Harare City Council Health Department
Annual Report 2007

CHAPTER I

VITAL STATISTICS

GENERAL INFORMATION

Height above sea level - 1 492 m
Area of Greater Harare - 890 km^2

RAINFALL	**2007**	**2006**
Actual: (January - December)	**857 ml**	**755.3 ml**
Seasonal: (July 2006 - June 2007)	**855.8 ml**	**827.6 ml**

TEMPERATURE

Maximum Temperature	**33.3^{o}C (5 Oct)**	**30^{o}C (21 October)**
Minimum Temperature	**-0.3^{o}C (5 June)**	**6.5^{o}C (1 & 28 July)**

POPULATION

Total Population	**-**	**1 533 190**
Male	**-**	**767 804**
Female	**-**	**765 386**

DEPENDENCY RATIO

$$\text{Dependency Ratio} = \frac{\text{Population Under 15 Years + Over 65 Years}}{\text{Population 15 Years to 64 Years}} \times 100\%$$

Dependency Ratio = 51

Percentage of under 15 years: 31.9% (489 159)
Percentage of over 65 years: 1.8% (28 090)
Percentage of 15 – 64 years: 66 % (1 015 941)

Source: Central Statistical Office: Projection of 2002 Population Census (CSO)

Table 1: LIVE AND STILL BIRTHS FOR 2006 AND 2007

Place	Live Births		Born Before Arrival (BBA)		Total Live Births		Still Births		Total Births		Still Birth Rate per 1000 Live Births	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
Harare Municipal Clinics	16 524	21061	1 053	1481	17 577	22542	206	112	17 783	22654	11.7	5
Harare Central Hospital	6 046	6028	254	75	6 300	6103	252	395	6 552	6498	40.0	64.7
Mbuya Nehanda Hospital	6 164	4029	155	144	6 319	4173	233	212	6 552	4385	36.9	50.8
Avenues Clinic	1 868	1848	0	0	1 868	1848	18	19	1 886	1867	9.6	10.3
Belvedere Maternity	1 654	1468	10	19	1 664	1487	35	21	1 699	1508	21.0	14.1
Queen of Peace	437	644	1	3	438	647	3	7	441	654	6.8	10.8
Glen View Maternity Private	509	692	3	0	512	692	1	1	513	693	2.0	1.4
Mbuya Maria	478	662	0	1	478	663	9	2	487	665	18.8	3.3
Baines Avenue Clinic	2 449	2964	14	11	2 463	2975	26	45	2 489	3020	10.6	15.1
Harare East Memorial	74	155	1	4	75	159	0	0	75	159	0.0	0
West End Hospital	508	408	4	3	512	411	15	8	527	419	29.3	19.5
Starlight	41	104	0	0	0	0	0	1	0	1	0.0	0
Mother Pulsar	84	136	0	1	0	0	0	2	0	2	0.0	0
Mabvuku	53	65	0	0	0	0	0	0	0	0	0.0	0
Crest	8	0	0	0	8	0	0	0	8	0	0.0	0
Total	36 987	40264	1 495	1742	38 214	41700	798	825	39 012	42525	20.9	19.8

Source: Records from above institutions

- **Total population - 1 521 013**
- **Total births - 42 525**
- **Live births based on maternity units - 41 700**
- **Crude birth rate - 27.6 per 1 000 population**
- **Still birth rate - 20.9 per 1 000 live births**
- **Mortality under one week and still births - 1 525 (age<1 week=700)**
- **Perinatal Mortality Rate - 35.9 per 1 000 total births**
- **Registered infant mortality (under one year) - 2 070**
- **Infant mortality rate - 49.6 per 1 000 live births**
- **Total deaths - 14 465**
- **Crude death rate - 10 per 1 000 population**
- **Rate of natural increase (birth death) - 1.9% per population**

CHAPTER II

MORTALITY PATTERNS IN HARARE

INTRODUCTION

The data presented in this report is compiled from death certificates collected from the Registration of Births and Deaths from Harare District and represents only residents of Harare.

The information is vital in determining priorities in the provision of health care services and in planning intervention strategies. Every effort is made to ensure the accuracy of these figures. The degree of under-reporting is unknown but maybe insignificant since it is a legal requirement in Harare that all deaths be registered before burial. The degree of over reporting was also unknown as some people gave a Harare address, when in actual fact are not residents within Harare.

In 2007 a total of 14 465 deaths were registered at the Harare District office compared to 15 164 recorded in 2006. The crude death rate was 10.1 per 1000 population.

The five leading causes of death for all ages in rank order were:-

- **HIV Related (21,1%)**
- **Pneumonia (18,1%)**
- **Tuberculosis (10.8%)**
- **Gastroentritis (7.3%)**
- **Meningitis (4.7%)**

Of the 14 465 recorded deaths in 2007, 5 336(36.9%) occurred at home.

In 2007 the number of deaths from suicides was 111 (0.8%) as compared to 82 (0.5%) recorded in 2006. Of the total suicides the highest deaths (49.1%) occurred in the 25-44 years age-group and 36.0% occurred in the 15-24 year age-group. The most common methods of suicide were ingestion of organophosphates, hanging, gunshot and carbamate poisoning.

The number of deaths attributed to malaria were 82 (0.6% of total deaths). Of the total 31 (37,8%) were in the 25-44 age group.

The suburbs which recorded the highest deaths in rank order were:-

-	**Northern Suburbs**	**2201**	**(15.5%)**
-	**Southern Surburbs**	**1374**	**(9.5%)**
-	**Mbare**	**1192**	**(8.2%)**
-	**Highfields**	**1137**	**(7.9%)**
-	**Glen View**	**1115**	**(7.7%)**
-	**Kuwadzana**	**1077**	**(7.4%)**

Mortality trends will be compared for 2006 and 2007. Table I gives a detailed analysis of death by age-group, race and sex. Table II shows the deaths registered in Harare by different age-group categories. The number and causes of deaths recorded for each suburb by age-group are shown in the appendix.

