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WELFARE, ZANZIBAR**

**HEALTH MANAGEMENT
INFORMATION SYSTEM UNIT**

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Foreword

Health Information Bulletin 2008 is the third publication in the continuous series of Health Bulletins brought out by the Ministry of Health and Social Welfare, Zanzibar through its Health Management Information Unit (HMIS). In this bulletin analysed information from routine data collected from the health programmes and facilities including private facilities are presented for the year 2008.

As in previous years, data from all major programs has been incorporated into the District Health Information Software (DHIS), with the full participation of program managers who both provided information and assisted with analysis.

Major areas covered include an overview of the MDG, MKUZA and HSRSP II indicators; sections on service utilisation, data coverage; and information from various programmes (Integrated Management of Childhood Illnesses - IMCI, Expanded Programme on Immunization - EPI, Reproductive and Child Health Services -RCHS). Information on disease surveillance particularly diarrhoea, pneumonia, malaria, and statistics from inpatients is also included.

Following the achievements made on strengthening the HMIS, it is anticipated that these information will be used as proxy indicators for the management and planning of the health sector for improvement of quality service provision.



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Acronyms

ACSM	Advocacy, Communication and Social Mobilisation
ANC	Antenatal clinic
BCG	Bacillus Calmette- Guérin
BEmOC	Basic Emergency Obstetric Care
BOR	Bed occupancy rate
BTL	Bilateral Tuba ligation
C/S	Caesarean section
CEmOC	Comprehensive Emergency Obstetric Care
CFR	Case fatality rate
CPR	Contraceptive prevalence rate
CTC	Care and treatment clinic
DHIS	District Health Information Software
DPT HEP B	Diphtheria, Pertusis, Tetanus and Hepatitis B
EPI	Expanded Programme on Immunisation
FP	Family Planning
GIS	Geographical Information System
HIV/AIDS	Human Immuno-deficiency Virus/ Acquired Immuno-Deficiency Syndrome
HMIS	Health Management Information System
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Presumptive Treatment
ITNS/LLINS	Insecticides Treated Nets/Long Life Insecticides Nets
MCH	Mother and Child Health
MDGS	Millennium Development Goals
MMR	Maternal Mortality Ratio
MOHSW	Ministry of Health and Social Welfare
NBS 2002 TPHC	National Bureau of Statistics 2002 Tanzania Population and Housing Census
NCDS	Non Communicable Diseases
OPD	Out Patient Department
PHCCs	Primary Health Care Centres
PHCUs	Primary Health Care Units
PHN	Public Health Nurse
RCH	Reproductive and Child Health
RTA	Road Traffic Accidents
STI	Sexual Transmitted Infections
TB	Tuberculosis
TB/HIV	Tuberculosis/Human Immuno-deficiency Virus
TDHS	Tanzania Demographic and Health Survey
THMIS	Tanzania HIV and Malaria Indicator Survey
TT	Tetanus Toxoid
UN	United Nations
URTI	Upper Respiratory Tract Infection

WHO	World Health Organisation
WRA	Women of Reproductive Age
ZHSRSP II	Zanzibar Health Sector Reform Strategic Plan II
ZMCP	Zanzibar Malaria Control Programme
ZSGPR	Zanzibar Strategy for Growth and Poverty Reduction

1 Introduction

Since the establishment of the Health Management Information System (HMIS) Unit in 2004, two health bulletins have been produced. The 2008 bulletin is the third publication in the series; others were 2006 and 2007. This bulletin provides a description of health services rendered by public and private health facilities and the health status of the people in the communities; and highlights information which is useful for monitoring and evaluation of the health system in general.

The HMIS is the basic building block of this bulletin and aims to develop a well defined and functional system capable of providing complete, quality and up-to-date information on the health situation that can be easily accessed and made available on a regular basis through different reporting formats and channels. It is envisioned that the HMIS will provide reliable health information through an integrated network used by all programs in the health sector and supporting an information-based management process. This will provide users with analyzed information in an easily usable format and support continuous monitoring of plans.

The information in this bulletin has been obtained from the HMIS data collection tools that were designed to capture the facility data and is increasingly collecting data from routine systems of other programs and periodic surveys. The two sources serve the need for providing relevant performance indicators addressing the Millennium Development Goals (MDGs), the Zanzibar Strategy for Growth & Poverty Reduction (ZSGPR) and the Health Sector Reforms Strategic Plan (HSRSP).

The routine data collected through HMIS are supported by a computer system at hospitals and district offices as starting hubs and serve the needs of the zones, programmes and the Ministry central level. The District Health Information System (DHIS) is a software package adapted for use in Zanzibar to enter monthly aggregated data from all facilities for all programs. HMIS is also improving its data warehouse to include other aspects of health related data.

Advancement in Internet connectivity has been a major facilitating factor for collecting information from peripheral (districts and hospitals) as well disseminating information products to the key stake holders. In this bulletin some of the information is presented using GIS maps. The unit is in the process of improving data visualization capacity using GIS and web based systems.

All series of the bulletins are available through the Ministry of Health Website - www.zanhealth.info

2 Routine HMIS Data quality and coverage

The reporting coverage of HMIS tools continues to be higher with all forms reporting more than 80 percent except for the private health facilities which reported 77.7 percent of its expected OPD forms. However the percentage reported by the private health facilities is very good considering it is the first year to report to the HMIS Unit.

Reporting of HIV/AIDS and STI form has improved dramatically from less than 10 percent in 2007 to 82 percent this year.

Table 1 Reporting coverage by form

Reporting form		No. of units reporting	Expected forms	Forms received	Coverage (%)	
					2007	2008
1. Maternity Ward form		20	234	228	94.7	97.4
2. Immunisation & cold chain monitoring form		151	1812	1782	99.0	98.3
3. Reproductive and Child Health form		156	1870	1774	98.6	94.8
4. Disease Surveillance form	Public	195	2340	2283	98.2	97.6
	Private	63	756	588		77.7
5. HIV/AIDS and STI		190	2280	1875		82.0

The Bulletin continues to capture more MDG-related data on a monthly basis. Quality has improved significantly, with an increased understanding of data definitions, though there is still need for close control, both visually and electronically.

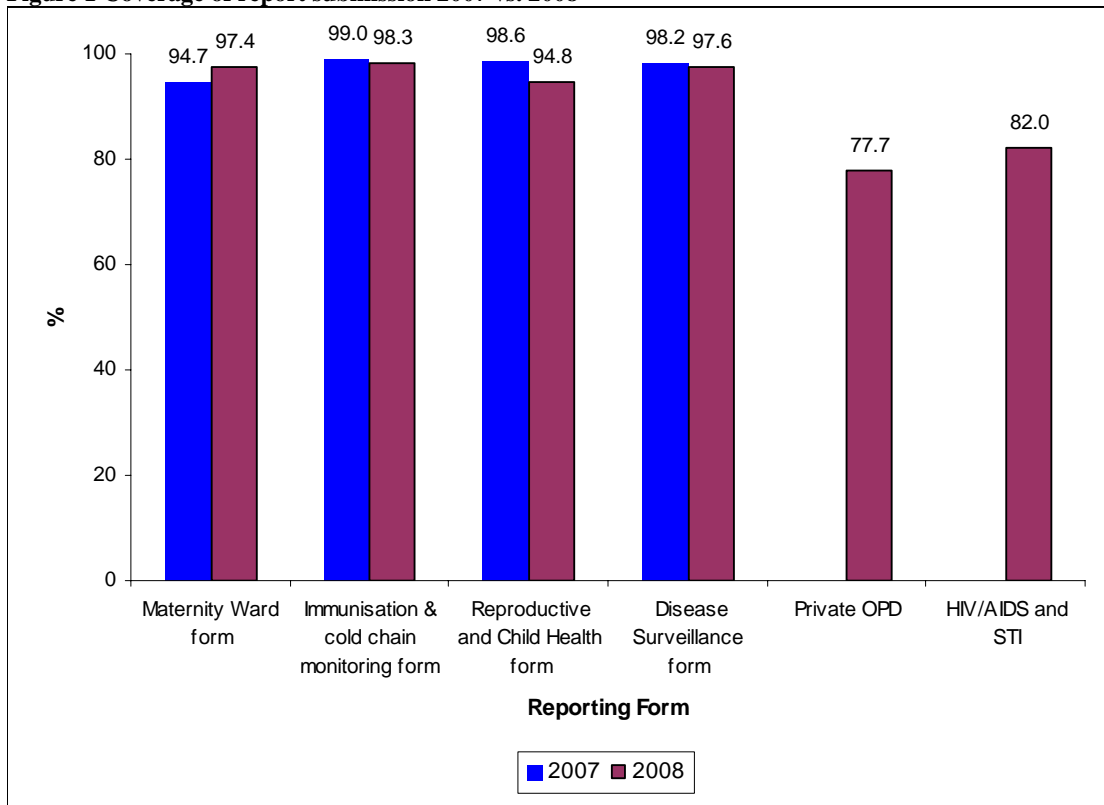
2.1 Data captured by the HMIS unit

In addition to the public health facilities, data from private health facilities were also captured in 2008. The reporting units include Primary Health Care Units (PHCUs), Primary Health Care Centres (PHCC), private hospitals/dispensaries, district hospitals, and Mnazi Mmoja Referral Hospital (including two specialized subsidiaries; Mwembeladu Maternity Home and Mental Hospital).

Data is collected from facilities on a monthly basis using standardized data collection tools. In addition to hospital monthly reporting forms, there are five monthly summary forms used that include:

1. Immunization and Cold Chain Monitoring
2. Reproductive and Child Health
3. Disease Surveillance Report
4. STIs and HIV/AIDS Management
5. Maternity Ward Report

Figure 1 Coverage of report submission 2007 vs. 2008



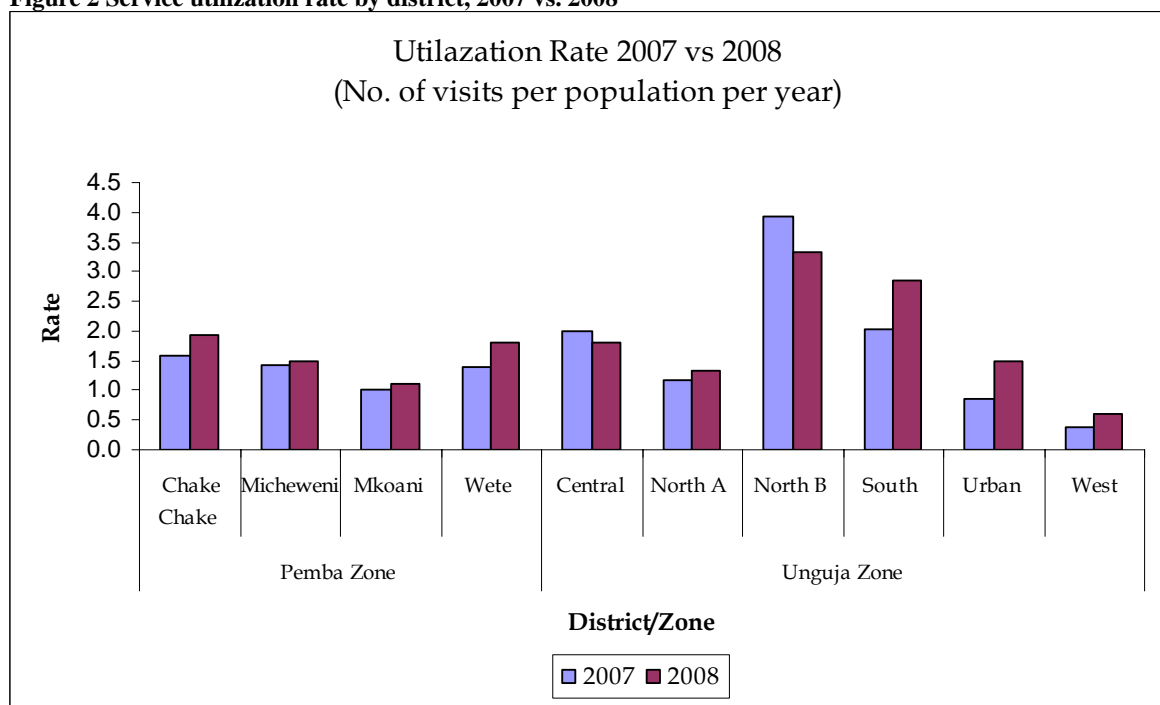
3 OPD utilisation rate

Service utilization is a measure of how frequently individuals use their health facilities. Total utilisation rate in Zanzibar stands at an average of 0.9 in 2008 which constitutes a slight increase of 0.2 from 0.7 in 2007. Comparing the two zones, Unguja has made a more rapid increase from the previous year compared to Pemba. This increase is due to the fact that more private health facilities have reported to HMIS.

Table 2 Annual service utilisation rate by district, 2007 vs. 2008

	Utilisation rate		Utilisation rate < 5		Utilisation rate > 5	
	2007	2008	2007	2008	2007	2008
Chake Chake	0.9	1.1	1.6	1.9	0.7	0.9
Micheweni	0.8	0.9	1.4	1.5	0.7	0.7
Mkoani	0.6	0.7	1.0	1.1	0.5	0.6
Wete	0.7	0.9	1.4	1.8	0.6	0.6
Pemba, Total	0.8	0.9	1.3	1.6	0.6	0.7
Central	1.2	1.4	2.5	3.0	1.0	1.1
North A	1.1	0.9	2.0	1.8	0.8	0.7
North B	0.6	0.7	1.2	1.3	0.5	0.5
South	1.9	1.9	3.9	3.3	1.6	1.7
Urban	0.5	0.9	2.0	2.9	0.3	0.5
West	0.4	0.6	0.9	1.5	0.3	0.4
Unguja, Total	0.7	0.9	1.7	2.2	0.5	0.6
Zanzibar, Total	0.7	0.9	1.5	1.9	0.5	0.7

Figure 2 Service utilization rate by district, 2007 vs. 2008



Total utilisation is growing in all districts, apart from North B and Central, which is encouraging. Service utilization for children under-five years is higher in 2008 compared to five years and above. The statistics also show that there is considerable increase in service utilization from 2007 to 2008 although the WHO standard (5 visits per year) is yet to be reached.

4 MDG, Poverty Reduction (Mkuza) & ZHSSP Indicators

The UN (2000) Millennium Declaration committed countries - rich and poor - to eradicate poverty, promote human dignity and equality and achieve peace, democracy and environmental sustainability. Concrete targets for advancing development and reducing poverty were set to be achieved by 2015 or earlier.

Eight goals were set; three of them are directly related to health while the rest (e.g. eradicating extreme poverty, achieving universal primary education, gender equality, environmental sustainability, etc.) have indirect impact on health.

The three health related goals are reduced child and maternal mortality and reduced spread of malaria, HIV/AIDS and Tuberculosis. They have set clear, output-related targets and indicators (See Annex 1)

Table 3 MDGs and targets

MDG Goal	Target by 2015
Goal 4: Reduce child mortality	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.
Goal 5: Improve maternal health	Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.
Goal 6: Combat HIV/AIDS, malaria and other diseases	Have halted by 2015 and begin to reverse the spread of HIV/AIDS. Have halted by 2015 and begin to reverse the incidence of malaria and other major diseases.

The Zanzibar poverty reduction strategy added to these international goals and indicators by developing specific, measurable, locally agreed, relevant and time bound (SMART) targets linked to the MDG indicators and local priorities.

4.1 MDG monitoring

The MDGs are at the centre of all monitoring efforts of the MOHSW. Zanzibar is making significant progress towards achieving some of these goals, notably reduction of child mortality, TB and malaria. Some progress has also been made in other areas; as reported in some national surveys reports (e.g. DHS, HIV and Malaria Indicator surveys). Assessment to measure significant changes in indicators has been undertaken by the Ministry through Health Sector Reform Secretariate in 2006 but detailed results can not be found in this documents.

