of low immunity against killer diseases that can easily be prevented by immunization. The measles outbreak of 2009 – 2010 should serve as focal point in these discussions. Health care providers should emphasize on the benefits of immunization against preventable childhood diseases.

Infectious diseases such as TB, HIV and STI are a big challenge in Swaziland but this report does not have detailed information on these diseases. More information can be obtained from the Ministry of Health's partners working in these specific programs. One needs to check with the Ministry to get more information.

In a developing population such as Swaziland, demands for health services are as dynamic as the population itself. In order to predict future demands for health services in such dynamic societies, health planners must be able to measure the impact of demographic change. Illness patterns and hospital and physician utilization

rates usually vary according to age, economic status, education, and other factors. As these demographic factors change, so will the total demand and type for medical care. It is noted in this data that there are a good number of cases of otherwise life style diseases. It is therefore recommended that resources should be assigned to investigate the extent of non-communicable/hereditary/life style diseases in Swaziland. And this would follow in line with the WHO definition of health not being only the absence of disease or infirmity but the complete well-being of an individual's mental, physical and spiritual well-being.

In order to achieve this "healthy" state for the nation, the health sector needs to be greatly strengthened. The health personnel data indicates great shortfalls in many categories especially in specialized health professions. The laboratory sector, for example, has more than a 60 % shortfall in staffing. Government should put more resources in training and retaining professionals in these fields.

Finally, health data for policy making and planning is most useful when it is as current and detailed as possible. This report reflects 2010 health statistics which is current but is not as detailed as it needs to be due to data availability. It is recommended that more detailed reports should be produced quarterly which will allow for trend analysis and quickly show where services are lacking or where the health system is functioning properly. These quarterly reports should have the data disaggregated by socio economic characteristics of the population to show differences in sub groups. National averages are crucial for international comparisons, regional averages are essential for national planning and budgeting but for greater impact on public health, disaggregated data will give better guidance to where health resources will be used efficiently and effectively.

Annex 1: Number of services rendered by region and sex according to diagnosis in 2010

	CONDITION	FEMALE	MALE	GRAND TOTAL
1	Upper Respiratory Infection	212,169	167,336	**379,505**
2	Other	133,282	93,337	**226,619**
3	Skin Disorder	111,605	99,218	**210,823**
4	Hypertension	79,915	33,185	**113,100**
5	Lower Respiratory Infection (Mild)	72,100	58,805	**130,905**
6	Acute Watery Diarrhoea	66,484	55,197	**121,681**
7	Muskulo Skeletal Conditions	71,204	43,906	**115,110**
8	Digestive Disorders	59,403	42,971	**102,374**
9	Eye Diseases	30,002	26,295	**56,297**
10	Diarrhoea With Blood/Dysentery	17,050	13,324	**30,374**
11	Vaginal Discharge	31,556	199	**31,755**
12	Other STI	25,596	14,694	**40,290**
13	Ear Problems	18,154	15,803	**33,957**
14	Oral Health Problems	17,697	14,777	**32,474**
15	Injury	23,640	33,087	**56,727**
16	AIDS Presumptive	14,695	13,459	**28,154**
17	Pregnant	15,286	3	**15,289**
18	Diabetes Mellitus	21,705	14,790	**36,495**
19	Suspected Pulmonary Tuberculosis	10,137	99,15	**20,052**
20	Lower Respiratory Infection (Severe)	19,128	16,162	**35,290**
21	Epilepsy	5,917	5,844	**11,761**
22	Intestinal Worms	11,082	9,824	**20,906**
23	Gastric Ulcers	10,866	6,292	**17,158**
24	Allergic Reaction	10,105	8,386	**18,491**
25	Genital Ulcer	10,248	10,507	**20,755**
26	Diarrhoea With Some Dehydration	7,118	6,279	**13,397**
27	Persistent Diarrhoea	9,266	7,806	**17,072**
28	Dental Caries	15,527	12,396	**27,923**
29	Fertility Problems	3,284	114	**3,398**
30	Mumps	3,751	3,432	**7,183**
31	Chicken Pox	5,752	5,236	**10,988**
32	Mental Disorders	4,068	4,471	**8,539**
33	Herpes Zoster	4,296	3,461	**7,757**
34	Abortion	2,917	4	**2,921**
35	Dehydration	2,696	2,579	**5,275**
36	Malnutrition	2,079	2,157	**4,236**
37	Severe Dehydration	1,210	1,254	**2,464**
38	Diarrhoea With Severe Dehydration	1,494	1,422	**2,916**
39	Anemia	2,647	1,409	**4,056**
40	Bilharzia	1,729	3,274	**5,003**
41	Road Traffic Accidents	2,524	3,150	**5,674**
42	Cardiac Diseases	2,519	1,749	**4,268**
43	Goitre	373	337	**710**