Table 2: Deaths Registered in Harare by Age-Group, Race and Sex

AGE GROUP	AFRICAN				ASIAN			EUROPEAN			COLOURED			GRAND TOTAL	
	M	UK	F	Total	M	F	Total	M	F	Total	M	F	Total	2007	2006
Under 1 year	1 065	1	941	2 007	3	0	3	0	0	0	1	0	1	2 070	2 011
01 – 04	368	0	361	729	0	0	0	0	0	0	0	0	0	718	729
05 – 09	138	0	121	259	0	0	0	0	0	0	0	0	0	219	259
10 – 14	130	0	135	265	0	0	0	1	2	3	0	0	0	202	268
15 – 19	126	0	138	264	0	0	0	0	1	1	0	0	0	255	265
20 – 24	217	0	316	533	0	0	0	4	0	4	1	0	1	508	538
25 – 29	477	0	618	1 095	0	0	0	1	1	2	1	0	1	1 078	1 098
30 – 34	911	0	876	1 787	1	0	1	4	1	5	3	0	3	1 677	1 796
35 – 39	1 045	0	774	1 819	1	0	1	0	2	2	2	0	2	1 646	1 824
40 –44	656	0	578	1 234	0	1	1	3	1	4	3	1	4	1 148	1 242
45 – 49	580	0	475	1 055	2	0	2	4	1	5	0	1	1	956	1 063
50 – 54	463	0	358	821	2	2	4	7	6	13	5	2	7	810	845
55 – 59	331	0	285	616	0	2	2	8	7	15	4	4	8	622	641
60 – 64	283	0	221	504	4	2	6	14	7	21	0	2	2	498	533
65 – 69	267	0	197	464	3	0	3	11	11	22	4	1	5	525	494
70 – 74	265	0	154	419	3	3	6	23	16	39	4	0	4	425	468
75 – 79	209	0	143	352	7	5	1	21	17	38	1	0	1	448	403
80 – 84	119	0	94	213	0	3	2	33	27	60	2	2	4	266	280
85 and over	101	0	109	210	2	2	3	39	30	69	0	3	3	286	337
Unknown	45	0	7	52		0	4	0	0	0	0	0	0	52	70
TOTAL	7 508	0	6 549		26	14		199	140		11	18		14 465	15 164

Table 3: Mortality Pattern by Age-group 2006 and 2007

Age Group	2006		2007	
	Number	% of Total	Number	% of Total
Under 1 week	580	3.8	700	4.8
1weekto 1 month	208	1.4	218	1.5
1 - 11 months	1 223	8.1	1152	8.0
1 - 4 years	729	4.8	718	5.0
5 - 14 years	527	3.5	421	2.9
15 - 24 years	803	5.3	763	5.3
25 - 44 years	5 960	39.3	5549	38.4
45 - 64 years	3 082	20.3	2886	20.0
65+ years	1 982	13.1	2006	13.9
Unknown	70	0.5	52	0.4
Total	15 164	100	14 465	100

The highest proportion of deaths (38.4%) occurred in the 25-44 years age-group as has been the trend in the preceding years.

Tables 4 to 12 give a detailed analysis of deaths which occurred in each age-group and compared with the 2006 death occurrences.

Table 4: Mortality Pattern Under 1 Week 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Asphyxia/Aspiration	117	20.1	141	20.1
Congenital Anomaly	23	4.0	22	3.1
Gastroenteritis	6	1.0	11	1.6
Septicaemia	62	10.7	61	8.7
Respiratory distress	94	16.2	116	16.6
Pneumonia	35	6.0	90	12.9
*Other causes	35	6.0	26	3.7
Prematurity	208	35.9	233	33.3
Total	580	100%	700	100

Pre-maturity remains the leading cause of deaths in this age-group.

Table 5: Mortality Pattern 1 Week to 1 Month 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Pneumonia	63	30.3	72	33.0
Septicaemia	66	31.7	55	25.2
Pre-maturity	26	12.5	27	12.4
Gastroenteritis	8	3.8	6	2.8
Meningitis	3	1.4	6	2.8
Congenital Anomaly	12	5.8	10	4.6
Asphyxia/Aspiration	7	3.3	3	1.4
HIV	3	1.4	4	1.8
Malnutrition	5	2.4	3	1.4
Other Causes	15	7.2	32	14.6
Total	208	100	218	100

Pneumonia was the leading cause of death in this age-group, accounting for 33.0% followed by septicaemia which accounted for 28.2% of all the deaths. A significant change of congenital anomaly was recorded in this age-group.

Table 6: Mortality Pattern: 1 - 11 Months Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Pneumonia	747	61.1	641	55.6
HIV Related TB *	83	6.8	112	9.7
Meningitis	43	3.5	41	3.6
Gastroenteritis	173	14.1	157	13.6
Septicemia	28	2.3	27	2.3
Tuberculosis	11	0.9	11	1.0
Malnutrition	20	1.6	14	1.2
Congenital Anomaly	9	0.7	11	1.0
Prematurely	7	0.6	28	2.4
Asphyxia/Aspiration	9	0.8	5	0.5
#Other Causes	93	7.6	105	9.1
Total	1223	100	1 152	100

 # Other causes were 9 deaths from burns, 8 diarrhoea, 3 hepatitis, 6 Renal failure, Dysentry 13 and
1 Road Traffic Accidents

Pneumonia and gastroenteritis remained the leading causes of death in this age-group.

Table 7: Mortality Pattern: 1 - 4 Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Pneumonia	238	32.6	203	28.1
Gastroenteritis	168	23.0	181	25.2
Malnutrition	89	12.2	70	9.7
HIV related TB*	63	8.6	97	13.5
Tuberculosis	22	3.0	17	2.4
Meningitis	28	3.8	26	3.6
Misadventure	17	2.3	16	2.2
RoadTraffic Accident	15	2.1	7	1.0
Burns	10	1.4	7	1.0
Dysentery	5	0.7	12	1.7
Other Causes#	74	10.2	82	11.4
Total	729	100	718	100

As in the previous year pneumonia, gastroenteritis and HIV related conditions remain the leading causes of death in this age-group

Table 8: Mortality Pattern: 5 - 14 Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Pneumonia	135	25.6	76	18.1
HIV Related/TB*	75	14.2	114	27.1
Tuberculosis	70	13.3	30	7.1
Gastroenteritis	57	10.8	40	9.5
Meningitis	29	5.5	32	7.6
Road Traffic Accident	20	3.8	24	5.7
OtherCardiovascular **	9	1.7	4	1.0
Malnutrition	16	3.0	11	2.6
Malignancies	13	2.5	11	2.6
Malaria	7	1.3	2	0.5
Misadventure	5	0.9	6	1.4
Rheumaticheart disease	4	0.8	2	0.5
Other Causes #	87	16.5	352	46.1
Total	527	100	763	100

HIV related conditions (27.1%) Pneumonia (18.1%) Gastroentritis (9.5%) and Tuberculosis (7.1%) remain the leading causes of death in this age-group.

***5 deaths Cryptococcal Meningitis, 31 Pneumonia, 26 Tuberculosis, and 6 PCP**
****3 deaths Congestive Cardiac Failure, 1 Endocarditis**
 # 4 Malnutrition

Table 9: Mortality Pattern: 15 - 24 Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Tuberculosis	123	15.3	90	11.8
Pneumonia	151	18.8	104	13.6
HIV Related TB*	95	11.8	161	21.1
Meningitis	58	7.2	50	6.6
Gastroenteritis	64	8.0	46	6.0
Malignancies	25	3.1	23	3.0
Diabetes	9	1.1	12	1.6
RHD	8	1.0	6	0.8
Misadventure	10	1.2	9	1.2
Road Traffic Accident	40	5.0	43	5.6
Cardiovascular**	30	3.7	16	2.1
Malaria	7	0.9	15	2.0
Trauma	15	1.9	12	1.6
Suicide	30	3.7	40	5.2
Pregnancy Related	16	2.0	30	3.9
Other Causes#	122	15.2	657	13.9
Total	803	100	763	100

***16 deaths Cryptoccocal Meningitis, 13 PCP, 46 Tuberculosis.**
****1 Cardiomyopathy, 13 Congestive Cardiac Failure**
 # Hepatitis 3, Cerebral Malaria 2, Burns 2 Renal Failure 14
HIV related conditions, Pneumonia, and Tuberculosis remain the leading causes of death in this age-group