Table 4 MDG indicators for Zanzibar 1999 to 2008

Goal	MDG Indicator	1999 Unicef	2002 census	2004/05 TDHS	2006 HMIS	2007 HMIS	2008 HMIS
4	Under-five mortality rate	*	141	101	*	*	*
4	Infant mortality rate	*	89	61	*	*	*
4	Proportion of 1 year-olds immunized against measles	*	*	82	87.1	88	86.5
5	Maternal mortality ratio (institutional)	377 ¹	*	468	528	365 ⁷	422
5	Proportion of births attended by skilled health personnel	*	*	51	62.5	47	44.5
6	Malaria prevalence rate	*	*	*	204.4	89	1.5 ²
6	TB prevalence	*	*	*	*	*	*
6	TB death Rate	*	*	*	7.1	5.1	6
6	TB cure rate					82%	82%
6	Malaria Death Rate	*	*	*	3.59	3.08	

Note: * not available

4.2 MKUZA and ZHSRSP monitoring

The HMIS collects a significant amount of the health-related MKUZA data, and with time this will expand. The following table contains selected indicators

¹ Unicef study

² Only confirmed Malaria cases at health facilities

Table 5 Selected MKUZA/HSRSP indicators 2008

Indicator	Target (2010)	Zanzibar
A. Infant and Child Health		
Infant mortality rate	57	54*
Under-five mortality rate	71	79*
Increased Proportion of fully immunized children under one year	95	89.1
B. Maternal Health and Reproductive Health		
Maternal mortality ratio (per 100,000 live births)**	251	422
% Births attended by skilled attendants	60	44.5
% Contraceptive Prevalence Rate	20	-
C. Communicable Diseases		
Malaria Case Fatality Rate	0.5	1.5
% HIV Prevalence among 15 to 24 years Pregnant	0.5	0.5
% TB death rate	5	6
% TB Cure Rate	85	82
% HIV screening in TB patients	100	96
IPT coverage in ANC clients	100	93.2
% Measles under 1 year coverage	100	86.5
% Underweight for age rate under 5 years		7.4
% Antenatal visits before 20 weeks rate		35

Note:

* THMIS, 2007-2008

** Derived from health facility based

5 Child health and Immunisation

5.1 Expanded Programme on Immunization

The immunization programme in Zanzibar has as its goal the reduction in morbidity and mortality due to vaccine preventable diseases. Vaccination against seven EPI targeted diseases is provided to all children under one year. Globally, 80 percent coverage was set to be the minimum target for all antigens; all indicators are for children under one year, unless stated otherwise. The denominator used is based on the NBS 2002 TPHC projection data for 2008.

Table 6 Immunisation coverage under one year by zone, 2007 vs. 2008

Zone	BCG		DPT-HepB 3		Measles		Fully immunised	
	2007	2008	2007	2008	2007	2008	2007	2008
Pemba	89.7	98.6	65.4	71.7	73.3	73.4	77.8	72.6
Unguja	111.5	121.1	91.4	89.0	100.7	97.2	93.1	94.6
Zanzibar	101.3	111.0	79.2	81.2	87.9	86.5	85.9	84.7

Table 7 Immunisation coverage under one year by district, 2007/ 2008

Zone	District	BCG		DPT-HepB 3		Measles		Fully immunised	
		2007	2008	2007	2008	2007	2008	2007	2008
Pemba	Chake Chake	84.5	103.4	62.0	66.2	72.4	76.8	69.8	75.4
	Micheweni	90.4	89.0	52.1	69.0	52.6	59.8	61.7	59.1
	Mkoani	81.9	86.6	56.9	69.6	71.1	67.3	69.0	66.3
	Wete	101.8	115.8	90.1	81.9	105.6	89.8	109.9	89.8
Unguja	Central	102.7	51.0	109.3	52.9	110.2	52.6	105.1	54.9
	North A	92.2	84.0	75.7	87.9	79.9	81.3	77.4	81.1
	North B	79.9	79.8	78.6	82.1	77.6	82.0	61.6	58.9
	South	82.5	96.3	97.2	106.5	107.4	103.2	101.2	102.8
	Urban	173.0	218.4	114.3	111.8	131.7	140.3	128.8	143.7
	West	81.2	110.5	76.9	90.3	86.9	97.4	73.9	90.9
Zanzibar		101.3	111.0	79.2	81.2	89.0	86.5	85.9	84.7

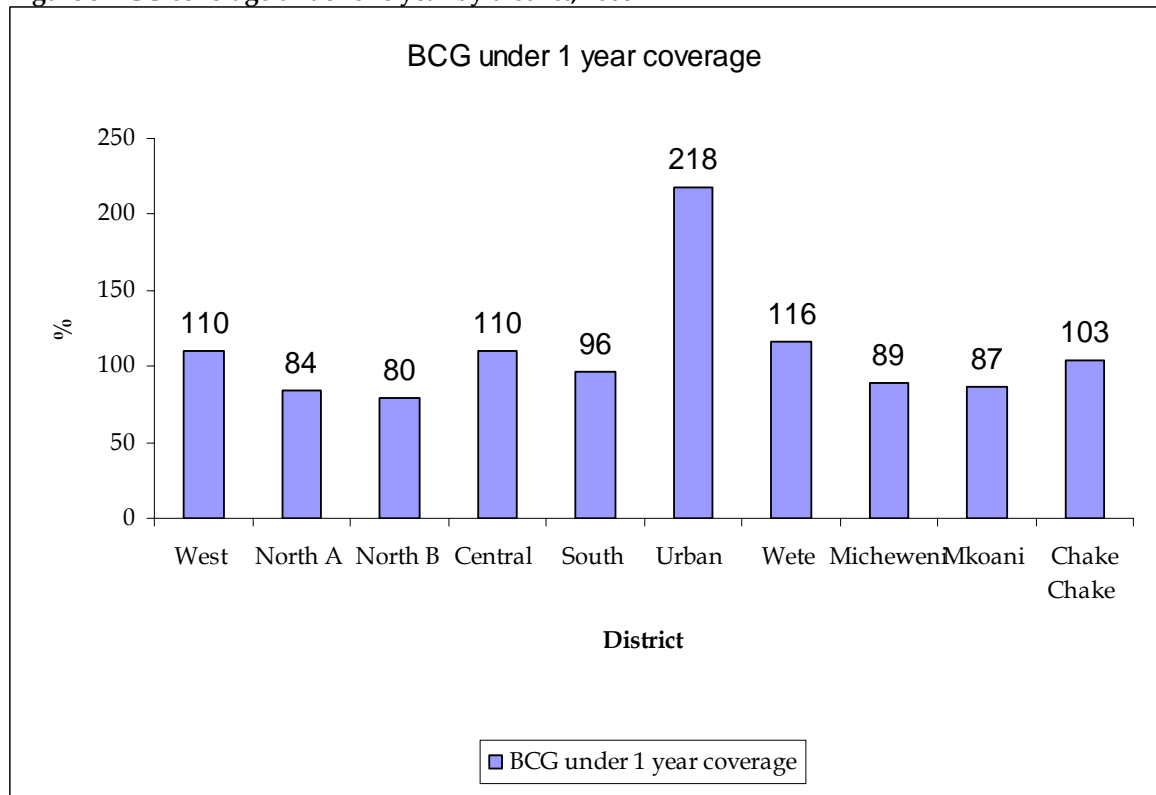
5.1.1 BCG under one year coverage

This antigen is given to children soon after birth or at the first contact at postnatal services. It provides protection against Tuberculosis. Nationally and for some of the district, statistics show that BCG coverage is above 100% portraying a shortcoming which has been continuing for years. The overall trend in BCG coverage for 2008 (116.8%), 2007 (101.3%) and 2006 (111.0%) depicts the same picture.

This antigen is provided before discharge of the mother and the baby; indicating that the number of children born at a health facility are supposed to be provided with this antigen. Follow-up has shown that some data exceeding 100% can be explained by pregnant mothers feeling more secure to deliver in hospitals leaving health facilities in their respective districts. Another part of the explanation could be problems with the denominator data from census projections, over-reporting or double counting by facilities and clients by-passing health facilities within their catchment's areas.

Urban district coverage is more than 200% which is statistically completely unrealistic. However, this can be explained by the fact that two major hospitals (Mnazi Mmoja and Mwembeladu) providing delivery services are situated in this district which all receive pregnant mothers from other districts.

Figure 3 BCG coverage under one year by district, 2008

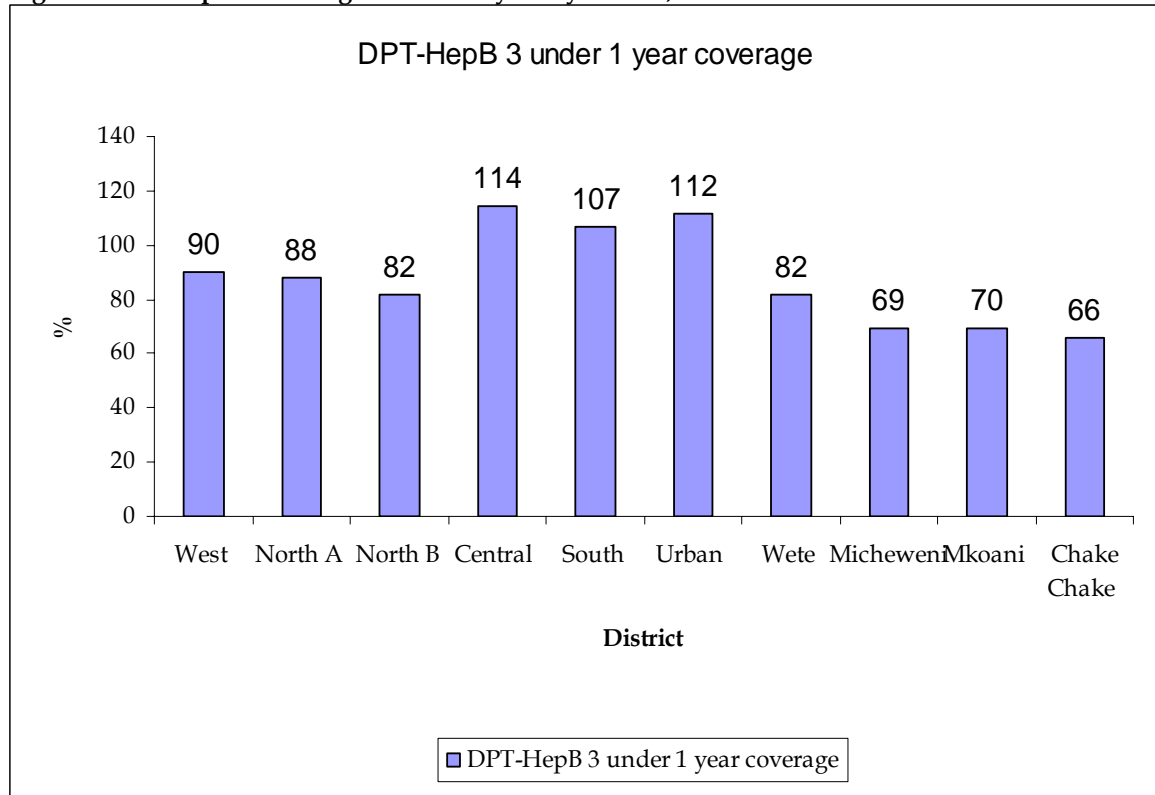


5.2 DPT Hep B3 under one year coverage.

DPT HepB protects children against Diphtheria, Pertusis and Tetanus. DPT HepB3 vaccine gives a proxy indicator to measure the performance of the programme. The overall immunization coverage (85.4%) is above the National standards sets for measuring performance (80%). Zonal comparison indicates that Unguja scores higher (97%) while in Pemba the percentage stands at 71.7 which is below the National Standards.

As in the previous year (2007), with the exception of South District, three Unguja districts (Central, South and Urban) report over 100 percent which makes data quality suspect. Generally, all districts had better performance compared to previous year.

Figure 4 DPT Hep. B3 coverage under-one year by district, 2008

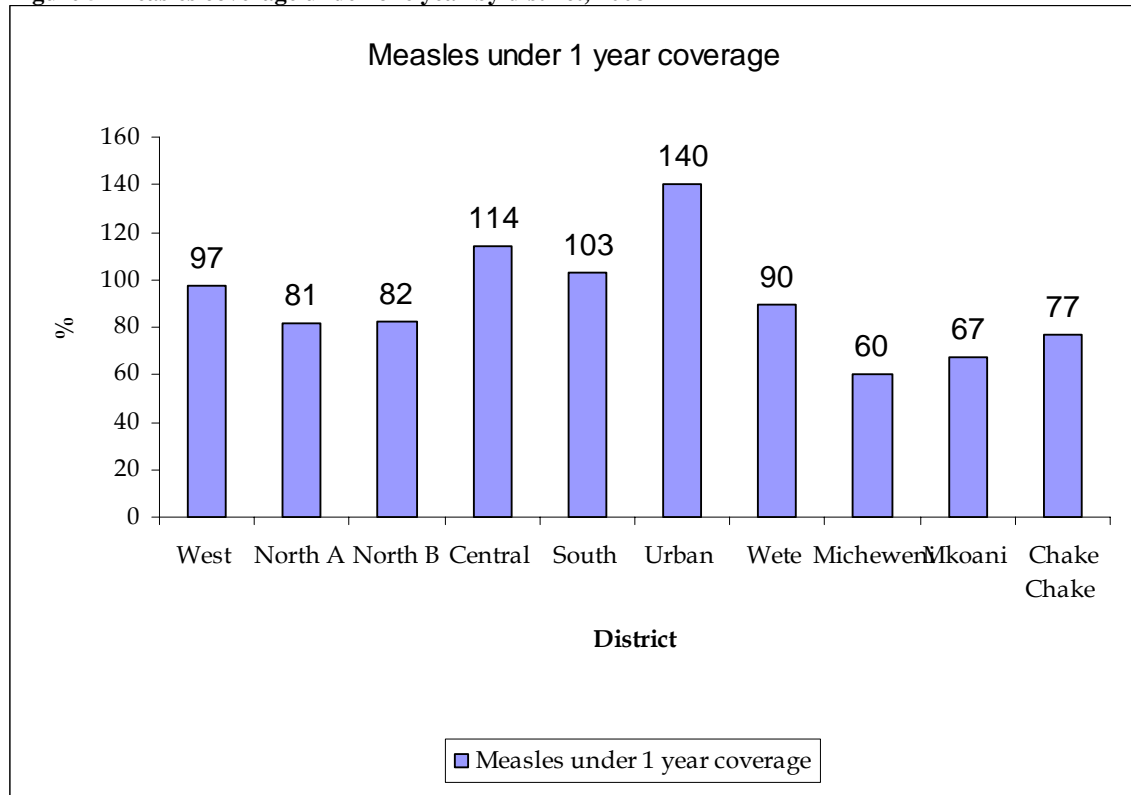


5.3 Measles under one year coverage

The countrywide measles coverage of 86.5 percent which is almost similar to 2007 is slightly good enough to reach the “Herd Immunity - 95%”. However, there is continuing disparity between Zones, with Pemba reporting coverage of 73 percent and Unguja 107 percent.

Despite the fact that Micheweni has performed better (59.8%) compared to the previous year (52.6%), it is still very low compared with other districts.

Figure 5 Measles coverage under-one year by district, 2008

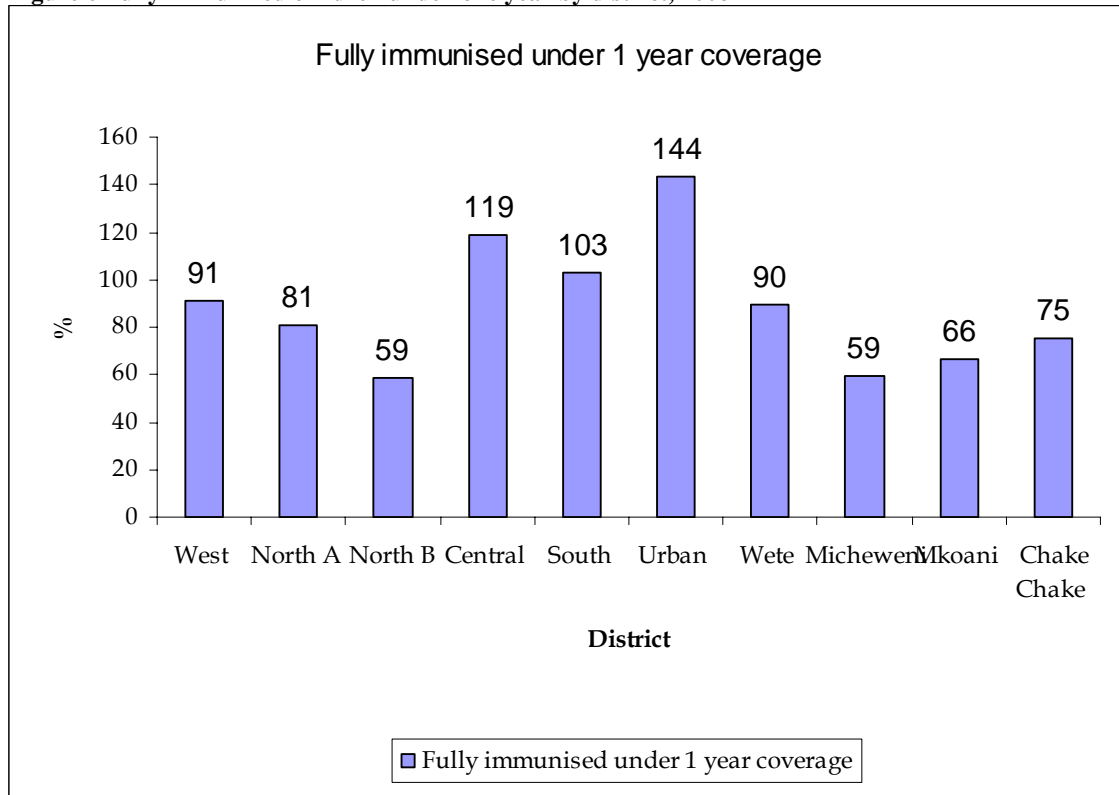


5.4 Fully immunised under one year coverage

This indicator shows coverage of children who have completed their immunisation schedule under one year and measures the programme's overall success.