44	Malaria (Uncomplicated)	819	783	1602
45	Suspected Measles	1,465	1,531	2,996
46	Urethral Discharge	333	19,721	20,054
47	Death	483	148	631
48	Malaria (Severe Anemia)	66	54	120
49	Meningitis	148	137	285
50	Suspected Cholera	32	235	267
51	Rabies	11	17	28
52	Acute Flaccid Paralysis	12	7	19
53	Leprosy	41	58	99
54	Viral Hemorrhagic Fever	4	2	6
55	Typhus	2	1	3
56	Yellow Fever	0	3	3
57	Typhoid Fever	4	2	6
	GRAND TOTAL	1,175,696	890,545	2,066,241

Source: Routine HMIS, 2010

Annex 2: Number of admissions in 2010

REGION	FACILITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	GRAND TOTAL	%
HHOHHO	Dvokolwako Health Centre	122	84	101	124	108	111	134	114	130	106	108	104	1,346	5.9
	Emkhuzweni Health Center	200	165	195	172	177	176	173	193	128	120	70	18	1,787	7.9
	Mbabane Gvt Hospital	1,395	1,236	1,223	1,169	1,161	1,253	1,260	1,272	1,224	1,248	1,157	237	13,835	61
	Pigg's Peak Government	439	442	479	390	404	352	406	378	344	105	59	283	4,081	17.9
	The Clinic (Mbabane)	99	123	198	143	212	178	126	140	145	128	208	5	1,705	7.5
TOTAL		2,255	2,050	2,196	1,998	2,062	2,070	2,099	2,097	1,971	1,707	1,602	647	22,754	100
MANZINI	Mankayane Hospital	133	265	260	415	422	518	542	498	582	527	490	534	5,186	28.5
	Manzini Private Clinic	131	156	155	162	145	143	166	141	84	91		1	1,375	7.6
	Philani Clinic (Manzini)								27	12	9	16		64	0.4
	Raleigh Fitkin Memorial(RFM)	972	737	1,017	1,065	898	971	1,021	1,010	1,065	897	1,043	845	11,541	64
TOTAL		1,236	1,158	1,432	1,642	1,465	1,632	1,729	1,676	1,743	1,524	1,549	1,380	18,166	100
SHISELWENI	Hlatikhulu Hospital	789	743	748	731	727	616	787	676	771	683	662	745	8,678	63
	Matsanjeni Health Center	2	135	220	221	193	195	213	216	230	176	186	207	2,194	15.9
	Nhlangano Health Center	223	228	281	275	248	266	221	213	251	213	255	258	2,932	21.2
TOTAL		1,014	1,106	1,249	1,227	1,168	1,077	1,221	1,105	1,252	1,072	1,103	1,210	13,804	100
LUBOMBO	Good Shepherd Hospital	734	399	429	725	805	786	814	811	754	750	722	713	8,442	77
	Mhlume Medical Services	5	8	10	0	23	5		21	15	24	21	24	156	1.4
	RSSC Medical Services	25	4	16	1	24	6	2	13	16	9	17	4	137	1.3
	Sitobela Rural H C	135	107	145	139	184	154	164	149	116	125	119	72	1,609	14.7
	Ubombo Sugar Hospital	41	48	53	28	30	44	50	52	57	46	85	46	580	5.3
TOTAL		940	566	653	893	1,066	995	1,030	1,046	958	954	964	859	10,924	100
GRAND TOTAL		5,445	4,880	5,530	5,760	5,761	5,774	6,079	5,924	5,924	5,257	5,218	4,096	65,648	100