Table 10: Mortality Pattern: 25 - 44 Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Tuberculosis	1 354	22.7	1014	18.3
Pneumonia	1 226	20.6	790	14.2
HIV Related/TB*	1 143	19.2	1778	32.0
Meningitis	505	8.5	366	6.6
Gastroenteritis	468	7.9	392	7.1
Malignancies	179	3.0	187	3.4
Road Traffic Accident	113	1.9	136	2.5
Cardiovascular diseases **	75	1.3	88	1.6
Malaria	23	0.4	31	0.6
Renal Failure	114	1.9	77	1.4
Trauma	56	0.9	57	1.0
Suicide	38	0.6	49	0.9
Pregnancy related	50	0.8	63	1.1
Hypertension	161	2.7	40	0.7
Other Causes#	455	7.6	481	9.0
Total	5 960	100	5549	100

*** 496 concurrent TB, 131 PCP, 268 Cryptococcal Meningitis, Pneumonia 284**
**** 3 Cardiomyopathy, 79 Congestive Cardiac Failure**
 # 13 Hepatitis, 3 Dysentery, 5 Chicken Pox.
HIV related conditions was the leading cause of death in this age-group (32.0%)

Table 11: Mortality Pattern: 45 - 64 Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Tuberculosis	482	15.6	320	11.1
Pneumonia	556	18.0	353	12.2
HIV Related TB*	401	13.0	697	24.2
Meningitis	165	5.4	124	4.3
Gastroenteritis	225	7.3	158	5.5
Malignancies	250	8.1	272	9.4
Road Traffic Accident	43	1.4	54	1.9
Cardiovascular**	137	4.4	83	2.9
Malaria	23	0.7	22	0.8
Renal failure	99	3.2	90	3.1
Hypertension	161	5.2	146	5.1
Cerebrovascular Accident	99	3.2	141	4.9
Diabetes	94	3.0	65	2.3
Other Causes#	347	11.3	361	13.0
Total	3082	100	2886	100

*** 88 deaths Cryptococcal Meningitis, 54 Gastroenteritis, 37 Meningitis, 44 PCP, 113 Pneumonia, 202 Tuberculosis**

**** 68 Congestive Cardiac Failure, 7 Cardiomyopathy**

 # Other causes: 3 Deaths Burns, 24 Liver Failure, other lung diseases 22

Table 12: Mortality Pattern: 65+ Year Age-group 2006 and 2007

Cause of Death	2006		2007	
	Number	% of Total	Number	% of Total
Pneumonia	344	17.4	271	13.5
Malignancies	249	12.6	299	14.9
Other Cardiovascular **	171	8.6	152	7.6
Hypertension	263	13.3	229	11.4
Cerebrovascularaccident	145	7.3	221	11.0
Tuberculosis	91	4.6	68	3.4
Gastroenteritis	97	4..9	70	3.5
Diabetes	89	4.5	87	4.3
Renal failure	87	4.4	101	5.0
Myocardial infarction	49	2.5	41	2.0
Meningitis	31	1.6	29	1.4
HIV related/TB *	34	1.7	90	4.5
Road traffic accident	14	0.7	13	0.6
Senility	11	0.6	4	0.2
Other Causes#	307	15.5	331	17.0
Total	1982	100	2006	100

***12 deaths Cryptococcal Meningitis, 3 PCP, 16 Pneumonia, 27 TB**

**** 132 deaths Congestive Cardiac Failure, 6 Cadiomypathy, 1 Coronary Heart Disease,**

 # Other causes: 1 Deaths Burns, 16 Liver Failure, 46 Other Lung diseases and 7 Malnutrition/Pellagra

Malignancies

A total of 795 deaths due to malignancies occurred in all age-groups representing 5.5% of all recorded deaths.

Table 13: Number and Percentages of Malignancies for all Ages, 2006 and 2007

Malignancy	2006		2007	
	Number	% of Total	Number	% of Total
Kaposi Sarcoma	82	11.3	60	7.6
Cervix	74	10.2	100	12.6
Liver	70	9.6	60	7.6
Prostate	49	6.7	87	10.9
Breast	58	8.0	67	8.4
Oesophagus	49	6.7	56	7.0
Bronchus/lung	43	5.9	34	4.3
Stomach	46	6.3	48	6.0
Lymphoma	34	4.7	32	4.0
Bladder	16	2.2	27	3.4
Other Causes	205	28.2	224	28.2
Total	726	100	795	100

There was a marginal increase in deaths as a result of malignancies. Cancer of cervix (12.6%) was the most common malignancy as compared to last year which recorded Kaposi Sarcoma (11.3%) as the most common malignancy.

Place of Death

The proportion of deaths that occurred in the home, (39.9%) remains high. More deaths occurred at home than in any one of the Central hospitals. This may be due to the fact that chronically and terminally ill patients tend to die at home than in hospital since most health facilities are not able to cope with the increasing number of ill patients. Most chronically and terminally ill patients are usually discharged for home based care. The harsh economic climate in the country and escalating medical expenses has also prompted more deaths to occur at home. The majority of the patients who die at home are diagnosed HIV, TB and Pneumonia.

Conclusion

This report highlighted that HIV related conditions, Pneumonia, TB and gastroenteritis remain the leading causes of deaths in the City of Harare. It has also been noted that THERE has been a significant shift from Tuberculosis to HIV related as the major killer condition in the City of Harare. This is noticeable in the productive age-groups of 15 years to 44 years.

The proportion of deaths (38.4%) in the productive age-group (25-44) remains unacceptably high. Pneumonia, Tuberculosis and HIV related conditions which could be prevented remain the leading causes of deaths in this age group. The high mortality in this age group impacts negatively on the economy since deaths occur prematurely. Efforts to prevent these deaths in this most productive age group should be strengthened if the economy has to be sustained.

CHAPTER III

ENVIRONMENTAL HEALTH

INTRODUCTION

The City continued to witness a decline in the quality of life and environment due to erratic water supplies, blocked sewers and dumped refuse.

The current harsh socio-economic environment has resulted in an upsurge in illegal activities such as street vending, preparation and sale of food from unlicensed sites and squatter settlements in the peri-urban areas.

Environmental Conditions

There was deterioration of water supply in both quality and quantity. The hardest hit areas being Mabvuku and Tafara suburbs. The Zimbabwe National Water Authority (ZINWA) failed to meet its mandate to supply wholesome water to residents of the City. Some of the reasons given were electricity power outages, challenges in the procurement of water treatment chemicals and frequent water pipe bursts.

The incidence of sewerage blockages increased. In some areas raw sewage continued to flow throughout the year. This phenomeon was characteristic of all high density residential areas. ZINWA attributed this to lack of sewer rods. Some residents were living under unhygienic conditions. Refuse collection system continued to deteriorate during the course of the year. Some areas never had refuse collected for the whole year resulting in residents dumping waste on road verges and storm water drains. This year witnessed an increase in rodent population especially in the high density areas. After the onset of the rains mosquito breeding became rife. Residents had to endure mosquito bites and heavy rodent infestation.