Nationally, the coverage is good at for 89.1 percent in 2008 against 85.9 percent in 2007, and is on the right track to reach the MKUZA target of 95 percent by 2010. District differentials are however observed, with the lowest coverage 58.2 percent in North B and 59.1 percent in Micheweni.

Figure 6 Fully immunized children under-one year by district, 2008



5.5 Immunization Drop-out

Drop-outs in immunization refer to children who have used immunization services, but do not return for subsequent vaccinations. The standard drop-out rate should not exceed 10 percent; beyond that, it indicates a serious problem of availability, accessibility or poor utilization of services.

A negative dropout rate indicates that there are MORE children getting the later vaccines than those getting the earlier vaccines, which is normally posing significant inconsistency. It is an indication of poor data quality, poor understanding and filling of forms by facility staff or inclusion of children above one year despite HMIS staff efforts to train health staff on the filling of forms.

Figure 7 Drop-out rates by district, 2007/ 2008

Zone	District	DPT -HepB 1-3		DPT-HepB 1 - measles	
		2007	2008	2007	2008
Pemba	Chake Chake	12.4	11.4	-2.3	-2.8
	Micheweni	15.7	11.5	14.8	23.3
	Mkoani	7.7	0.8	-15.4	4.1
	Wete	8.0	6.5	-7.8	-2.6
Unguja	Central	0.1	-1.5	-0.7	-1.0
	North A	7.6	-3.9	2.5	3.9
	North B	-1.0	3.2	0.3	3.3
	South	3.9	3.9	-6.3	9.1
	Urban	9.4	12.1	-4.4	-10.4
	West	-2.7	-0.5	-15.9	-9.4
Zanzibar		6.7	5.4	-4.7	-0.8

In 2008, the DPT HepB 1-3 dropout rate in Zanzibar was within the acceptable range, although some disparities were seen amongst the districts. Micheweni, Chake Chake and Urban districts are on the extreme levels.

DPT HepB1 - Measles drop out rate portrays great divergence between districts, whereby Micheweni continues to be worse while North A, North B and South districts are within the acceptable range. The remaining districts have negative drop outs, signifying a problem with data. The negative drop out are also visible in DPT HepB 1-3 which is a cause for serious concern.

NB: DHMTs in affected districts needs to look at individual facilities and take appropriate actions, teaching staff about how to improve data quality.

5.6 Tetanus Toxoid Vaccine

Tetanus toxoid cuts across EPI and Antenatal Care services whereby the vaccines fall under immunization services offered by EPI and the recipient clients are Women of Reproductive Age (WRA) and pregnant mothers attending Antenatal Care services. A child is said to be born protected against tetanus if a mother gets at least two doses of TT vaccine within five years.

Table 8 Tetanus Toxoid vaccine by Zone, 2008

Zone	Children born protected	TT2+ to Pregnant women	TT2+ WRA
Pemba	27.3	74.1	56.9
Unguja	70.0	53.0	5.0
Zanzibar	24.2	65.5	50.2

Table 9 Tetanus Toxoid vaccine by district, 2007 vs. 2008

Zone	District	Children born protected		TT2+ Preg Women		TT2+ WRA	
		2007	2008	2007	2008	2007	2008
Pemba	Chake Chake	62.3	67.9	64.7	63.4	4.5	5.9
	Micheweni	53.5	74.1	55.2	54.3	4.9	6.4
	Mkoani	64.0	70.2	60.2	48.6	1.1	5.2
	Wete	87.0	82.9	80.5	61.2	3.3	4.5
Unguja	Central	55.7	62.3	48.6	47.6	8.7	9.9
	North A	83.6	81.6	38.5	36.8	7.1	6.2
	North B	41.0	60.7	38.0	35.5	3.4	4.8
	South	58.5	65.1	34.8	27.4	13.8	13.5
	Urban	68.2	74.4	80.5	71.3	3.3	3.8
	West	49.0	65.5	49.0	50.1	2.7	2.7
Zanzibar		62.3	71.6	55.0	54.5	5.3	5.1

There is good coverage of children born protected in most districts. The overall coverage is 71.6 percent which is higher than 2007 figure (62.3%). The data indicates that more women get the opportunity of having their TT vaccine when they are pregnant (54.5%) rather than when they are not (5.1%). In general the TT2+ coverage status is still not encouraging, requiring more sensitization of women by programmes concerned (EPI and RCH). Despite the comparably higher percentage of TT2+ coverage for WRA in South district, coverage in pregnant women is observed to be the least, followed by North A, North B and Mkoani districts with 36.8 percent, 35.5 and 48.6 respectively.

5.7 Malnutrition

A child is considered to be in normal growth when weight for age is between 80 and 100 percent of the expected weight. Total malnutrition includes moderate cases (60 - 79%) and severe cases. Severe malnutrition occurs when the weight is below 60 percent of the expected weight.

Figure 8 Malnutrition for children under five (in %) 2007 vs. 2008

Zone	Total Malnutrition		Severe Malnutrition	
	2007	2008	2007	2008
Pemba	6.8	7.0	0.4	0.5
Unguja	8.0	7.6	0.4	0.4
Zanzibar	7.2	7.4	0.4	0.5

Figure 9 Malnutrition rate under 5 years by district, 2007 vs. 2008

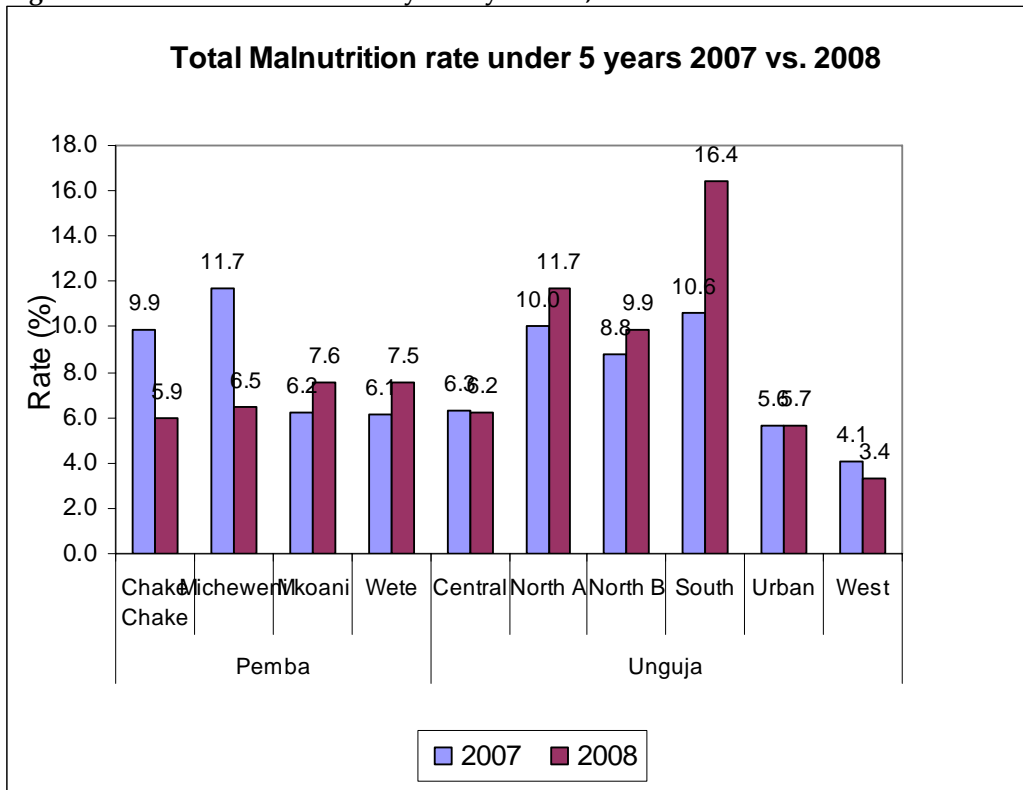
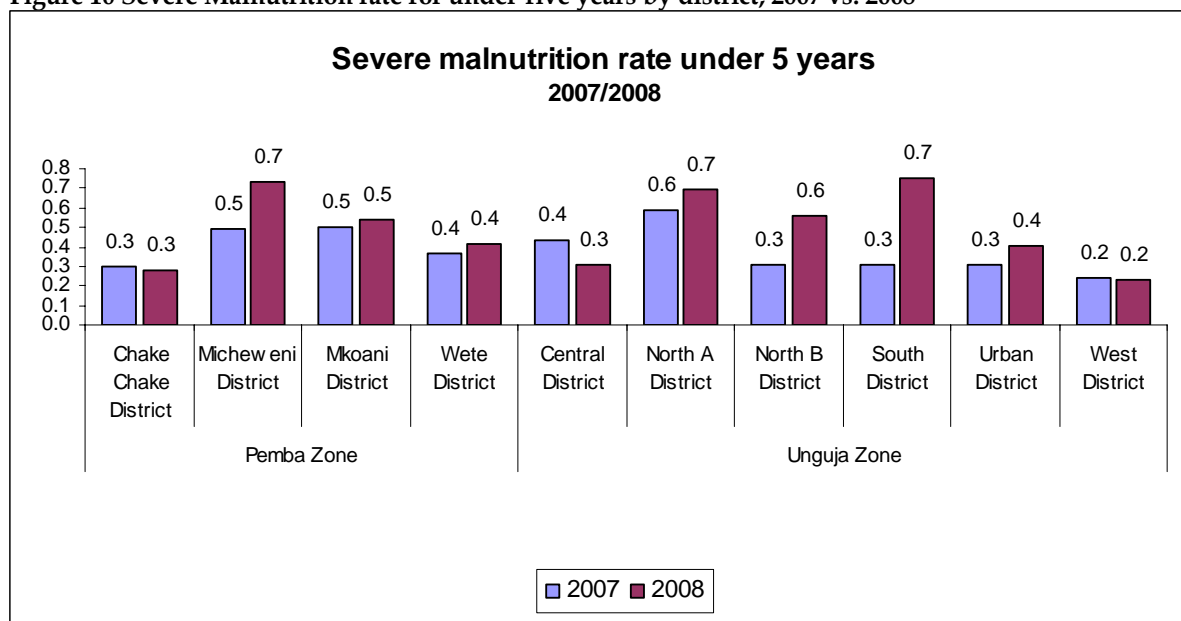


Figure 10 Severe Malnutrition rate for under-five years by district, 2007 vs. 2008



5.8 Integrated Management of Childhood Illnesses (IMCI)

IMCI is the key strategy for reducing child morbidity and mortality in the developing countries. MoHSW has revised the IMCI guidelines to include management of neonatal infection, HIV/AIDS as well as the inclusion of new approach on malaria diagnosis and the management of fever.

With this approach the Ministry is strengthening the IMCI unit to oversee and regularly monitors trends on childhood infections (syndromic management for the major childhood diseases, i.e. pneumonia, diarrhoea, measles, conditions such as malnutrition, anaemia and others).

Zone	Diarrhoea		Pneumonia		URTI		Malaria*		Measles	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Pemba	10.2	15.5	24.3	28.0	20.0	35.2	22.8	0.7	0.2	0.2
Unguja	16.0	21.7	32.3	36.3	34.9	44.3	22.0	2.5	0.0	0.1
Zanzibar	13.4	19.0	28.7	32.7	28.1	40.3	22.4	1.7	0.1	0.1

*Note: In 2007 Malaria data were based on both clinical and confirmed which implies Malaria was over diagnosed using syndromic management, while in 2008 only confirmed cases were considered.

Based on IMCI data for 2008, URTI (42.3%) and Pneumonia (34.3%) have a high incidence rate followed by Diarrhoea with 21 percent. Malaria and Measles account for the least with 3.4 and 0.1 percent respectively. While there is minimal increase on diarrhoea incidence rate in Pemba from 2007 to 2008, it has been noted that there is more than double increment in Unguja.

The important contributing factor for the decline of malaria incidence between 2007 and 2008, is the fact that malaria data for 2008 focused on confirmed cases only while in 2007 the incidence was for both clinical and confirmed cases.

URTI and Pneumonia data shows over-diagnosis compared to others diseases. Based on this finding, the IMCI program management needs to look carefully at the use of guidelines and/or protocols and take appropriate action.

- **Pneumonia** continues to be over-diagnosed at almost 39% in Unguja and 28% in Pemba, increasing from the already high levels of 2007. This is very high, probably reflecting misdiagnosis in both Zones.
- **Diarrhoea** incidence has increased by more than 14 percent in Unguja and in Pemba by less than 1 percent.

6 Reproductive Health

6.1 Family Planning

6.1.1 The Contraceptive Prevalence Rate (CPR)

The CPR is one among the FP indicators which measures the level of FP use among WRA. Zanzibar is currently relying on the data from TDHS which shows a CPR of only 9 percent (TDHS, 2004/05). This indicator, in principle cannot be captured through routine data collection system.

6.1.2 Family planning new clients

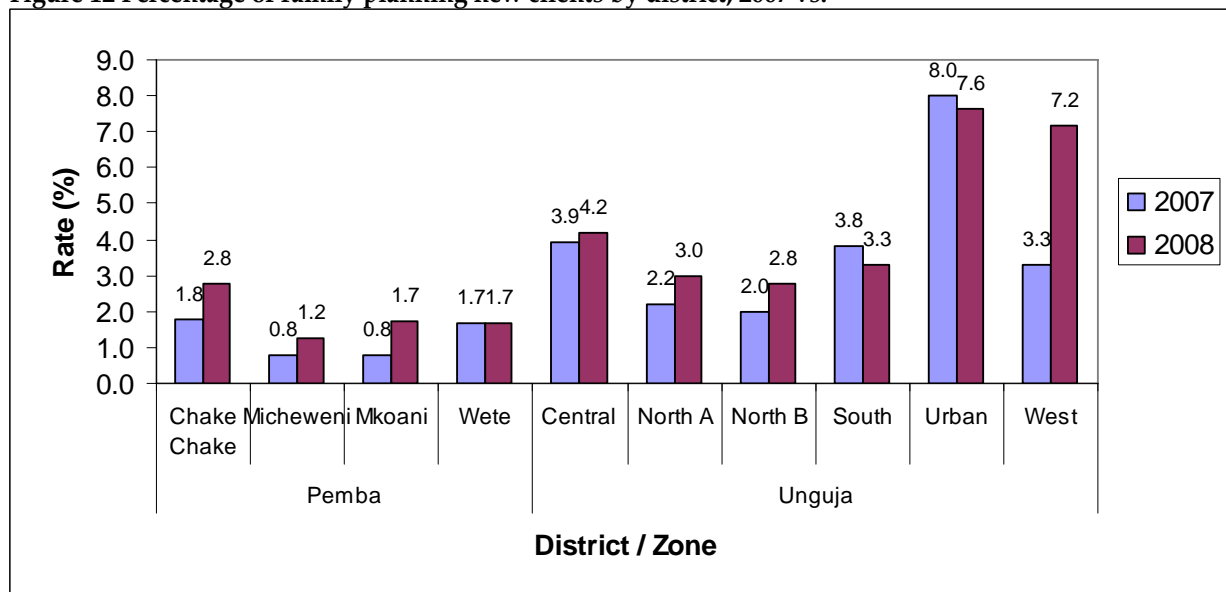
Percentage of new family planning clients among WRA in Zanzibar is generally low, and there is not much difference in new uptake between 2007 and 2008.

Figure 11 Percentage of new family planning clients by zone, 2007 vs. 2008.

Zone	2007	2008
Pemba	1.3	1.8
Unguja	4.8	5.9
Zanzibar	3.4	4.3

The low percentage of new client (4.3%) observed in 2008, corresponds to that of 2007. Pemba stands at almost half of Zanzibar while Unguja is above the national average. Both of these levels are still low though there is a slight increase from 2007 in both zones.