Source: Routine HMIS, 2010

Annex 3:Number of men circumcision by site and month in 2010

MCS SITE AND MONTH	JAN-10	FEB-10	MAR-10	APR-10	MAY-10	JUN-10	JUL -10	AUG-10	SEP-10	OCT-10	NOV-10	DEC-10	TOTAL
PSI	469	335	621	545	812	617	527	1047	328	180	278	190	8,219
PSI Outreach - Kaphunga	0	11	7	0	0	0	0	0	0	0	0	0	79
MSI	0	0	0	0	33	54	14	359	140	21	24	33	678
Mkhiwa	1	3	0	2	0	1		5	0	3	0	0	32
RFM	8	2	4	18	79	142	19	38	13	8	3	20	408
Hlatikhulu	5	5	1	3	6	4	0	7	1	1	0	5	60
FLAS Mbabane	189	171	95	73	119	98	108	208	167	39	22	41	1,622
Good Shepherd	26	17	14	9	18	9	11	12	19	7	4	7	181
Bhekinkhosi	14	46	60	32	0	13	10	0	0	0	0	0	175
FLAS Manzini	0	43	120	157	220	222	217	341	212	29	16	38	1,615
PSI Outreach - Siteki	0	0	46	129	337	0	0	822	183	0	0	0	1,517
Piggs Peak Hospital	0	0	0	158	564	0	0	0	0	0	0	0	722
PSI Outreach - UNISWA	0	0	8	0	0	0	0	0	0	0	0	0	8
OSSU - Ngonini	0	0	0	16	0	0	11	0	0	0	0	0	27
NATICC	0	0	0	152	432	62	0	0	0	0	0	0	646
Mankayane	0	0	0	0	25	189	0	329	129	0	31	54	757
MSI Outreach Hosea	0	0	0	0	0	37	0	0	0	80	11	12	140
MSI Outreach Pigg's Peak	0	0	0	0	0	187	63	327	74	0	0	0	651
MSI Outreach Horo	0	0	0	0	0	17	0	0	0	0	0	0	17
MSI Outreach Motshane	0	0	0	0	0	4	0	0	0	0	0	0	4
PSI Outreach Simunye	0	0	0	0	0	0	34	739	141	1	0	0	915
PSI Outreach Nkhaba	0	0	0	0	0	0	20	0	0	0	0	0	20
PSI Outreach Mahlabaneni (TLC)	0	0	0	0	0	0	4	0	0	0	0	0	4
MSI Outreach OLOS	0	0	0	0	0	0	114	0	0	0	0	0	114
MSI Outreach Sigangeni	0	0	0	0	0	0	15	0	0	0	0	0	15
MSI Emkhuzweni	0	0	0	0	0	12	24	382	93	0	0	0	511
PSI Outreach- Nhlangano H.C.								801	142	0	0	0	943
Bhawini								152	0	0	0	0	152
Magubheleni								256	123	0	32	0	411

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	Total
FLAS Outreach - St Phillips								227	0	0	0	0	227
MSS Outreach Tikhuba								16	1	0	17	0	34
MSS Outreach LATTIC								32	0	0	0	0	32
FLAS Outreach - Sithobela								245	0	0	0	0	245
Dvokolwako									34	40	19	12	105
Mpuluzi											10	0	12
Hlane											17	31	10
Ndzevane											12	20	48
Siphofaneni											7	0	32
Tambuti											22	4	7
Dwalile											19	0	26
Lubulini											10	5	19
Nhlangano H.C.											8	79	15
PSI Outreach Mhlangatane												7	87
MC Saturday	0	0	76	0	0	0	0	0	0	0	0	0	108
TOTAL	*712*	*633*	*1,052*	*1,294*	*2,645*	*1,668*	*1,191*	*6,345*	*1,800*	*409*	*562*	*558*	*21,645*

Source: Routine HMIS, 2010