The number of public health nuisances and complaints dealt with are reflected in Table 14.

Informal Traders

The harsh socio-economic environment prevailing in the country compelled more people to go informal. The year witnessed an increase in illegal vending activities throughout the city. Unfortunately the vendors were selling perishable food items like fresh fish, chicken entrails, beef and pork. The acute shortages of basic commodities fueled the illegal sale of bread, maize meal, flour, cooking oil, butter etc in the open. These activities exposed the residents to the risk of outbreaks of food poisoning. The law enforcement agents continued to play cat and mouse game with vendors.

Housing and squatter settlements

Due to housing shortages beneficiaries of the Government sponsored housing projects moved into incomplete houses where there were no water and sanitary facilities. More stands were allocated to people in the Hopley area and they set up temporal structures of mainly plastic material.

The other peri-urban settlements still exist and the issues of water and sanitation have not yet been resolved. Despite the existence of illegal settlements the people were less crowded in their dwellings.

Table 14: Inspections Following Complaints and Nuisances in Year 2007 by District

Inspections	Central	Northern	Eastern	Southern	Western	Total 2007	Total 2006
Drainage (Blockages/defects septic tanks)	5	43	132	447	1 120	1 747	1 607
Air Pollution (smells/smoke/soot)	13	94	27	494	823	1 451	2 559
Flies/Manure/Waste matter	0	15	1	212	289	517	545
Mosquitoes & other collection of water	0	21	4	250	185	460	571
Other insects	0	0	0	3	0	3	7
Rodents	0	107	0	211	239	557	800
Overcrowding	6	5	0	144	67	222	635
Sanitary Conveniences	21	12	0	90	100	2 223	528
Unprotected and condemned Food	17	0	1	61	2	81	171
Farm Animals	0	0	21	19	31	71	70
Absence of water supplies	15	0	20	227	305	567	952
Poultry	0	7	2	12	91	112	214
Illegal Cooking	7	8	21	442	744	1 222	1145
Refuse	0	318	96	1 030	2 245	3 689	2 627
Squatters	0	2	2	31	119	154	256
Derelict Buildings	1	0	5	6	4	16	55
Others	0	0	0	5	0	5	507
Total	85	632	332	3 684	6 364	11 097	13 249

There was 16.2% decrease in total inspections this year compared to the previous year. The decrease is attributed to the critical shortage of transport, to enable officers to follow up all complaints received.

Food Hygiene, Food Premises and Licensed Premises

Inspections of licensed premises were greatly hampered by lack of transport. The section was made to operate with two old vehicles. The section has thirty two Environmental Health Officers who must be mobile.

The standard of hygiene in some premises declined. The enforcement of price controls during the second half of the year resulted in some businesses closing shops especially butcheries.

Illegal food preparation and sale continued unattended throughout the city. This was more marked in industrial sites and shopping centres in the high density residential areas. The unavailability of transport hampered effective monitoring of such activities.

Table 15 gives a breakdown of foods that were condemned as unfit for human consumption.

Table 15: Breakdown of Foodstuffs Condemned by District

TYPE OF FOOD	WEIGHT IN KILOGRAMMES (KGS)/LITRES (L)				
	Central	Northern	Eastern	Southern	Western
Miscellaneous Meats	0	894.4kg	0	1 904.96kg	610.0kg
Assorted Foodstuff	175.8 kg	0	0	1 202.3kg	395.2kg
Fish	104 kg	0	82.9kg	85.5kg	1 605.3kg
Dairy Produce	0	0	678.3kg	236.1kg	1 497.9kg
Poultry	1 750.35kg	361.1kg	1 553.4kg	264kg	4 211.8kg
Pork	152.25kg	0	657.6kg	0	497.3kg
Dairy Fruit Orange Drink	37.5 L	0	0	0	102 L
Frozen Vegetables	0	0	429.0kg	0	228.0kg
Mixed Fruit	0	0	0	0	0
Mutton	5.0kg	0	0	0	0
Mince Meat	0	0	0	0	0
Sausages	0	0	0	0	369.0kg
Wheat	0	0	0	0	0
Beef	350.2kg	0	950.7kg	51.1kg	2 364.1kg
Eggs	0	0	0	2 340	0
Totals	2 537.6kg	1 255.5 kg	4 351.9kg	6 083.96kg	11 778.6kg
	37.5 L				102 L

The number of inspections conducted in licenced premises and the number of legal matters which were dealt with during 2007 are reflected in Tables 16 and 17 respectively. Other inspections are reflected in Table 18.

Enforcement of Harare (Licensed Premises) by-laws and Urban Councils Act

In order to assist in the enforcement of the Harare (Licensed Premises) by-laws and Urban Councils Act Council resolved to form a joint team. The team comprised of staff from Audit, Municipal Police and Environmental Health Section. Their mandate was to ensure that all businesses operate with the requisite licenses and helath registration certificates. In the Central Business District it was found out that about 70% of premises visited had licences whilst in the industrial sites about 20% had licenses.

Nursery Schools, Creches and Day Care Centres

Monitoring of these institutions was done to ensure a healthy environment for the children and also compliance with the Child Protection Adoption Act and Regulations. The frequency of the visits was curtailed by lack of transport as indicated earlier. Unregistered institutions were advised to comply and the issue forwarded to the Department of Social Welfare.

Closure orders

A total of 164 closure orders (858 for 2006) were issued this year. Most of them were issued in terms of the Public Health Act where promises had no water supplies.

Table 16: Licensed Premises Inspections by District

Premises	Central	Northern	Eastern	Southern	Western	Total 2007	Total 2006
Aerated Water Factory	0	0	0	0	0	0	0
Bakeries	11	40	108	159	119	537	1 128
Butchers	355	94	238	523	359	1 569	2 549
Caterers	18	0	9	31	21	79	166
Food Purveyor	811	105	381	782	376	2 455	4 170
Food Vending Machines	0	0	0	0	0	0	3
Food Factories	13	22	3	266	88	392	745
Fishmongers	91	19	13	140	134	397	891
Equine Animals	0	0	0	3	3	6	98
Fruit & Vegetable Dealers	11	0	40	2	45	98	267
Hairdresser Class A	319	34	116	42	306	817	1 621
Hairdresser Class B	57	0	0	51	67	175	284
Hotels	74	1	9	8	0	92	141
Laundry Depots	143	10	48	118	183	502	828
Launderettes	4	0	3	17	9	33	121
Lodging/Boarding Houses	26	7	7	55	7	102	386
Restaurants & Tearooms	335	96	104	138	96	769	1 597
Takeaway/Food shops	630	81	81	337	255	1 384	2 454
Total	2 998	509	1 160	2 672	2 068	9 407	17449