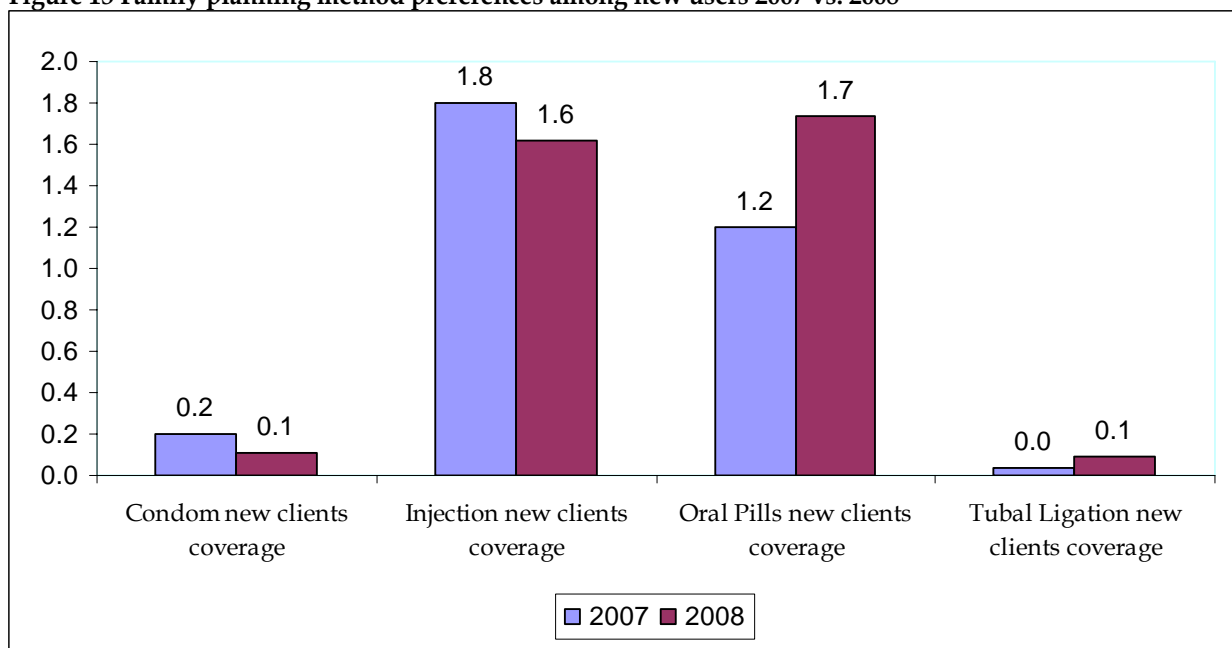
Figure 12 Percentage of family planning new clients by district, 2007 vs.



- Urban District has the highest uptake of new clients (8%) which remains unchanged since 2007. Though it ranks the highest, the data still reflects poor acceptance of all family planning methods.

- West and Mkoani districts have doubled the percentage of new family planning clients from 2007 to 2008, which is encouraging.
- A slight increase has been observed in other districts except for South district which has declined by 0.5 percent.

Figure 13 Family planning method preferences among new users 2007 vs. 2008



Comparison by methods indicates that Injection and oral pills are more preferred and that in 2008 clients are found to switch from injection to oral pills.

Condoms are found to be the least used method in family planning. Bilateral Tubal Ligation (BTL) is slightly picking up following on going sensitization efforts to promote long term FP methods.

6.1.3 Availability of FP services in Zanzibar

Zanzibar has good FP service coverage with most population living within 5 km to the nearby health facility. The number of FP service delivery points offering contraception per 500,000 population is 65.

6.2 Antenatal Care

ANC is important for early identification of risks associated with pregnancies, as some complications can be minimized before delivery. More important is the client's counselling and examination, including checking for high blood pressure, anaemia testing, early and effective treatment of infectious diseases and other conditions. During ANC visits, Information, Education and Communication messages about nutritional intake, danger signs of pregnancy and the need for facility delivery are provided

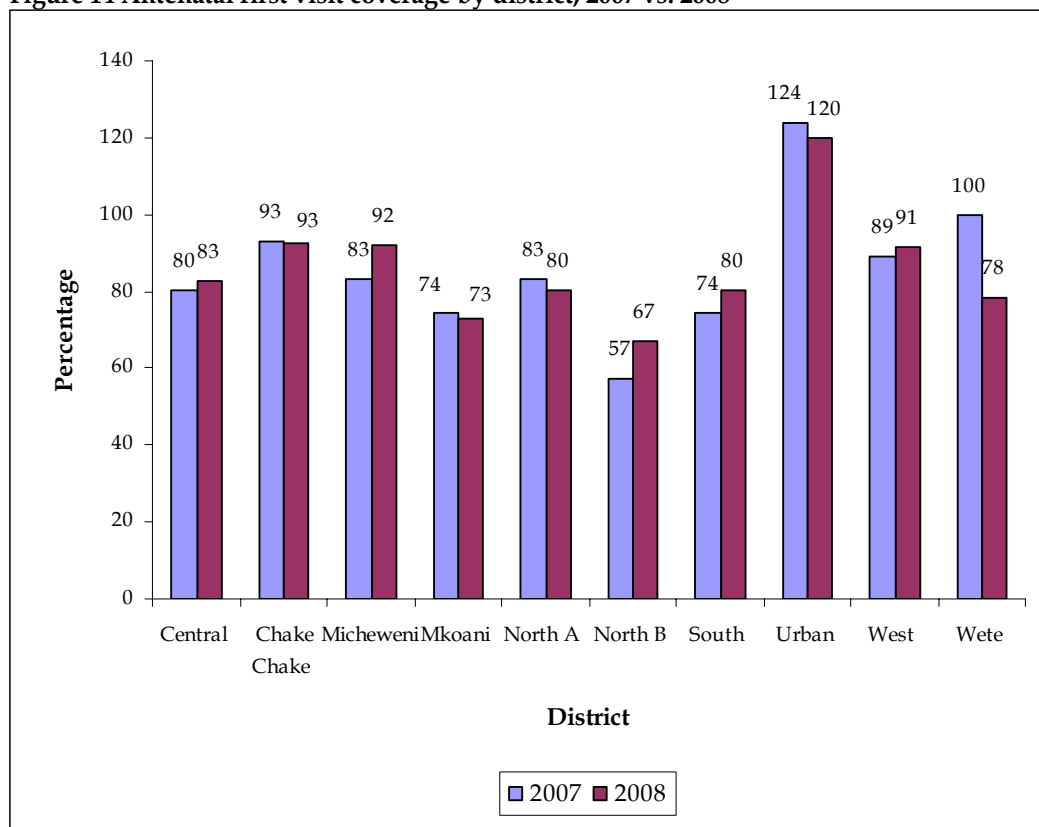
6.2.1 ANC first visit coverage

Antenatal care coverage has dropped from 93 to 91 percent while antenatal first visits before 20 weeks accounts for almost one third (34%) of the total visits for 2008. Despite efforts to insist mothers to booking early for ANC, first visits before 20 weeks seems to have slightly declined from 38 to 34 percent between 2007 and 2008.

Table 10 ANC first visits (< 20 weeks): Coverage by zone, 2007 vs. 2008

Zone	Antenatal first visit coverage		First visit before 20 weeks rate	
	2007	2008	2007	2008
Pemba	96.0	83.5	32.0	27.3
Unguja	88.0	95.2	41.0	37.6
Zanzibar	93.0	90.7	38.0	33.9

Figure 14 Antenatal first visit coverage by district, 2007 vs. 2008



Statistics show that overall first visit (which is the percentage of pregnant women receiving ANC check up at least once during pregnancy) coverage is high, but early booking before 20 weeks for ANC services shows decline trend, a situation indicating needs for further measures.

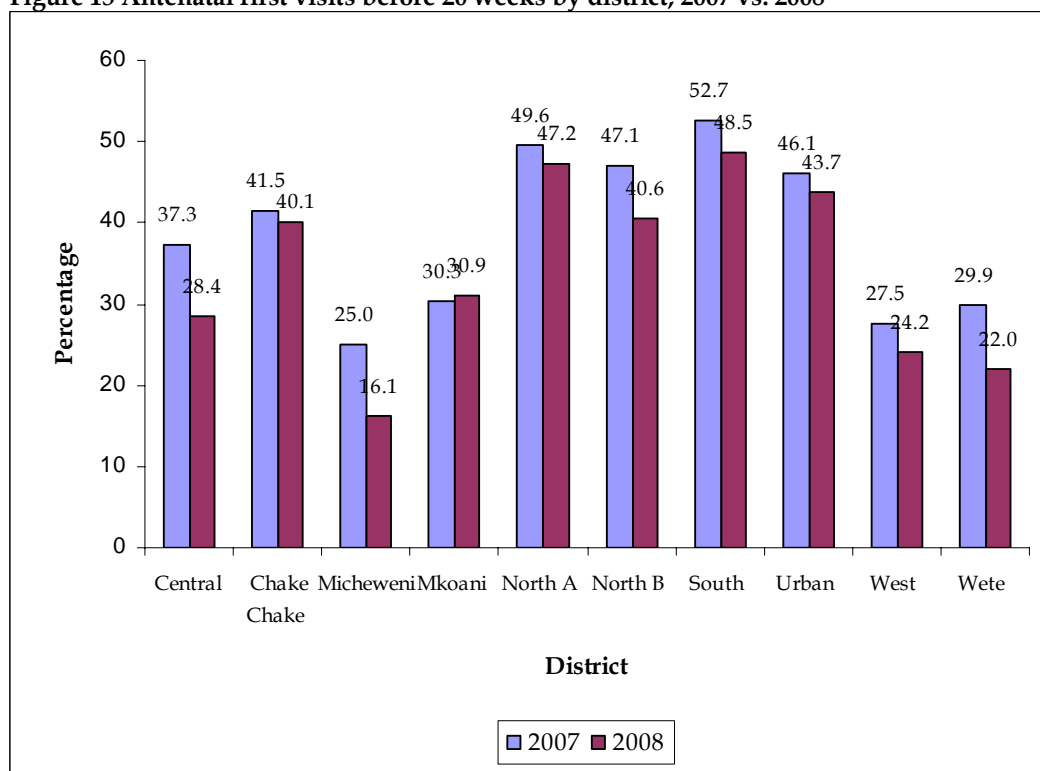
Comparison of ANC coverage by districts indicates slight positive trend, although North A, Urban and Wete are declining. The 124 and 120 percent coverage in Urban District is caused by shifting of clients to large clinics (Mnazi Mmoja and Mwembeladu) providing ANC services. Clients from other districts seem to prefer getting ANC visits at the hospital rather than at lower level facilities. This tendency

needs to be countered by improving ANC services at district hospitals and other peripheral facilities.

6.2.1.1 ANC first visit before 20 weeks

Only 33.9 percent of pregnant mothers are booking early for ANC in 2008, a decrease from previous year in both zones. This decrease has been observed in all districts, with Micheweni and Central showing the highest decline of 9 percent. Generally no district has over 50 percent for early booking in 2008. There is a need to strengthen Advocacy, Communication and Social Mobilization (ACSM) to improve early booking.

Figure 15 Antenatal first visits before 20 weeks by district, 2007 vs. 2008



Availability of ANC services which reflect quality of RH care are encouraging with nearly two thirds (64.5%) getting HIV tests and 36 percent getting Syphilis tests. Other routine antenatal services include Intermittent Presumptive Treatment (IPT) for malaria, screening, prevention and treatment of anaemia and hypertensive disorders. Prevention of neonatal tetanus through immunization against tetanus (TT) is also taken care of.

Table 11 HIV & Syphilis Positive cases tested for during ANC, 2008

Zone	HIV			Syphilis		
	Tested	Positive	% positive	Tested	Positive	% positive
Pemba	8755	18	0.21	6465	4	0.06
Unguja	22658	281	1.24	11126	30	0.27
Zanzibar	31413	299	0.95	17591	34	0.19

The results of HIV test during ANC visits show that almost one percent (0.95%) of pregnant mothers was found to be positive. The observed results showed no difference compared to previous years. Unguja has a higher percentage of 1.24 compared to Pemba with 0.21 percent. Although Syphilis among pregnant mothers accounts for less than one percent (0.19%) it has serious consequences, such as abortion and still births.

6.2.2 High risk pregnancies

ANC should detect key risk factors to get prompt treatment and reduce unnecessary complications for mother and child. Although some women are at higher risk of pregnancy complications, in some situations, such complications gradually occur unnoticed until it manifests itself as emergencies, hence every pregnant woman should be considered at risk. Generally, pregnancy complications are expected to occur in about 15 percent of all pregnancies in a given population.

Table 12 Pregnancy-related risks

Risk Factors	Pemba	Unguja	Zanzibar
Anaemia in pregnancy	2.9	3.9	3.6
PIH / Pre eclampsia	0.9	2.3	1.8
Malaria in pregnancy	0.3	0.3	0.3
Pregnancy before 20 years	7.7	6.2	6.7
Pregnancy above 35 years	16.8	10.4	12.7
Parity above 4	48.1	27.4	34.7

Out of 48,714 mothers who attended antenatal clinics more than one third were found to have a parity of more than four. Pemba seems to have a higher rate (48.1%) compared to Unguja 27.4 percent. Test results from pregnant women attending ANC of only 0.3 percent positive for malaria cases among all pregnant women (attending ANC) is further evidence that malaria incidence has been declining dramatically during recent years.

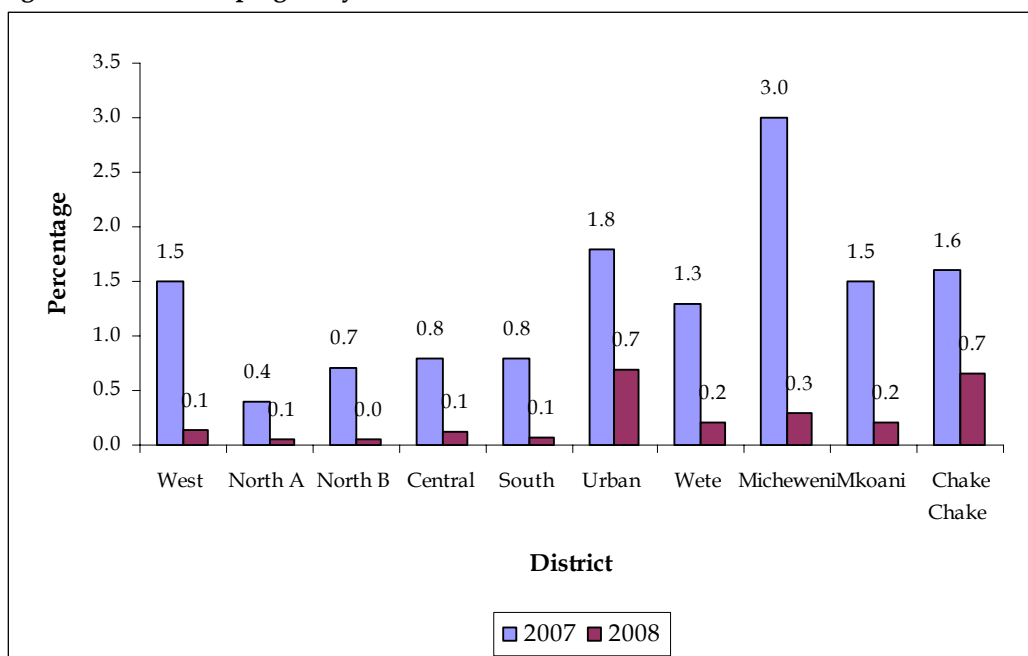
6.3 Malaria in pregnancy

Malaria used to be one of the main indirect causes of maternal mortality. The proportion of pregnant women who were diagnosed with malaria has dropped by 80 percent (from 1.5% in 2007 to 0.3% in 2008).

Figure 16 Malaria rate (%) in pregnant women by zone, 2007 vs. 2008

Zone	2007	2008
Unguja	1.4	0.3
Pemba	1.8	0.3
Zanzibar	1.5	0.3

Figure 17 Malaria in pregnancy rate, 2007 vs. 2008



All districts showed a remarkable performance with Micheweni having the highest improvement and North B reporting nearly zero percent.

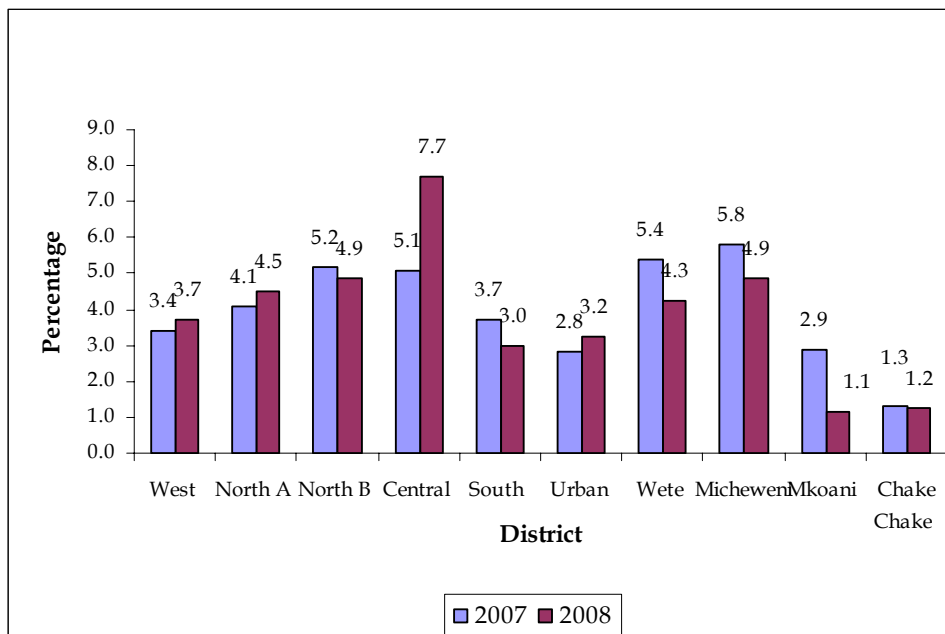
6.4 Anaemia in pregnancy

Anaemia in pregnancy is a common problem to pregnant women. Contributing factor to anaemia include infection such as malaria and malnutrition. Anaemia exposes mothers to the risk of death especially when haemorrhage occurs and it also leads to pre-mature birth, low birth weight babies, and intrauterine foetal growth retardation.

Figure 18 Anaemia rate (%) in pregnant women by zone, 2007 vs. 2008

Zone	2007	2008
Unguja	3.9	3.9
Pemba	3.4	2.9
Zanzibar	3.6	3.6

Figure 19 Anaemia in pregnancy by district 2007 vs. 2008



Overall rates for anaemia in pregnancy remained the same from 2007 to 2008 at 3.6 percent. Pemba Zone showed a decline from 2007 to 2008 by 0.5 percent, while Unguja remained the same and with higher values (3.9%). District wise, Central with 7.7 percent is the highest in 2008 followed by Micheweni and North B with 4.9 each. Pemba districts showed marked declines with Mkoani making the biggest improvement (from 2.9% in 2007 to 1.1% in 2008). However, all Unguja districts with exception of North B and South performed less with increased rates from 2007 to 2008.

6.5 Deliveries

6.5.1 Births attended by skilled attendants

Skilled birth attendants are professional health personnel who are trained in providing life saving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, labour and the post-partum period; to conduct deliveries on their own; and to care for newborns. Thus, skilled personnel are doctors, nurses and midwives. But in Zanzibar, PHN grade B are also considered as skilled birth attendants though WHO guideline excludes them. Traditional birth attendants, even if they receive a training course are not considered

Table 13 Institutional births and births attended by skilled personnel, 2007 Vs 2008

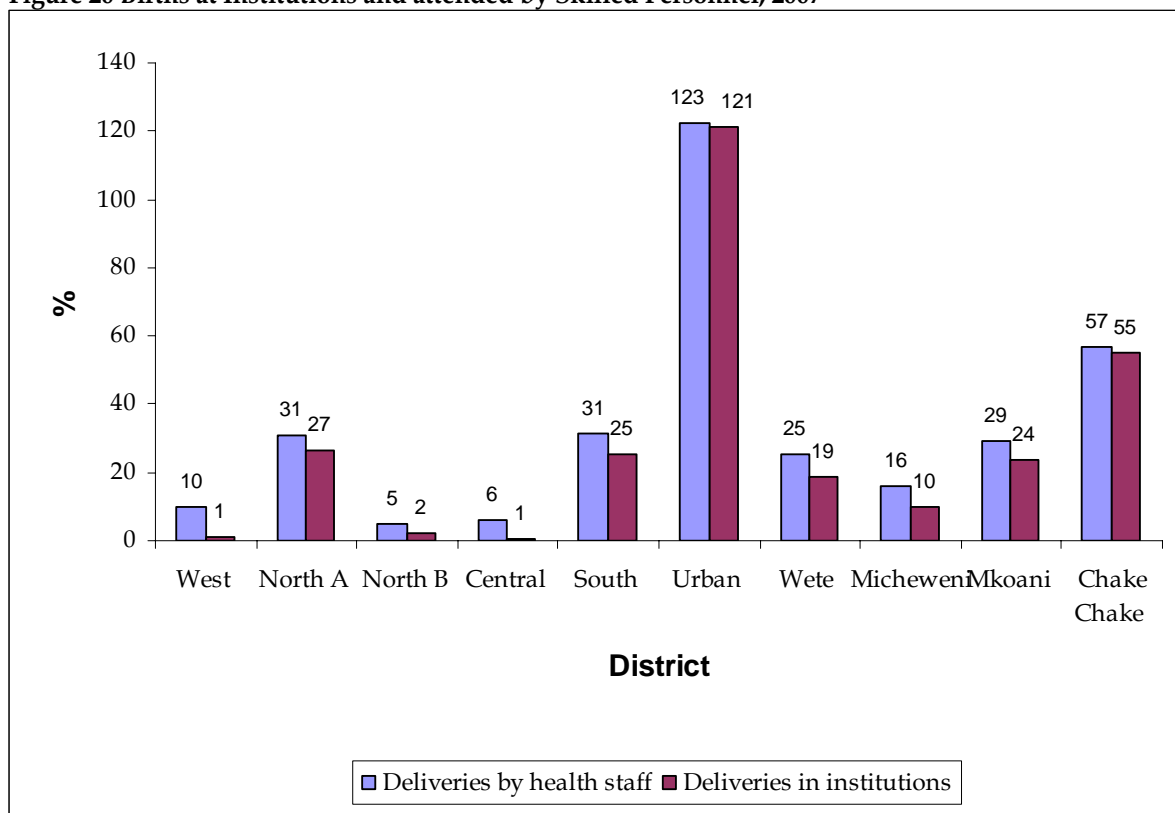
Zone	Deliveries by health staff (%)		Institutions Deliveries (%)	
	2007	2008	2007	2008
Unguja	50.4	52.5	46.3	47.8
Pemba	29.8	31.7	23.8	26.7
Zanzibar	42.5	44.5	37.0	39.7

Note: Deliveries by health staff includes both at home and at facility.

Data from the HMIS shows almost 40 percent of expected deliveries for 2008 are institutional which an increase of one percent is compared to 2007. Moreover, 44.5 percent of deliveries in 2008 are attended by health staffs including PHN and MCH aides. In the same year, data shows that Pemba is notably having lower percentages of mothers attended by health staffs (31.7%) compared to Unguja which account for 52.5 percent. The institutional delivery for both Unguja and Pemba are also less than 50 percent of all expected deliveries. The low level of institutional deliveries observed in both zones needs to be addressed urgently if maternal mortality is to be reduced.

There is always a discrepancy between pregnant women attending ANC and those who actually deliver at health facilities. Despite the fact that the number of pregnant women who go for ANC services at that year are not necessarily the same number supposed to deliver in the same year but yet following the actual number of those who go to the health facilities for delivery against those expected to go to deliver, the figure is found to be comparably lower, signifying that more mothers are receiving ANC services but few of them deliver at health facilities. This needs to be addressed by increasing awareness on the importance of institutional deliveries and dangers of delivering at home, the individual birth preparedness and improving the quality of care of delivery services

Figure 20 Births at Institutions and attended by Skilled Personnel, 2007



Urban and Chake Chake districts have generally higher rates of deliveries than other districts, due to the fact that these areas serve all districts on the respective islands. In order to reduce the load on these two districts, other facilities need to be improved to encourage more mothers to deliver and spare Mnazi Mmoja and Chake Chake hospitals for referred and complicated cases.

6.5.2 Low birth weight rate (institutional)

Table 14 Percentage of Low birth weight as reported in Zanzibar hospitals, 2007 vs. 2008

zone	2007	2008
Pemba Zone	4.8	5.6
Unguja Zone	7.4	7.6
Zanzibar	6.8	7.1

Zanzibar had a reported low birth weight of 7.1 percent, with 7.6 percent in Unguja hospitals and 5.6 percent in Pemba. The rates are observed to be higher compared to 2007. Based on this results great emphasis needs to be placed on ensuring that ALL newborns are weighed, either during delivery at facilities or at postnatal care.

6.5.3 Emergency Obstetric Care

Emergency obstetric care can be categorized in basic emergency obstetric care (BEmOC) and comprehensive emergency obstetric care (CEmOC), depending on the services available. To achieve international standards, there should be four Basic EmOC facilities and one Comprehensive facility per 500,000 populations.

Table 15 Definition of emergency obstetric care

Basic Emergency Obstetric signal functions are defined as:

- Administration of parenteral antibiotics
- Administration of parenteral oxytocic drugs
- Administration of parenteral anticonvulsants for pregnancy induced hypertension
- Performance of manual removal of placenta
- Performance of removal of retained products (e.g. vacuum aspiration)
- Performance of assisted vaginal delivery (e.g. ventouse, forceps)

Comprehensive Emergency Obstetric signal functions are defined as the above PLUS

- Performance of surgery (e.g. Caesarean section) and
- Provision of blood transfusion.

Zanzibar has made great strides in implementing Basic Emergency obstetric Care (BEmOC) in the last few years. EmOC is currently available in eleven facilities spread over the islands (BEmOC in five and CEmOC in six facilities), although they are still facing problems with very basic equipment and a minimum of staffs. There are other facilities which provide delivery services but they still don't meet the above stated BEmOC criteria. The table below shows the facilities offering basic and comprehensive emergency obstetric care.

Table 16 Distribution of facilities providing obstetric care

Zone	Health facility	CEmOC	BEmOC
Unguja Zone	Mnazi Mmoja Referral Hospital	X	

	Mwembeladu Maternity Home		X
	Marie Stopes Hospital	X	
	Al Rahma Hospital	X	
	Makunduchi Cottage Hospital		X
	Kivunge Cottage Hospital		X
Pemba Zone	Chake Chake District Hospital	X	
	Vitongoji Cottage Hospital		X
	Wete District Hospital	X	
	Mkoani District Hospital	X	
	Micheweni Cottage Hospital		X

There is an uneven and insufficient distribution of facilities providing emergency obstetric care in Unguja with a concentration of all comprehensive emergency obstetric care (CEmOC) in Urban district and clearly insufficient basic emergency obstetric care (BEmOC) facilities elsewhere. Pemba has three CEmOC facilities with another two facilities providing BEmOC. This is more than the UN minimum standard on one CEmOC facility and four BEmOC per 500,000 people.

Basic Emergency Obstetric Care

It is estimated that 17 percent of all deliveries develop complications that need emergency obstetric care interventions. The data for 2008 show that this percentage is higher than it was in 2007 (15%). The increase in 2008 has been associated with more coverage of abortion cases in other health facilities which were not reporting in the last year. The table below shows the reported complications from different health facilities although it does not include availability of necessary interventions that could reflect quality of services rendered.

Table 17 Type of complications in maternity wards, by hospital, 2008

Hospital	Abortion	Haemorrhoid	Hypertension	Obstructed labor	Sepsis	Other causes
Abdallah Mzee District Hospital	95	82	12	10	0	41
Al-rahma Hospital	2	0	1	1	0	5
Chake Chake District Hospital	173	163	48	19	2	126
Kivunge Cottage Hospital	53	10	19	18	4	31
Makunduchi Cottage Hospital	68	7	1	2	1	11
Micheweni Cottage Hospital	95	19	6	5	2	27
Mnazi Mmoja Referral Hospital	1217	726	70	45	0	294
Vitongoji Cottage Hospital	10	4	5	0	0	8
Wete District Hospital	150	43	17	0	4	38
Zanzibar total	1863	1054	179	100	13	581

- As referral hospital, Mnazi Mmoja reports over 60 percent of the complications which has been static since 2007, indicating that other hospitals are not dealing adequately with EmOC problems.
- Abortion is the most common complication accounting for almost 50 percent of all complications reported in 2008. There is improved coverage of reported cases of abortion by health facilities whereby in 2007 it was only reported from Mnazi Mmoja hospital. Due to the sensitivity of other types of abortion cases (induced abortions) the actual number might be higher than what has been reported in the health facilities.
- Haemorrhage ranks as the second most important complication accounting for 28 percent of all reported complications.
- Sepsis is the least reported complication which is still questionable in terms of its magnitude due to the fact that most deliveries occur at home in supposedly unhygienic conditions and early postnatal care coverage is inadequate.

Comprehensive Emergency Obstetric Care

Caesarean section is performed in six health facilities, among which two are private health facilities. The reported data for 2008, however, includes only five facilities with the exceptions of Al-Rahma hospital operated by private sector.

In 2008, most of the health facilities met the recommended WHO caesarean sections rate of between 5 and 15 percent of total deliveries (see annex 4) except Marie Stopes which stands at 19 percent. The overall caesarean section rate stands at 7.4 percent with 15 percent in Unguja while in Pemba it stands at only 6 percent.

Table 18: Caesarean Section rate per hospital delivery 2007/2008

Hospital	C/S	Deliveries	%	C/S	Deliveries	%
	2007			2008		
Wete District Hospital	26	1115	2.3	29	1092	2.7
Marie Stopes Hospital	41	269	15.2	42	225	18.7
Abdallah Mzee District Hospital	108	915	11.8	58	1200	4.8
Chake Chake District Hospital	176	2148	8.2	206	2492	8.3
Mnazi Mmoja Referral Hospital	1321	7312	18.1	1235	8474	14.6
Zanzibar Total	1672	11759	14.2	1570	21310	7.4

Note: the 5-15 percent C/S rate is for population and not for health facility data alone, probably the national C/S rate is very low as less than 50 % of deliveries occurs at HF

Zanzibar does not meet the obstetric needs as set by the UN process indicators (see annex 4). There is a sufficient number of CEmOC facilities but the **distribution** on Unguja is not adequate. Nationally, Zanzibar lacks 3 BEmOC facilities to meet the required standard; signifying that the need for emergency obstetric care is not met. The C/S rate amongst all women delivering in Zanzibar is above the minimum of 5 percent and lastly the higher case fatality rate of 2.3 percent for all obstetric complications

indicates poor quality of care. Hence Zanzibar does not fulfil 5 out of 6 UN process indicators. In summary, though there has been considerable progress in EmOC in general, considerable work remains to be done to meet the MDG of reducing maternal deaths.

6.6 Maternal Deaths

Maternal death is defined as the death of a woman occurring during pregnancy, childbirth or within 42 days of termination of the pregnancy from any cause related to or aggravated by the pregnancy or its management, irrespective the gestational age and site of the pregnancy, but not from incidental or accidental cause. Despite the belief from some demographers that the definition of maternal mortality is a bit complex that it is sometimes difficult to correctly and exhaustively identify maternal deaths occurring at the community through routine data collection system, what seems to be a major limitation in this attempt is the fact that Zanzibar does not have a functioning system in place for recording births and deaths taking place in the community. Alternatively, the calculation of Maternal Mortality Ratio is exclusively based on deaths occurred at health facilities (institutional), though it is anticipated that there are deaths that occur in the community.

Table 19 Maternal deaths by hospital, 2008

Hospital	2005	2006	2007	2008
Mnazi Mmoja Referral Hospital	45	67	51	62
Mwembe Ladu Maternity Home	2	2	2	1
Al Rahma Hospital*	0	0	0	0
Mary Stopes Hospital*	1	0	0	Not reported
Kivunge Cottage Hospital	0	0	2	2
Makunduchi Cottage Hospital	0	0	0	0
Chake Chake District Hospital	16	12	11	12
Vitongoji Cottage Hospital	0	0	0	0
Wete District Hospital	10	6	0	3
Mkoani District Hospital	1	2	4	2
Micheweni Cottage Hospital	4	5	1	5
Zanzibar	79	94	71	87

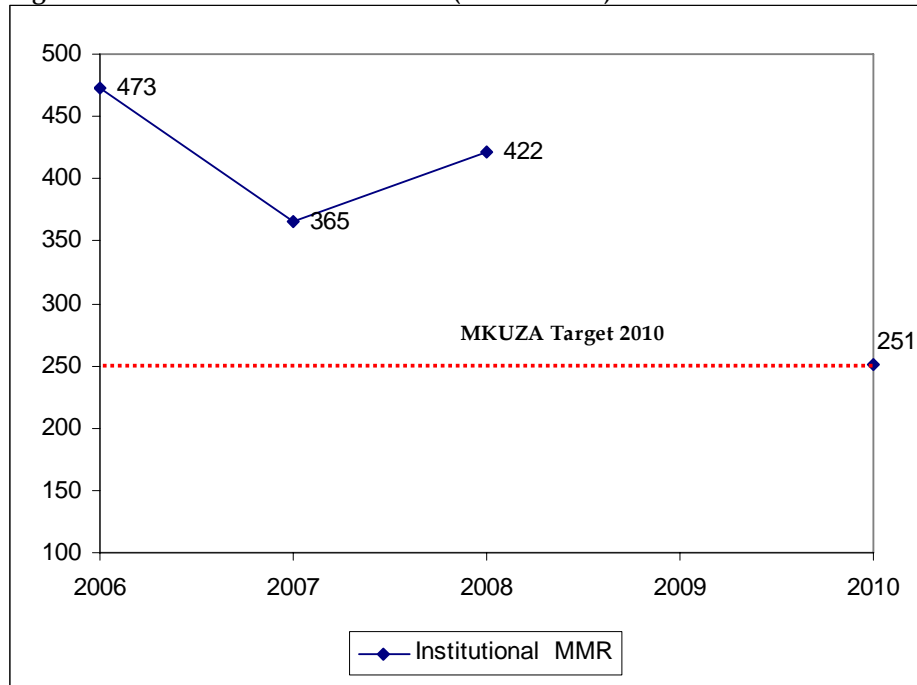
* Private hospital

Table 20 Institutional maternal mortality ratio by zone, 2008

Zone	Total Live births	No of Maternal deaths	Ratio per 100,000 Live births
Pemba	5177	22	425.0
Unguja	15450	65	420.7
Zanzibar	20627	87	421.8

Maternal Mortality Ratio (MMR) is the number of maternal deaths per 100,000 live births; this indicates the risk of maternal death among pregnant women. Institutional MMR shows that there is a variation from 473 per 100,000 live births in 2006 to 365 in 2007 to 422 in 2008 (see figure 20). The stated MMR does not include deaths from the community, but they are a proxy for the magnitude of the problem.