Table 17: Legal Issues Attended to by District

Legal Matters	Central	Northern	Eastern	Southern	Western	Total 2007	Total 2006
Condemnation Certificates	13	5	6	16	11	51	95
Matters Referred to ZRP	9	0	3	53	10	75	300
Intimation Notices Served	48	5	10	143	58	264	1 375
Intimation Notices Complied with	16	5	9	87	47	164	676
Final Notices Served	1	0	3	20	10	34	80
Final Notices Complied with	0	0	1	3	18	22	64
Reports to other departments	8	1	1	40	12	62	253
Deposit fines issued	1	0	0	0	0	1	0
Health reports issued	46	22	4	75	96	243	146
Closure orders issued	116	0	0	0	48	164	858
Total	258	38	37	437	310	1 080	3 847

Table 18: Health Registration Premises Inspected by Districts

Premises Inspected	Central	Northern	Eastern	Western	Southern	Total 2007	Total 2006
Hawkers Premises/Vehicles	12	0	3	539	105	659	972
Public Buildings	7	118	0	252	465	842	747
Creche/Nursery schools	3	2	0	1 101	191	306	747
Sanitary Lanes	106	0	0	192	378	676	859
Parking Spaces	1	17	0	160	505	683	515
Vending Sites	0	214	142	1 007	2 975	4 338	5 451
Medical Institutions	118	0	0	68	177	363	805
Public Conveniences	42	70	82	290	297	781	957
Flea Markets	0	0	0	28	158	186	78
Dwellings	3	148	885	1 175	5 034	7 245	7 404
Plans	8	9	39	50	18	124	144
Sports Grounds	6	1	0	23	16	46	191
Grinding mills	0	0	0	28	158	186	304
Home industries	0	0	0	84	0	84	9
Factories – Non Food	42	0	0	334	256	632	657
Garage	58	22	0	185	180	445	475
Bars	68	20	66	236	404	794	0
Bottle stores	97	39	127	349	360	972	0
Tailoring	507	0	0	65	244	816	0
Beauty Parlour	87	4	0	26	13	130	0
Phone shops	212	6	0	126	221	565	0
Engineering	7	0	0	61	9	77	0
Commodity broking	206	0	0	0	0	206	0
Electrical repairs	171	0	0	0	0	171	0
Consultancy	88	0	0	0	0	88	0
Dump sites	0	5	0	402	448	855	0
Markets	1	57	56	531	612	1 257	0
Night clubs	22	21	19	32	204	298	0
Refuse sites	0	19	0	59	0	78	0
Printing shops	95	0	0	0	0	95	0
TV & Radio repair shops	94	0	0	0	0	94	0
Vacant stands	0	0	0	158	0	158	0
Others	610	32	1	799	336	1 778	998
TOTAL	2 577	804	1 420	7 346	13 622	25 863	25 519

Hawkers'Licenses Issued

A total of 1 200 licences were issued compared to 450 in 2006.

Flea Markets

These activities were continued to be restricted to areas outside the Central Business District. Some illegal ones came up at shopping centres in residential areas. In some areas these were allowed during weekends and public holidays.

Building plans

A total of 270 building plans (767 in 2006) were received from the Department of Urban Planning Services for scrutiny in terms of the Model Building By-Laws.

Harare Agricultural Show

A total of 560 trading permits were processed in 2007 as compared to 556 in 2006. All food catering outlets were inspected and licensed before the show week. Regular inspections were carried out during the show week and no cases of food poisoning were reported.

Registration certificates

A total of 4 850 registration certificates compared to 410 in 2006 were issued this year. The increase is due to combined visits made by Environmental Health Officers, Auditors and Municipal Police to business premises to check for licences.

Shop Licensing Trading Permits

A total of 664 shop trading permits were issued compared to 725 in 2006.

Shop Licences Act 1996 Chapter 14:17

A summary of the number and type of licenses processed in terms of the shop licenses Act are reflected in Table 19 and Table 20.

Table 19: Harare (Licensed Premises) By-Laws, 1975 Licences Approved Year 2007

TYPE OF LICENCE	TOTAL
Bakers	241
Butchers	947
Caterers	148
Fishmongers	451
Food Factories	372
Food Purveyors	1 040
Boarding Houses	45
Hotels	30
Lodging Rooms	57
Laundries	29
Laundry Depots	267
Restaurants	548
Tearooms	118
Keeping of Equine Animals	102
Takeaway Food shops	779
Tuckshops	0
Hairdressers "A"	536
Hairdressers "B"	96
TOTAL	5 806

Table 20: Shop Licences Act 1996 Chapter 14:17

The table below details the shop licence, approved, their types and their figures for the year 2007.

Number of Premises Involved	Date of Meeting	Retail	Wholesale	Hire	Auction	Change of person in control	Vending machine	Total
138	09.01.07	129	9	2	0	3	0	143
90	06.02.07	77	11	2	0	6	0	96
294	06.03.07	257	33	4	0	3	0	297
244	10.04.07	214	30	0	0	1	0	245
91	08.05.07	85	5	0	1	3	0	94
130	05.06.07	114	11	4	0	1	0	130
132	10.07.07	116	16	0	0	0	0	132
152	07.08.07	123	27	2	0	1	0	153
230	11.09.07	191	38	1	0	0	0	230
145	09.10.07	113	30	2	0	5	0	150
100	06.11.07	79	19	2	0	1	0	101
134	05.12.07	117	16	1	0	1	0	135
1 880	Totals	1 615	245	20	1	25	0	1 906

Infectious Diseases

There was a 16% decrease in the number of infectious diseases notified and investigated during the year from 7 573 in 2006 to 6 336 in 2007. Details are reflected in table 21.

Table 21: Infectious Diseases Investigated by District in 2007

Diseases	Central	Northern	Eastern	Southern	Western	Total	
						2007	2006
Pulmonary TB	21	237	468	745	1 879	3 350	4 290
TB Others	45	58	275	213	1 366	1 956	1 980
Infective Hepatitis	0	0	2	0	5	7	6
Hepatitis B	0	0	0	0	6	6	11
Typhoid	0	0	0	0	0	0	0
Salmonella	0	0	7	0	27	40	59
Malaria	0	9	9	0	38	56	321
Meningococcal Meningitis	0	0	1	0	0	0	1
Cholera	0	0	24	0	168	192	45
Shigella Dysentery	0	1	35	4	97	119	265
E Coli	0	0	0	0	0	0	0
Food Poisoning	0	1	0	0	0	0	2
Anthrax	0	0	0	0	0	0	0
Campylobacter	0	0	0	0	0	0	0
Diarrhoea	0	0	0	0	311	311	230
Others	0	0	0	0	0	0	0
Unable to trace	*19*	*32*	*71*	*71*	*106*	299	*363*
Total	85	337	878	1 033	4 003	6 336	7 573

As highlighted in previous reports, pulmonary tuberculosis remained the major communicable disease notified and investigated in the City. This accounted for 3 350 (52.8%) cases of the total 6 336 investigated.

Cholera

There was a cholera outbreak during the first quarter of the year in the high density suburbs of Mabvuku and Tafara. A total of 24 cases were reported.

SAMPLING AND INDUSTRIAL HYGIENE PROMOTION

The objective of the sampling exercise is to ensure that food sold to and consumed by the public is of acceptable bacteriological and chemical standards. The food must also comply with the laid down standards as outlined in the Food and Food Standards Act, the Public Health Act , the Dairy Act and other national and international guidelines.