Figure 21 Trends of MMR in Zanzibar (Institutional)



The reduction of maternal mortality ratio is part of one of the MDGs, MKUZA and ZHSRSP II. The MKUZA target is to reduce MMR to 251 per 100,000 live births by 2010. The situation shows that the institutional MMR is still far from the target warranting extra efforts toward its achievement (see figure above).

Obstetric Case Fatality Rate

The obstetric case fatality rates in Zanzibar are above the acceptable minimum level of one percent with exception of Makunduchi and Vitongoji hospitals. All complicated cases are referred to the nearby higher level facilities predominantly at Chake Chake and Mnazi Mmoja for Pemba and Unguja respectively.

Table 21 Obstetric Case Fatality Rate by hospital, 2008.

Hospital	Maternal deaths	Total complicated cases	Obs. Case fatality rate
Abdallah Mzee District Hospital	2	240	0.8
Al-rahma Hospital	0	9	0.0
Chake Chake District Hospital	12	531	2.3
Kivunge Cottage Hospital	2	135	1.5
Makunduchi Cottage Hospital	0	90	0.0
Micheweni Cottage Hospital	5	154	3.2
Mnazi Mmoja Referral Hospital	63	2352	2.7
Vitongoji Cottage Hospital	0	27	0.0
Wete District Hospital	3	252	1.2
Zanzibar	87	3790	2.3

7 Disease surveillance

This section describes the information on diseases as collected from health facilities using a monthly Out Patient Department (OPD) disease surveillance reporting form. It highlights top ten new cases and trends of some selected diseases which are most commonly found.

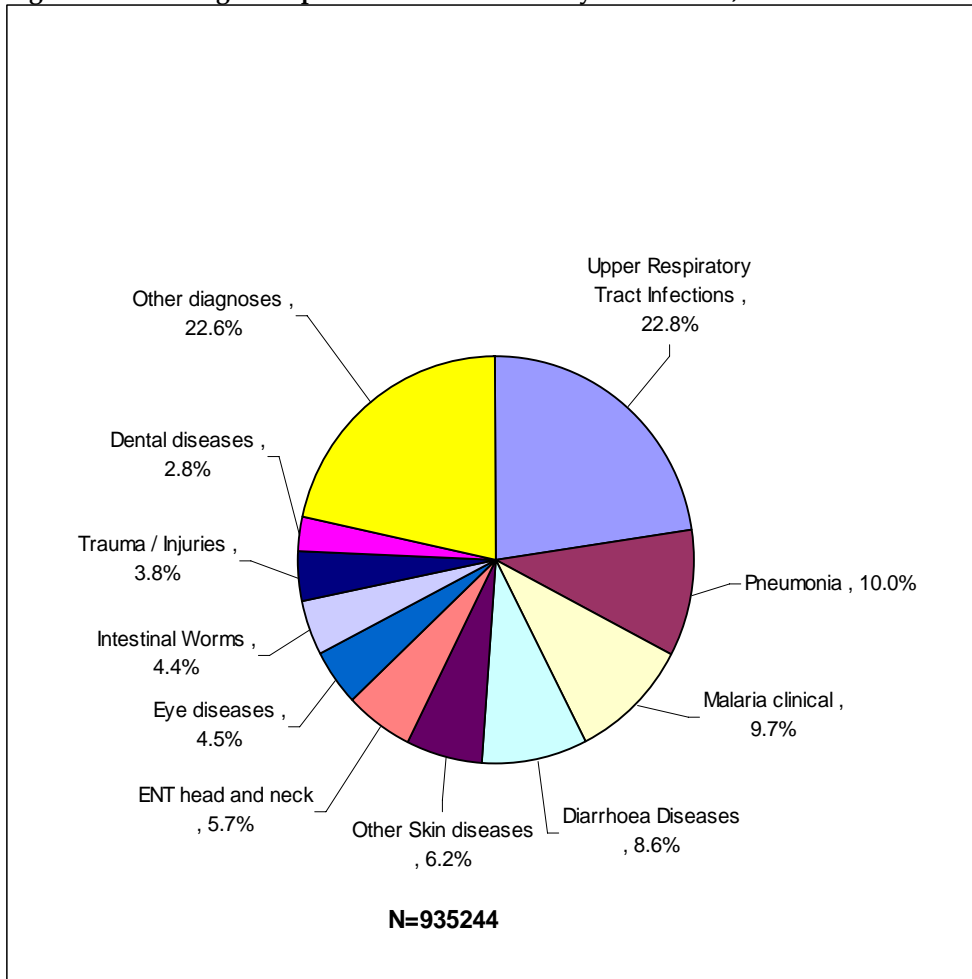
7.1 Top ten Diseases

There are no surprises amongst the top 10 diseases, with preventable communicable diseases topping both lists. However, there is a great discrepancy among the diagnoses between the URTI and other diagnosis presenting more than 20 percent each while eight diagnoses have 10 percent each or even less. The figure below describes the top ten diseases reported among outpatient cases in Zanzibar health facilities with the exclusion of Mnazi Mmoja Hospital.

Pneumonia and URTI are the two respiratory system diseases commonly with differentials in its diagnosis; with the former always expected to be lower than the later. In 2008, these diseases have portrayed increasing trend by becoming the first and second leading causes of morbidity respectively, replacing diseases like malaria and diarrhoea which had previously leading.

One encouraging sign is the reduction of Malaria cases which was for many years the leading cause of morbidity and mortality. Although confirmed malaria is not in the list of top ten diagnoses, prescribers in some circumstances still treat it as clinical malaria, and as a result it still figures in fourth position. With the new malaria treatment policy, it is anticipated that even fewer cases will be recorded in the coming years. Diarrhoea and other skin diseases are also found to be major problems accounting for 8.6 and 6.2 percent respectively.

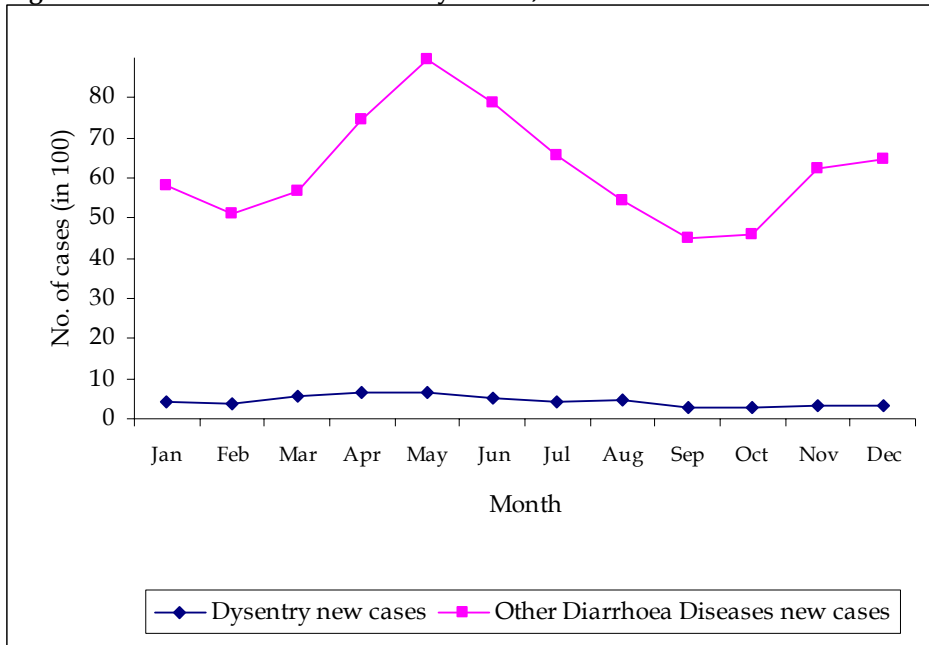
Figure 22 Percentage of top ten causes of Morbidity in Zanzibar, 2008.



7.1.1 Diarrhoeal Diseases

Diarrhoea as one of the communicable diseases has for several past years been presented with high incidence rate especially among the children. It is also plays an important role among the cause and effects of malnutrition in children under-five years of age. Under this category, diagnoses include dysentery, cholera and other diarrhoeal diseases. In figure 22, the trend of diarrhoea cases is observed to have a seasonal variation during the 12 months of the year. The incidence seems to be seasonal with high peaks in May. Other diarrhoea diseases are observed to have comparably higher incidence.

Figure 23 Trends of Diarrhoea cases by month, 2008



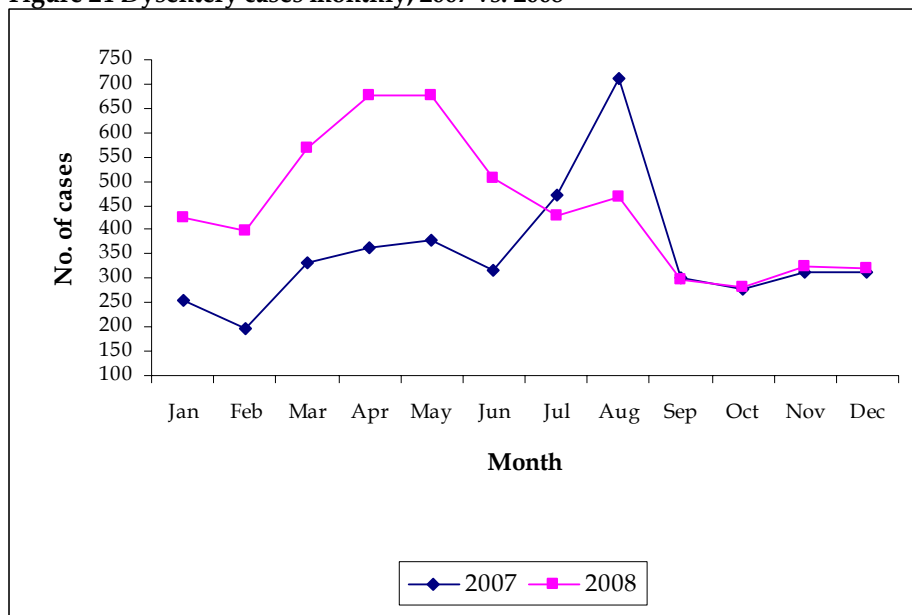
7.1.1.1 Cholera

It is an acute diarrhoea disease caused by *Vibrio Cholerae* El Tor characterized by acute watery stool with or without vomiting. It mainly occurs in the form of outbreaks in isolate communities. In 2008, 48 cases were reported in Chake Chake District with no death.

1.1.1.1. Dysentery

Dysentery also known as bloody diarrhoea is commonly seen in all districts. In 2008 a total of 5374 cases of dysentery were documented compared to 4234 cases in 2007. The trend remains the same throughout the year except in July where in 2008 there was slight decline while there was a sharp increase in 2007.

Figure 24 Dysentery cases monthly, 2007 vs. 2008



Generally, the increase in number of dysentery cases has been reported in many of the health facilities in Zanzibar. However, there is still variation among districts between 2007 and 2008. Seven out of the ten districts show an increase of dysentery cases. Urban, South and Wete districts reported to have decreased cases. Appropriate public health interventions including safe water supply and sanitation need to be instituted to control dysentery.

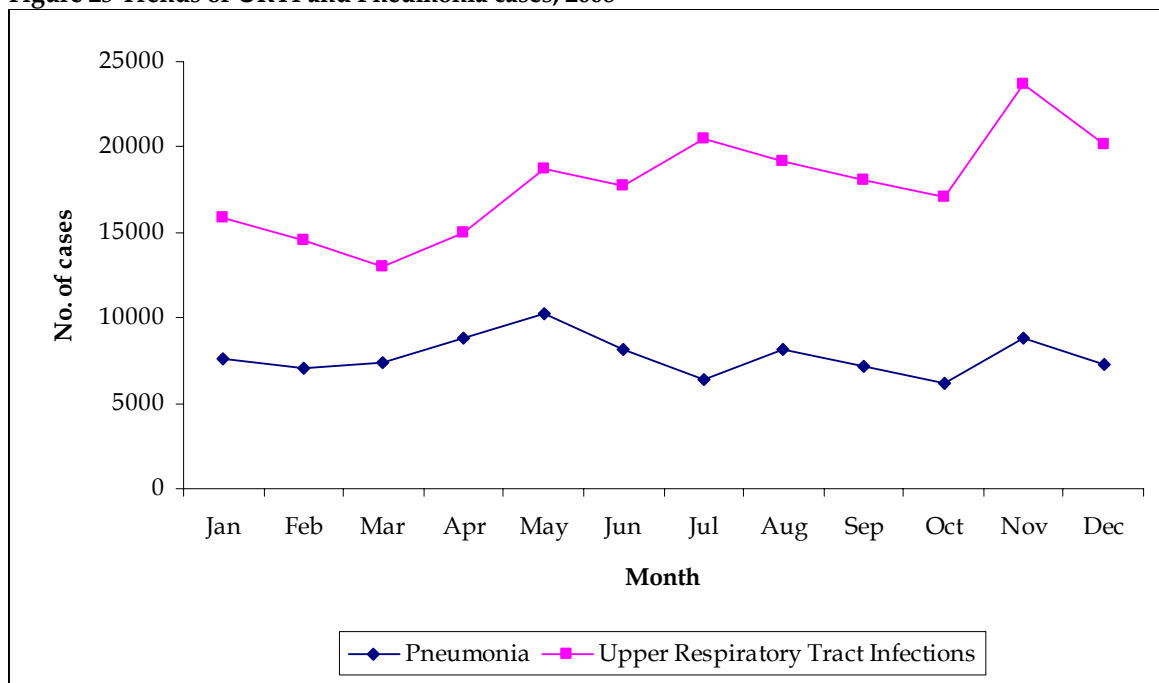
Table 22 Dysentery new cases by District, 2007 vs. 2008

Zone	District	2007	2008
Pemba	Chake Chake	474	711
	Micheweni	303	628
	Mkoani	171	231
	Wete	469	446
Unguja	Central	418	621
	North B	137	240
	Urban	1375	1137
	West	426	936
	South	203	90
	North A	258	334

7.1.2 Pneumonia and URTI

Pneumonia and Upper Respiratory tract Infection (URTI) are among the diseases with high incidence in Zanzibar. With higher incidence rates, both diseases fall under top ten. The trend seems to be erratic with high peak for Pneumonia in April/May and November for URTI. For URTI this may be caused by seasonal changes among other factors, whereby a dry period in November may aggravate the situation, while for pneumonia cold season in May might have contributed to high rise.

Figure 25 Trends of URTI and Pneumonia cases, 2008



Note: Under normal circumstances, URTI is expected to be higher compared to pneumonia, the situation that is being observed in the trend.

7.1.3 Tuberculosis

The number of newly diagnosed TB patients has been almost static since 2000, at slightly over 350 patients in 2000 to 369 in 2007. In 2008, a total of 428 patients were diagnosed, among them 407 (95%) were new patients. Out of 428 new patients 265 (65%) were smear positive, 69 (17%) smear negative and 73 (18%) were extra pulmonary TB patients. A total of 21 **re-treatment** patients registered during 2008, among them 14 (66.7%) were relapse and 7 (33.3%) were failure and return to control.

A total of 436 TB patients were enrolled in 2008, whereby 418 (96%) tested for HIV and 75 (18%) were found positive (TB/HIV). Out of these positive patients, 63 (84%) were transferred to Care and Treatment Clinic (CTC).

Table 23 Tuberculosis cases and treatment outcomes

NOTIFICATION	Unguja		Pemba	
	2007	2008	2007	2008
New Cases	285	249	83	79
Smear positive	189 (66.3%)	221 (63%)	42 (50.6%)	44 (55.7%)
Smear negative	49 (17.2%)	58 (16%)	21 (25.3%)	11 (13.9%)
Extra Pulmonary	34 (11.9%)	52 (14%)	14 (17%)	21 (26.6%)
Relapse	13 (4.6%)	18 (5%)	6 (7.2%)	3 (3.8%)

Source ZTLP, 2008 Annual report

7.1.4 Leprosy

A total of 72 new leprosy patients were diagnosed during 2008 with 48 (67%) diagnosed as Multibacillary (MB) and 24 (33%) as Paucibacillary (PB). Among them 20.8 percent had disability grade 2, 11.1 percent had disability grade 1 and 68 percent had disability grade 0.

7.1.5 Malaria

Malaria has been a major cause of morbidity and mortality in Zanzibar in the past years. Household surveys conducted in Zanzibar during 2007-08 (RBM Indicator survey 2007/8 and THMIS 2007/8) confirm the population prevalence of *Plasmodium falciparum* infection is less than one percent – down from 15% in 2003. This is a result of applying a combination of approved interventions (Improved case management, vector control by using ITNs/LLINs and IRS, and the use of IPT for pregnant women) and has contributed to a dramatic reduction of *P.falciparum* infection in the country. The scaling up of malaria laboratory quality assurance is another step towards improved malaria diagnosis. Currently the malaria situation in Zanzibar has changed from high to low endemicity.

To ensure that further reduction is achieved, ZMCP established an early epidemic detection system for malaria in 52 public health facilities. In 2008, a total of 2,704 (100% completeness) weekly reports have been submitted with 74,683 malaria diagnostic tests performed. Out of them, 1,820 cases were found to be positive. The overall malaria positivity rate for the 52 health facilities was 2.4 percent.

The information from the routine HMIS collection describes the incidence of malaria confirmed by district as reported by health facilities (public and private) in 2008 as shown in table 23. Unguja was found to have high incidence rate of about 2.0 percent compare to Pemba 0.7 percent. The high rates of urban areas (3.5% Urban District and 1.7% in Chake Chake District) are associated with many positive cases reported by private health facilities.

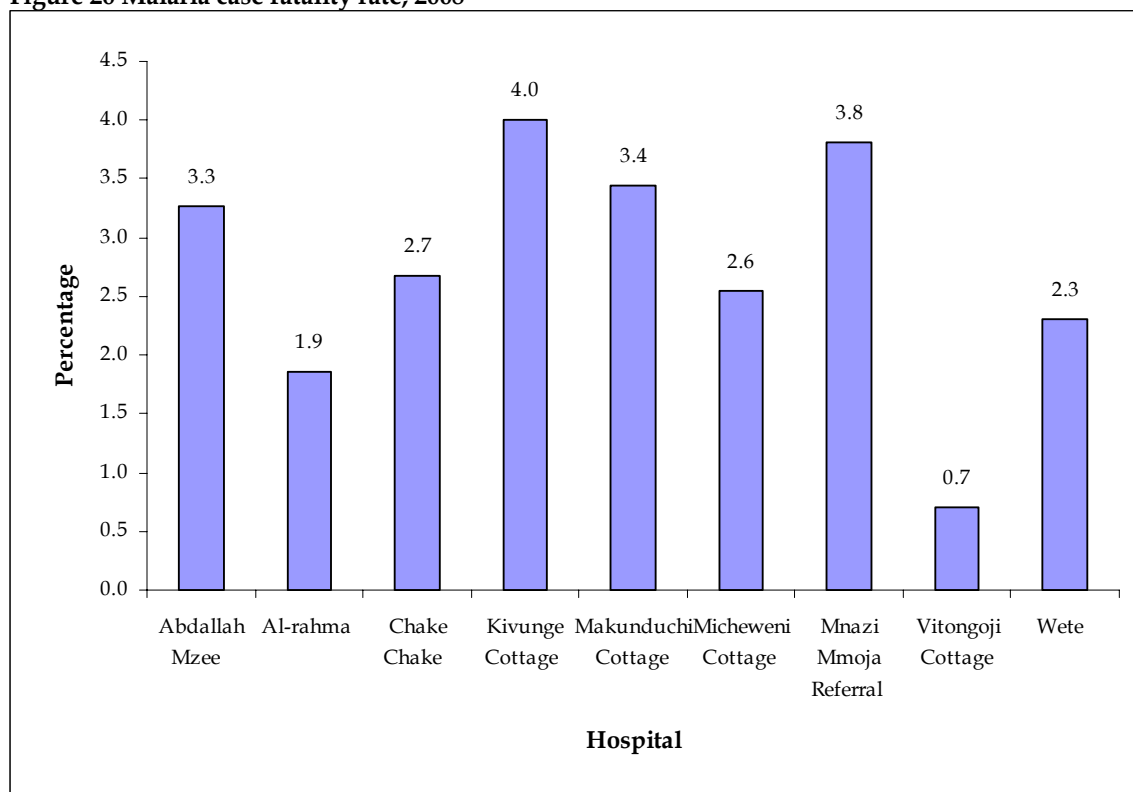
Table 24 Confirmed Malaria incidence per 100 population by district, 2008

Zone	District	Rate
Pemba	Chake Chake	1.7
	Micheweni	0.3
	Mkoani	0.2
	Wete	0.5
		0.7
Unguja	Central	1.6
	North A	0.2
	North B	1.3
	South	0.8
	Urban	3.5
	West	1.6
Unguja		2.0
Zanzibar		1.5

7.2 Malaria case fatality rate (CFR)

Deaths due to malaria are a proxy indicator for measuring the malaria case management of severe cases. The decline of malaria prevalence in the community has also resulted in the low number of patients admitted in hospital due to malaria subsequently minimised the mortality rate. Malaria fatality rate in Zanzibar health facilities in 2008 accounts for 3.3 percent.

Figure 26 Malaria case fatality rate, 2008



All hospitals have a CFR above the 0.5 percent target set in the Zanzibar Health Sector Reform Strategic Plan II (ZHSRSP II). Al-Rahma (1.9%) and Vitongoji Cottage hospitals (0.7%) have the lowest malaria fatality rate in 2008. Mnazi Mmoja Referral, Kivunge and Makunduchi cottage and Abdalla Mzee hospitals both reported over 3 deaths per 100 malaria cases.

7.2.1 Road Traffic Accident

Road Traffic Accident (RTA) is one among the conditions of public health importance. RTA has been steadily increasing over time and has thus become a major health concern. Despite its importance, there is a problem of getting reliable information especially for those who are hospitalised and actually being diagnosed as RTA although the HMIS tools for both outpatient and inpatient contain this data element. There were 2,050 RTA cases reported in 2007 and 3387 cases for 2008. Urban district

ranks the highest with 1275 cases, followed by Central district with 405 cases. However, these data exclude cases reported to Mnazi Mmoja Hospital.

Table 25 Road Traffic Accidents by district, 2008.

Zone	District	2007	2008
Pemba	Chake Chake	160	367
	Micheweni	98	68
	Mkoani	78	156
	Wete	526	318
Unguja	Central	306	405
	North B	203	33
	Urban	143	1275
	West	142	334
	South	170	182
	North A	224	249
Zanzibar		2050	3387

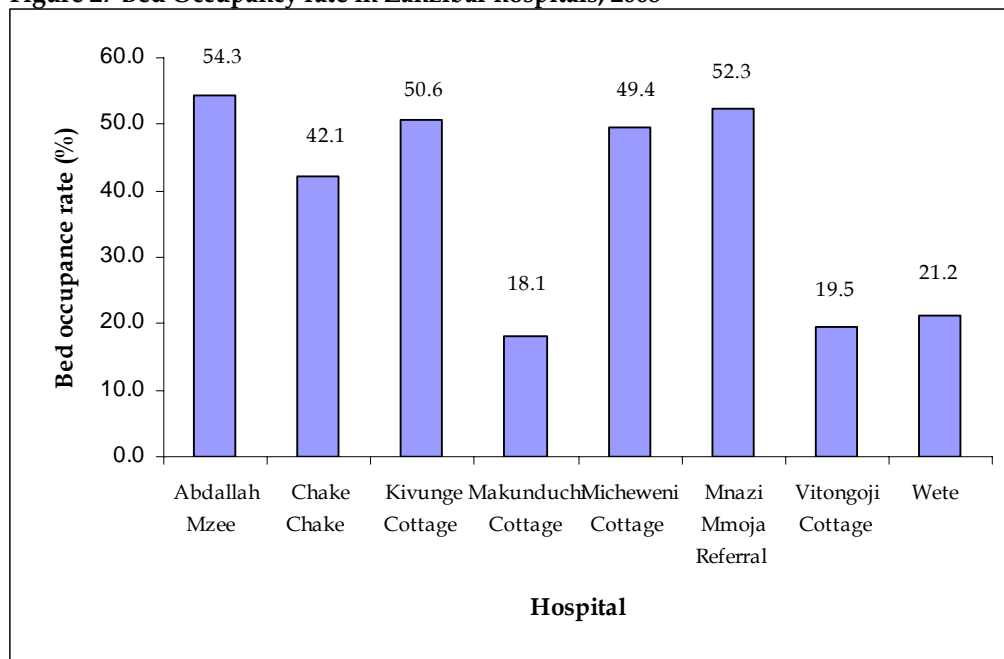
8 Hospital In-patient data

In-patient data makes another important area of health information. These include data on admissions, discharges (live or dead), cause of morbidity and mortality due to various diseases, bed state and others. This section describes information on admissions, length of stay, death by cause and the distribution of death per hospital ward and related in-patient information for the year 2008.

8.1 Bed Occupancy Rate

Bed occupancy rate (BOR) measure effective and efficient performance of health facility. A well run hospital should have a minimum of 60% bed occupancy rate. The idea is not to entertain having many patients admitted but it is rather to describe efficiency in terms of overhead cost of running health facilities. The average of 45 percent in 2008 compare to 24 percent in 2007 indicates a step forward the target set by HSRSP of having more than 60 percent by 2010. Abdalla Mzee hospital has the highest BOR of 54.3 percent, followed by Mnazi Mmoja hospital with 52.3 percent whereby Kivunge and Micheweni cottage have nearly similar rate of 50.6 and 49.4 percent respectively.

Figure 27 Bed Occupancy rate in Zanzibar hospitals, 2008



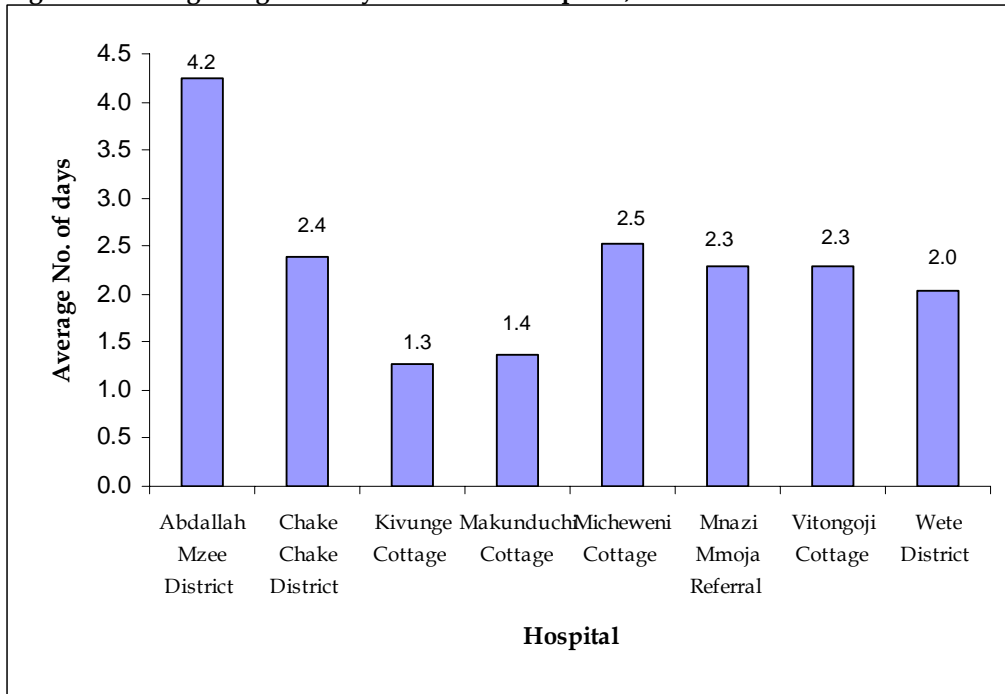
8.2 Average length of stay

Zanzibar hospitals have an average length of stay of 2.2 days. Some differences are observed between the zones, with 2.6 days in Unguja and 2.1 for Pemba. Unguja show that they approach the range, while Pemba is below the range of 2010 target of 3 to 7 days. Abdalla Mzee is the only hospital lies within the range with an average of 4.2 days. Data indicates that patients are discharged earlier before completing their treatment cycle, particularly at Mnazi Mmoja Hospital which contradicts with the current bed occupancy rate. This raises suspicion on whether the data coverage in the ward is adequate or it is immensely under reported.

Table 26 Average length of stay, 2007 vs. 2008

Zone	2007	2008
Pemba	2.9	2.6
Unguja	3.0	2.1
Zanzibar	3.0	2.2

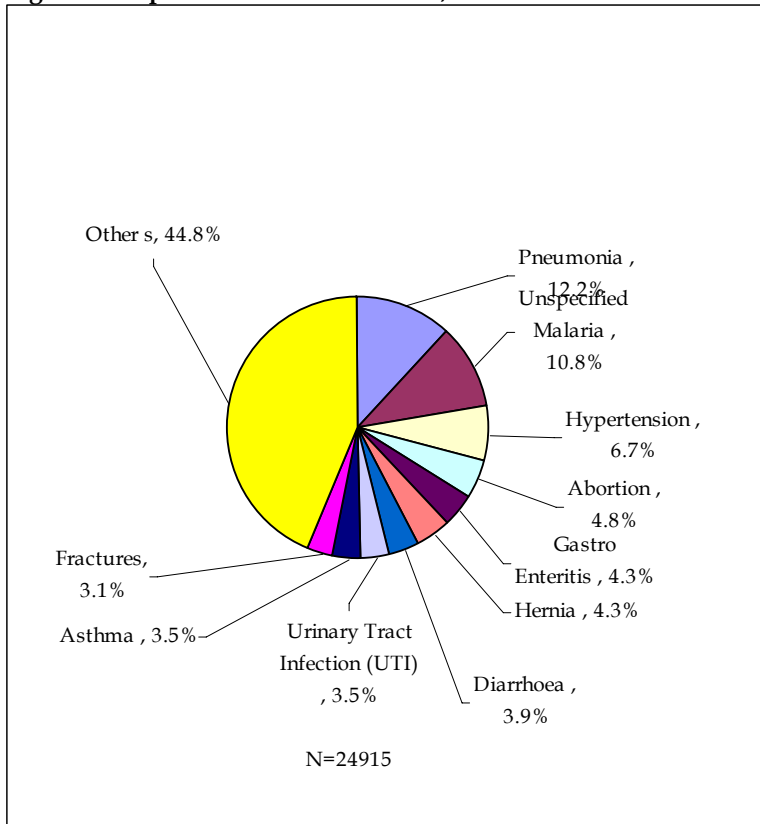
Figure 28 Average length of stay in Zanzibar hospitals, 2008



8.3 Causes of admission

Previously, malaria was a major cause of hospitalisation, but currently (2008) Pneumonia has taken the lead among the top ten causes of admission. Although Pneumonia affects all ages, it predominantly affects more children under five years of age. This situation indicates under management of Upper Respiratory Tract Infections (URTI) that manifests itself as Pneumonia or misdiagnosed. Malaria which is unspecified whether clinical or confirmed seems to be in the second position of top ten.