The year under review was a difficult one for the unit due to severe transport problems. This led to a reduction in the number of samples collected for the year.

Samples of water and foodstuffs collected throughout the city were submitted to the Government Analyst and ZINWA Laboratories for analysis. However most of the results from ZINWA Laboratory were not available due to non-payment for the submitted samples.

Municipal Water Supplies

One hundred and thirty-six (136) water samples were taken from various points throughout the City for bacteriological analysis. Twenty-six samples (19.1%) gave unsatisfactory results. The water failed the coliform test.

Private Boreholes Water Supplies

A total of 17 samples were collected from private and municipal premises where borehole water is used to supplement municipal water supplies. Results were available for only 4 samples all of which were satisfactory.

Well Water

Well water samples were taken from Mabvuku/Tafara and Budiriro suburbs in response to the diarrhea outbreaks as the residents were resorting to this source of water in the wake of shortage of municipal water experienced during the year. Eighteen samples were taken and results were available for 14 samples which all failed the coliform test.

Bottled Water

Twenty-two (22) bottles of natural mineral and bottled drinking water were purchased from factories and supermarkets and analysed at the laboratories. Four (4) samples (18.2%) failed the colifrom test.

Swimming Pools

Samples were taken from municipal pools, hotels and from government and private schools. Of the 28 samples submitted, 14 (50%) samples gave unsatisfactory results.

Table 22: Comparison of swimming pool water samples

Institution	2007			2006		
	Samples	Failures		Samples	Failures	
	No.	No.	%	No.	No.	%
Municipal Pools	18	10	56	22	12	55
Schools	2	1	50	0	0	0
Private schools	4	3	75	13	5	38
Hotel Pools	4	0	0	8	2	25
Total	28	14	50	43	19	44

Dairy Products

Pasteurised Milk, Lacto, Fresh Cream and Yoghurt

Thirty-nine samples were submitted for analysis. Results were available for 17 samples and of these 10 failed the coliform test and 7 failed the yeast test.

Frozen Dairy Confection

A total of 20 samples were submitted for analysis and 13 samples gave (65%) unsatisfactory. The 13 unsatisfactory results were for coliform test. On further culture test carried on the 13 samples, 1 sample failed the faecal coliform test.

Ice Cream

Five (5) samples of ice-creams purchased from ice-cream vendors were analysed and all 5 samples gave satisfactory results.

Mince, Sausages and Cold Meats

A total of 95 samples were taken for analysis, results were available for 43 samples and of these 11 samples contained sulphur dioxide preservative in excess of the stipulated 450mg/kg.

Carbonated Waters and Cordials and fruit juices

Five samples were submitted for bacteriological analysis. One sample gave unsatisfactory results.

Take-Away Foods

Two hundred and fifty-two (252) samples of foodstuffs were submitted for bacteriological examination. Results were available for 123 samples and of these 5 samples (4.1%) gave unsatisfactory results.

Swabbing Exercise

A total of 507 swabs were taken from the hands of food handlers and kitchen utensils. Forty-nine (17.7%) out of 277 samples that had results failed the faecal coliform test.

Table 23: Breakdown of unsatisfactory foods and swabs

SAMPLE	TOTAL	FAILURES	
		No.	%
Foods	123	5	4.1
Swabs	277	49	17.7
Total	400	54	11

INDUSTRIAL HYGIENE PROMOTION

Lectures on food hygiene, personal hygiene and functions of the Environmental Health Officer were given to various food outlets and at a major Government Health Institution.

Table 24: Premises Visited for Health Education Seminars

Premises Visited	Year	
	2007	2006
Hotels	1	4
Restaurants	10	8
Takeaways	7	18
Butcheries	12	8
Hospitals	3	5
Supermarkets	12	0
Total	45	48

ATMOSPHERIC POLLUTION CONTROL

Atmospheric pollution control of dust, smoke, odours and fumes was carried out throughout the year. Predominant air pollutants dealt with were as follows:-

- **Smoke from fuel burning appliances, burning of refuse and other wastes and vehicular emissions.**

- **Dust from cement manufacturing, sand blasting, base mineral grinding tobacco processing, fertilizer manufacturing, concrete premixing, quarrying and detergent manufacturing.**

- **Metallic fumes from foundries and battery manufacturing.**

- **Smells and odours from porcine abattoirs, old municipal dump site at Golden Quarry and tobacco processing.**

- **Routine monitoring of ambient levels of suspended particulate matter (SPM) and sulphur oxides (SO_x) was carried out throughout the year at the following points:-**

  Mbare, Highfield, Mufakose, Mabelreign, Town House, Beatrice Road Infectious Diseases Hospital and Hatfield.Monitoring of nitrogen dioxide (NO_X) could not be carried out for the whole year due to equipment breakdown.

Pollution by Smoke

The major sources of smoke pollution were, poorly maintained and operated boilers, use of dusty coal in fuel burning appliances, vehicular emissions and burning of refuse. Burning of old tyres was rampant in Western Triangle – Highfield, Willowvale, Ardbennie, Sunningdale and along Mukuvisi river in Mbare. Pomona and Golden Quarry Municipal refuse dumps were on fire for prolonged periods in August and September and contributed significantly to atmospheric pollution levels in the respective areas.

Table 25: Summary of smoke control activities for 2007

ACTIVITY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL 2007	TOTAL 2006
Casual Smoke Observations	95	108	78	55	69	60	47	18	20	15	59	51	675	911
Half Hour Observations	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Burning of waste	50	60	60	70	149	82	68	30	25	40	110	45	789	997
Veld fires	0	0	0	1	4	10	12	3	3	0	1	0	34	62
Visits to Boiler Installations	4	10	6	2	3	2	2	0	0	1	3	0	33	96
Other fuel burning appliances	2	4	4	1	2	1	4	0	0	3	2	6	29	38
Verbal Advice	6	6	4	3	4	2	4	0	0	1	0	6	36	67
Notices Served	4	2	4	0	1	1	3	0	0	1	4	6	24	82
Soot or grit	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	161	190	156	132	232	158	140	51	48	61	179	114	1 622	2 266

Pollution by dust

A number of complaints about dust nuisances wree received and investigated as follows per month:-

Table 26: Breakdown of Complaints Dealt With During 2007 compared to 2006

Month	No. Of Complaints Dealt With	
	2007	2006
January	18	7
February	20	3
March	15	5
April	12	3
May	20	5
June	11	4
July	9	1
August	4	2
September	4	3
October	4	2
November	29	2
December	5	1
Total	151	38

The major types of dust nuisances and the affected areas were as follows: -

Type Of Dust	Affected Areas
Tobacco	Southerton, Willowvale and Aspindale
Base Minerals	Willowvale and Graniteside
Cement	Tafara and Mabvuku
Quarry	Pomona and Vainona
Fertilizer	Workington, Msasa and Aspindale
Sawdust	Msasa, Workington, Aspindale, New Ardbennie and Southerton
Detergents	Willowvale and Workington

Pollution by Fumes and Odours

The main sources of fumes and odours were foundries, forges and tobacco processing plants.

Table 27: Complaints of fumes and odours dealt with by month and year

Month	No. Of Fumes and Odours Dealt with	
	2007	2006
January	23	1
February	21	15
March	10	2
April	16	2
May	14	8
June	6	1
July	8	0
August	2	0
September	5	1
October	8	1
November	11	0
December	4	5
Total	128	36

Pollution from Specified Processes

Problems encountered emanated from power generation, base mineral grinding. Cement manufacturing, foundry operations and fertilizer manufacturing.

Table 28: Breakdown of Specified Processes visited by month

Month	No. Of Processes Inspected	
	2007	2006
January	3	3
February	3	6
March	0	2
April	1	3
May	1	4
June	0	3
July	0	3
August	0	2
September	0	1
October	0	3
November	0	1
December	0	4
Total	8	35

Plans and Specifications

Three (3) plans and specifications for installation of fuel burning appliances were submitted and scrutinized. The correct chimney heights were calculated and recommended to applicants.

Routine Monitoring of Major Pollutants

Sampling of two (2) major pollutants suspended particulate matter (SPM) and sulphur dioxide (SO_2) was carried out for the greater part of the year. Sampling for suspended particulate matter could not be carried out for a month and for sulphur dioxide it was for three months due to lack of transport and breakdown of equipment respectively. Sampling for nitrogen dioxide (NO_2) was suspended for the whole year and the major constraint was breakdown of equipment.

TOTAL SUSPENDED PARTICULATE MATTER (TSPM)

Table 29: Suspended Particulates Monthly Average Concentrations (ug/m^3) for 2007

Station	January	February	March	April	May	June	July	August	September	October	November	December	Average
Mbare	27.25	23.65	24.70	26.53	50.97	70.37	56.67	41.44	54.41	0	9.55	35.67	38.29
Highfield	13.81	8.66	18.62	27.45	38.21	21.08	62.72	67.03	47.47	0	22.88	26.46	32.22
Mufakose	10.20	1.38	15.54	29.83	43.36	10.78	29.52	41.70	62.34	0	20.58	17.21	25.68
Mabelreign	16.80	13.86	5.1	14.90	22.32	23.51	21.64	28.63	32.38	0	13.29	13.98	18.76
Town House	19.71	22.63	18.93	25.83	48.73	61.81	45.24	128.77	34.03	0	25.16	44.06	43.17
Southerton	31.53	26.83	21.13	28.10	45.16	53.65	53.73	56.17	53.46	0	16.98	23.49	37.29
BRIDH	33.50	36.72	44.44	36.14	61.33	72.78	46.53	56.58	20.75	0	12.84	50.69	42.98
Hatfield	7.66	10.43	12.17	10.63	20.65	16.98	14.69	5.90	29.08	0	8.68	12.24	13.56
Monthly Average	20.06	18.02	20.08	24.93	41.34	41.37	41.34	53.28	41.74	0	16.25	27.98	31.49
WHO Standard	50	50	50	50	50	50	50	50	50	50	50	50	50

The highest monthly average was 53.28ug/m^3 recorded in August while the lowest was 16.25ug/m^3 recorded in November. The highest station average was 43.17ug/m^3 and was recorded at Town House whilst the lowest was 13.56ug/m^3 at Hatfield.

The monthly station average was 31, 49 ug/m^3. The hierarchy of pollutant concentration was as follows in microgrammes per cubic metre (ug/m^3).

Town house	**43.17**	**BRIDH**	**42.98**
Mbare	**38.29**	**Southerton**	**37.29**
Highfield	**32.22**	**Mufakose**	**25.68**
Mabelreign	**18.76**	**Hatfield**	**13.56**

OXIDES OF SULPHUR (SO_X)

Table 30: Sulphur Dioxide Monthly Average Concentrations ug/m^3 for 2007

Station	January	February	March	April	May	June	July	August	September	October	November	December	Average
Mbare	11.40	2.74	4.19	3.53	5.82	9.14	7.76	0	0	0	0	0	4.95
Highfield	62.55	38.86	63.96	33.79	28.70	22.14	22.87	18.29	0	0	23.56	0	34.97
Mufakose	31.89	15.32	13.35	14.47	11.72	5.83	15.95	20.52	0	0	37.86	0	18.55
Mabelreign	88.80	64.58	43.34	55.87	13.60	12.80	13.13	0	0	0	14.41	0	34.06
Town House	39.34	7.5	1.17	2.87	6.14	3.24	17.31	0	0	0	9.02	0	9.62
Southerton	310.09	239.72	406.25	273.99	264.08	124.23	339.92	336.11	0	0	454.13	0	305.39
BRIDH	38.92	11.26	0.4	6.42	6.45	4.44	21.76	0	0	0	2.00	0	10.18
Hatfield	25.65	11.30	0	3.51	3.84	2.61	11.72	0	0	0	5.71	0	7.15
Monthly Ave	76.08	48.91	66.58	49.31	53.11	23.05	56.30	46.87	0	0	68.33	0	53.11
W.H.O. Standard	50	50	50	50	50	50	50	50	50	50	50	50	50

The highest station average concentration was 305.39ug/m^3 recorded at Southerton whilst the lowest was 4.95ug/m^3 recorded at Mbare.

The highest monthly average was 76.08ug/m^3 in January while the lowest was 23.05ug/m^3 recorded in June. The average monthly station average was 53.11ug/m3.

The hierarchy of pollutants concentration at sampling station was as follows-:

Southerton	**305.39**	**Highfield**	**34.97**
Mabelreign	**34.06**	**Mufakose**	**18.55**
BRIDH	**10.18**	**Town House**	**9.62**
Hatfield	**7.15**	**Mbare**	**4.95**

CHAPTER IV

HEALTH EXTENSION SERVICES

- **Family Health Services**
- **Curative Health Services**
- **Municipal Maternity Units**

FAMILY HEALTH SERVICES

- **Attendances at under five clinic**
- **Immunization vaccine coverages**
- **EPI Diseases Surveillance**
- **Family Planning Services**
- **School Health Services**

The overall goal of Family Health Services continues to be that of reducing mobility and mortality in the under fives in line with the fourth Millennium Development Goal.

Harare City Health is committed to achieve this goal as shown by the high antigen coverages.

ATTENDANCES AT UNDER FIVE CLINICS

A total of 630577 under fives children visited the Harare City Clinics for immunization weighing and advise in 2007. A decrease of 38% was noted in 2007 compared to attendances of 2006. This marked decrease could be due to the staff sit which went on for 3 months. Only maternity units offered service because only senior staff reporting for duty.