Figure 29 Top ten causes of admission, 2008



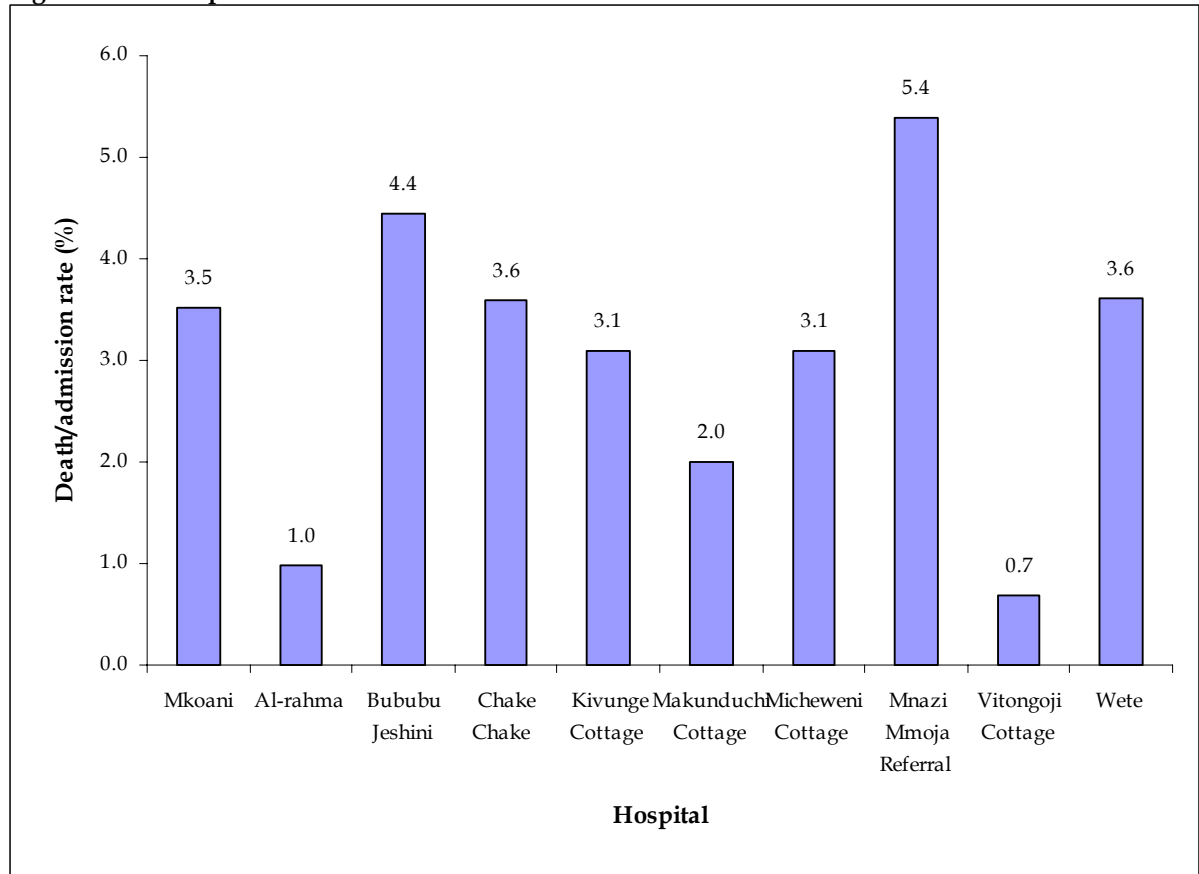
Hypertension ranks as third in the top ten causes of admissions; encouraging are the higher number of abortion cases which were earlier under reported and its management was neglected. This signifies increasing post abortal care as part of Basic EmOC in health facilities.

8.4 Hospital fatality rate

The hospital fatality rate for Zanzibar stands at 4.6 percent, differences are observed between zones whereby the rate for is 5.1 compared to Pemba which is 3.3 percent

Zone	Rate (%)
Pemba	3.3
Unguja	5.1
Zanzibar, Total	4.6

Figure 30 Deaths per total admission in 2008

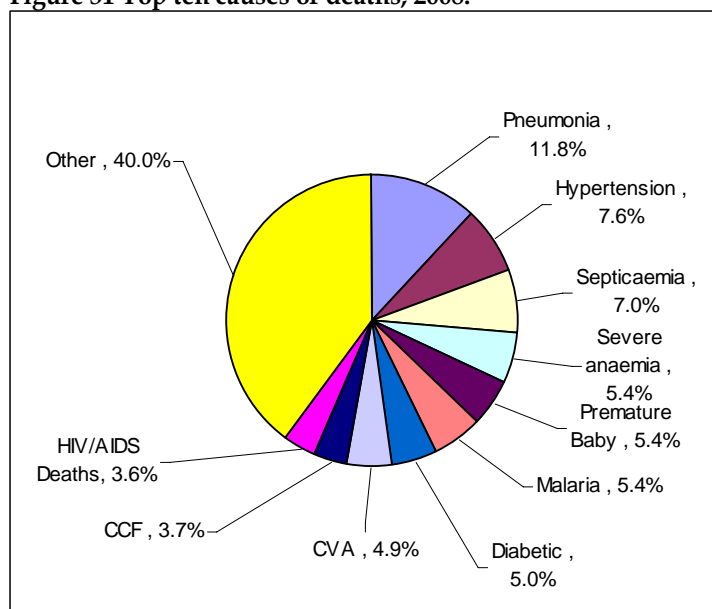


The above figure indicates that Mnazi Mmoja Referral Hospital and Bububu Military Hospital have the highest fatality rate of more than 4 deaths per 100 admissions followed by Wete and Chake Chake hospital with 3.6 percent. Al-Rahma and Vitongoji hospital have the lowest fatality rate of less than 10 deaths per 100 admissions.

8.5 Causes of death

Pneumonia being the highest cause of hospitalisation is also a leading cause of mortality accounting for 11.8 percent followed by hypertension with 7.6 percent of all deaths. Septicaemia is the third leading cause of deaths which could be the result of poor management of surgical cases such as caesarean section, abortion and others. About 890 cases (77%) of all deaths in 2008 occurred at Mnazi Mmoja hospital compared to 75 percent of deaths in 2007, followed by Chake Chake hospital with 79 cases (6.8%). There is an increasing rate of deaths of premature babies from 4.2 percent in 2007 to 5.4 percent in 2008 notifying poor handling and management of pre-mature babies.

Figure 31 Top ten causes of deaths, 2008.



9 Programmes

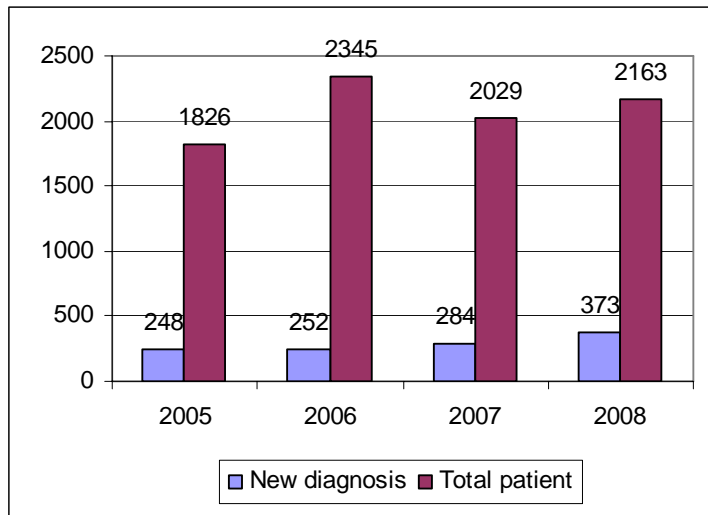
9.1 Diabetic programme

Diabetes is one among the emerging Non Communicable Diseases (NCDs) affecting all age groups and both sexes. For the past four years this condition has been increasing dramatically with multiple complications such as neuropathy, hypertension, diabetic foot and ketoacidosis.

Table 27 Diabetic clinic

Category	2006	2007	2008
Population	1,117,955	1,155,065	1,193,383
Total patients	2,345	2,029	2,163
New diagnoses	252	284	373
Type 1 Diabetic Mellitus	98	144	130
Type 2 Diabetic Mellitus	2,247	1,885	2,033
Female	1,290	1,117	1,237
Male	1,055	912	926
< 45 years	445	547	648
>= 45 years	1,900	1,482	1,515
Rate per 10,000 population	21	17.6	18.1

The number of new cases has increased from 252 in 2006 to 373 in 2008. The figure depicts that type 2 is more than triple than type 1. Sex wise, females are more affected than males. The number of maturity onset diabetes is observed to triple each year. The trend per 10,000 population fluctuates over the years.



9.2 Diabetic Complications

Table 28 Diabetic complications

Complications	2005	2006	2007	2008
Obese (BMI >30kg/m ²)	355	351	469	386
Hypertension (>140/90mmHg)	957	1196	1342	1370
Foot complications	134	137	130	141
Eye complications	342	0	235	144
Renal complications	2	2	2	2
Neuropathy	458	727	475	343
Erectile dysfunction	205	305	189	189
Stroke	14	9	6	6
Heart complications	4	8	22	20
Hypoglycemia	45	8	6	7
Diabetes ketoacidosis	76	4	7	9

Hypertension, neuropathy, eye complications and erectile dysfunction are found to be major complications of diabetes. The number of patients with diabetic foot increased from 130 to 141 cases in 2007 and 2008 respectively.

10 Annexes

Annex 1 - MDG Indicators and Mkuza targets

<i>MDG Indicators</i>	<i>MKUZA Targets</i>
A. Infant and Child Health	
Indicators: <ul style="list-style-type: none"> • Under-five mortality rate * • Infant mortality rate* • Proportion of 1 year-old children immunized against measles 	<ul style="list-style-type: none"> • Reduced infant mortality from 61/1000 in 2005 to 57/1000 in 2010 • Reduced mortality of children under five from 101/1000 in 2005 to 71/1000 by 2010 • Increased proportion of fully immunized children from 85% in 2005 to 95% by 2010
	•
B. Maternal Health and Reproductive Health	
<ul style="list-style-type: none"> • Maternal mortality ratio • Proportion of births attended by skilled health personnel • Contraceptive prevalence Rate 	<ul style="list-style-type: none"> • Reduced Maternal Mortality from 377/100,000 in 1999 to 251/100,000 in 2010. MDG • Increased percentage of births delivered in health facilities from 49% in 2005 to 60% in 2010 page • Improved contraceptive prevalence rate from 10% to 15% for modern methods and from 15% to 20% for any method by 2010 DHS
C. Communicable Diseases:	
<ul style="list-style-type: none"> • HIV prevalence among pregnant women aged 15-24 years* • Condom use rate of the contraceptive prevalence rate:* <ul style="list-style-type: none"> ○ Condom use at last high-risk sex ○ Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS ○ Contraceptive prevalence rate • Prevalence and death rates 	<p>(i) Malaria</p> <ul style="list-style-type: none"> • Increased the percentage of under-fives having prompt access to and receiving appropriate management for febrile illness within 24 hours from 13% in 2005 to 70% in 2010 • Increased the percentage of under-fives sleeping under ITNs from 37% in 2005 to 90% in 2010. • Reduced the case-fatality rate from 2.1% in 2005 to 0.5% in 2010. <p>(ii) HIV and AIDS</p> <ul style="list-style-type: none"> • Reduced HIV prevalence among 15-24 years pregnant women from 1% in 2005 to 0.5% in 2010

* Not available in routine HMIS, it can be obtained from household surveys.

<p>associated with malaria</p> <ul style="list-style-type: none"> • Prevalence and death rates associated with tuberculosis • Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures* • Proportion of tuberculosis cases detected and cured under directly observed treatment short course DOTS 	<ul style="list-style-type: none"> • Increased the proportion of population with comprehensive correct knowledge of HIV and AIDS from 44% of women and 20% of men to 80% of the general population by 2010 • Increased condom use among women at last higher risk sex from 34% in 2005 to 80% in 2010 • Reduced stigma surrounding HIV and AIDS from 76% in 2005 to 60% by 2010 (measured as the inverse of the proportion of the population expressing acceptance of 4 measures as per TDHS) <p>(iii) TB</p> <ul style="list-style-type: none"> • Reduced the death rate from 8% to 5% in 2010 • Increased cure rates from 80% to 85% by 2010 <p>Increased HIV screening of patients from 20% to 100% by 2010</p>
D. Non Communicable Diseases (NCD)	
	<ul style="list-style-type: none"> • Administered prevalence survey for key NCDs by 2010
E. Substance Abuse	
	<ul style="list-style-type: none"> • Administered prevalence survey for substance abuse by 2010 • Operationalised detoxification and rehabilitation services for substance abusers by 2010
F. Human Resource management	
	<ul style="list-style-type: none"> • 75% of primary health facilities established agreed norms for trained staff, with attention to gender balance, by 2010

Annex 2 - Data sets and indicator terminologies

The terms used in this bulletin as far as the HMIS tools are concerned are the same as those used in 2006, that is, data sets, indicator sets, data elements and population estimates.

Data element: Field inside the form, they vary for each tool.

Data sets: These are the data collection tools, each tool having a number of data elements.

Indicators sets: These are derived from the National and MDG Indicator Set

Population estimates: The 2007 mid-year estimate of the population are obtained from population projections, extracted from the National Bureau of Statistics (NBS) publications, based on the 2002 Tanzania Population & Housing Census – 2002 TPHC.

Service Utilisation is defined as the total facility headcount per total population.

Annex 3 - DHIS Indicator descriptions

Indicator	Numerator	Denominator	Type
Utilisation rate (annualised)	Total headcount from OPD clinics at hospitals (mal	Total population	No
Utilisation rate < 5 (annualised)	Total headcount under five years	Total population under five years	No
Underweight for age rate under 5 years	Underweight for age (red and grey cases) under 5 years	Total attendance growth assessment	%
Diarrhoea incidence under 5 years	Diarrhoea cases under 5 years	Population under 5 years	%
Pneumonia incidences under 5 years	Pneumonia < 5 years new	Population under 5 years	%
Vitamin A coverage under 5 years	Vitamin A supplement to children under 5 years	Target Population under 5 year	%
Under 5 death rate	Death of children under 5	Population under 5 years	per1K
Fully immunised under 1 year coverage	Immunised fully under 1 year new	Target Population under 1 year	%
BCG under 1 year coverage	BCG dose under 1 year	Target Population under 1 year	%
OPV3 under 1 year coverage	Oral Polio 3rd dose	Target Population under 1 year	%
DPT-HepB 3 under 1 year coverage	DPT-HepB 3 doses under 1 year	Population under 1 year	%
Measles under 1 year coverage	Measles dose under 1 year	Target Population under 1 year	%
DPT -HepB 1-3 Doses drop-out rate	DPT1 - DPT3 Doses	DPT1 doses given	%

DTP-HepB 3 - measles drop-out rate	DTP-HepB 3rd dose - Measles 1st dose under 1 year	DTP-HepB 3rd dose	%
Family Planning total coverage	Total family planning clients (new and continuing)	Women Reproductive Age (WRA)	%
Antenatal first visit coverage	Antenatal first visit	potential antenatal clients in population	%
Antenatal visits before 20 weeks rate	Antenatal 1st visit before 20 weeks	All first visits	%
Children born protected from Tetanus	Children born protected from tetanus	Total Deliveries	%
Malaria rate in pregnant women	Pregnant women treated for malaria	Antenatal first visit	per1K
Anaemia rate in pregnant women	Pregnant women treated for anaemia	Antenatal first visit	per1K
Births attended by skilled attendants	Deliveries by skilled personnel	Total Expected deliveries	%
Maternal Mortality Ratio	Maternal Deaths in the ward	Live Births in the ward	per100K
Delivery rate in facility to women under 18 year	pergnancy women under 18 years	All ANC cases	%
Low birth weight rate	Total live births under 2500 g	Total live births	%
Perinatal mortality rate	Still births + early neonatal deaths (1-14 days)	Total births (live+still)	per1K
Still birth rate	Total still births	Total births	%
Malaria incidence under 5 years	Malaria Treatment under 5 years	Total Population under 5 years	%
Malaria incidence over 5 years	Malaria treatments over 5 years	Total population over 5 years	%
Malaria incidence rate (all ages)	Total new cases treated as malaria	Total population	per1K
Malaria death rate	Deaths attributed to Malaria	Total population	%

HIV prevalence in the tested clients	HIV tested positive	All the clients tested	%
Male Urethral discharge Syndrome rate	Male Urethral discharge syndrome treated -new	STI treated new episode	per1K
Condom distribution rate	Condom distributed	Male population over or equal to 15 years	per1K

Annex 4: UN Process Indicators

Indicator	Definition	Recommended level	Actual level	Need Met
Number of facilities with EmOC services available	Number of facilities that provide EmOC	Minimum: 1 Comprehensive EmOC facility + 4 Basic EmOC facilities for every 500,000 people	With a population of 1 million six CEmOC facilities is above the target of 2 The existing number of 5 BEmOc facilities is below the target of 8	Yes No
Geographical distribution of EmOC facilities	Facilities providing EmOC well-distributed at sub-national level	100 % of sub-national areas have the minimum numbers of Basic and Comprehensive EmOC facilities	Unguja Pemba	No Yes
Proportion of all births in EmOC facilities	Proportion of all births in the population that take place in EmOC facilities	Minimum 15 %	Proportional of all births in EmOC in 2008 was 39.7%)	Yes
Caesarean sections as a percentage of all births	Caesarean deliveries as a proportion of all births in the population	Minimum 5 % Maximum 15 %	The caesarean sections rate in 2008 was 7.4 %	No
Case fatality rate	Proportion of women with obstetric complications admitted to a facility that die	Maximum 1 %	With 2.3 % it is significantly higher than the UN target.	No