All Districts registered a decrease in attendances with North Western District registering the highest decrease of 49% and Central District registering the 25.5%

Table 31: Comparison Table for Attendances for Weighing, Advice and Immunization for Under Fives by District 2006-2007

District	2007	2006	% Increase/Decrease
Central	7 510	10 086	-25,5
Northern	42 496	63 672	-33,3
Eastern	71 653	99 260	-27,8
South Eastern	32 773	44 109	-25,7
Southern	58 752	87 664	-33.0
South Western	80 065	135 221	-40,8
West South West	115 735	214 521	-46,0
Western	160 819	248 580	-35,3
North Western	60 774	120 067	-49,4
Grand Total	630 577	1 030 180	-38,4

Table 32: Immunisation by District for under fives 2007

DISTRICT	DPT	HBV	POLIO	POLIO $^{18}/_{12}$ BOOSTER	DPT $^{18}/_{12}$ BOOSTER	DT PRESCHOOL	POLIO PRESCHOOL	MEASLES	BCG INITIAL	VITAMIN A
Central	1 541	1 515	1 541	406	406	334	324	550	181	7 223
Northern	6 744	6 742	6 407	1 722	1 753	1 426	1 501	2 110	1 481	3 695
Eastern	11 464	11 477	10 836	2 999	3 090	2 307	2 377	3 545	5 435	31 097
South Eastern	6 008	5 689	5 537	1 492	1 502	1 094	1 094	1 637	587	13 007
Southern	13 557	13 476	14 923	3 267	3 598	2 333	2 377	2 947	4 321	28 804
South Western	15 385	15 481	14 955	4 485	4 671	3 273	3 293	4 901	3 941	23 208
West South West	24 482	23 365	21 637	6 319	6 780	4 603	4 863	7 291	9 164	50 202
Western	20 629	20 624	20 414	4 863	4 920	3 816	3 816	6 181	3 373	25 632
North Western	13 061	13 059	12 651	3 711	3 741	2 909	2 883	4 136	2 468	18 498
Other Institutions	43 500	4 331	4 369	1 072	941	567	23	1 164	15 212	3 042
City Total	112 871	111 428	108 901	29 264	30 161	22 095	22 528	34 298	30 951	20 316
Grand Total	117 221	115 759	113 270	30 336	31 102	22 662	22 551	35 462	46 163	23 358

N.B Other Institutions include Harare Maternity, Mbuya Nehanda Maternity, Avenues Clinic, Baines Maternity Clinic, Belvedere Maternity, West End Clinic, and Queen of Peace and other small private units that offer maternity services.

TABLE 33: Harare City Coverages and Drop out rates January to December 2007

ANTIGEN	POPULATION	DOSES GIVEN	% COVERAGE	DROP OUT 2007	DROP OUT 2006
BCG	43 848	46 163	106		
Measles	43 848	35 360	81	23%	NIL
OPV 1	43 848	40 563	93	13%	7%
2		37 070	85		
3		35 534	81		
DPT 1	43 848	40 942	94	11%	7%
2		39 487	90		
3		36 649	84		
HBV 1	43 848	50 684	93	10%	5%
2		38 394	88		
3		36 670	84		

BCG coverage was 106% some mothers come to the city to deliver only and leave for their rural homes. BCG is given at birth or at first contact. The drop out rate i.e. babies given BCG and babies who complete the primary course after measles was 23%. Morbidity could be one reason why the drop out is high (10% is the accepted figure) 2007 drop outs are higher compared to 2006 drop out coverages are all above the universal proxy indicator of 80% indicating a well run routine programme.

Table 34: Trend in Immunisation Coverage rates for the under ones 2004 – 2007

ANTIGEN	COVERAGE RATES (%)			
	2007	2006	2005	2004
BCG	105	93.7	93	109.0
Polio 1	93	101.2	110	106.0
Polio 3	81	94.1	95	1005.5
DPT 1	94	100.8	108	108.0
DPT 3	94	94.0	95	100.3
HBV 1	93	100.6	108	107.5
HBV 3	84	95.2	95	99.2
Measles	77	133.0	91	100.6

The targets that were set for OPV 3 and DPT 3 were 95% like the previous year 2006. These targets were not reached despite having outreach clinics. They were not visited regularly as

planned because of transport, fuel problems and staff shortages. Urban population could aslo be higher than what is real on the ground.

Table 35: Drop out rate between BCG and measles by District and Other Institutions 2007 - 2006

			2007	2006
District	**BCG Given**	**Measles Given**	**% Drop out rate**	**% Drop out rate**
Central	181	550	*	*
Northern	1 483	2 110	*	*
Eastern	5 437	3 545	35	55.8
South Eastern	584	1 637	*	*
Southern	4 321	3 947	9	21
South Western	3 941	4 901	*	*
Western	3 373	6 181	*	*
North Western	2 468	4 142	*	*
West South West	9 164	7 292	21	*
Other Organisation	15 212	11 624	93	*
Total	46 167	35 469	24	91.0

Eastern District continues to have very high drop out of 35% in 2007 and 55.8 in 2006. Problem of tallying has been identified. WSW District has 21% from zero drop out in 2006. Other institutions recorded a 93% drop out. This is because only deliveries take place and the city clinics continue with immunization.

Table 36: Vitamin A Supplementation Coverage 2007 January and December

AGE	TARGET GROUP	ADMINISTERED DOSES	% COVERAGE
6-11 months		39 531	
12-59 months		164 878	
Total	179 174	204 409	114

Post Partum Vitamin A Administration

A total of 20 316 mothers were given Vit A 200 000 IU in the maternity units. This is done routinely.

BCG has the highest wastage rate of 64% BCG comes in 20 doses vials hence the wastage is unavoidable. Open vial policy applies to other antigens except BCG and measles. Supermarket approach is practiced where possible.

Table 37: Babies born protected from NNT January –December 2007

	DELIVERIES	BABIES BORN	BABIES PROTECTED	% COVERED
1st Quarter	4 614	5 024	4 551	90.6
2nd Quarter	4 938	5 272	4 921	93.3
3rd Quarter	5 284	5 594	5 286	94.5
4th Quarter	5 493	5 882	5 469	93.0

Total	**20 329**	**21 772**	**20 227**	**92.9**

Table 38: Babies Born Protected Against Neonatal Tetanus (NNT) March – December 2007

DISTRICT	MATERNITY UNIT	BABIES BORN	MOTHERS DELIVERED WITH VALID TT DOSES	NO. OF BABIES BORN PROTECTED AGAINST NNT	% OF BABIES BORN PROTECTED
Northern	Hatcliffe	916	884	885	97
Southern	Edith Opperman	3 938	3 640	3 644	93
Eastern	Mabvuku	2 362	2 319	2 160	93
Western	Kambuzuma	641	632	633	99
	Warren	823	785	785	95
	Park Kuwadzana	2781	2 653	2 635	95
South Western	Highfield Rutsanana	3197	3 108	3 129	98
West South West	Glen View	1 841	1 790	1 794	97
	Budiriro	2 344	1 891	1 912	82
	Mufakose	1 160	924	927	80
North Western	Rujeko	1 769	1 703	1 693	96
TOTAL		21 772	20 329	20 227	93

The difference on the number of deliveries and babies born is because BB's are and multiple deliveries are included. Babies born protected given an indicator of how the Tetanus Toxoid coverage. Coverage of Babies Born Protected from Neonatal Tetanus for 2007 was 92.9%.

Master Card Summary

Table 39: Comparison of Children weighed in each age group and percentage below the 3rd Centile for 2007 and 2006

AGE GROUP	2007			2006		
	No. Weighed	No. Below 3rd Centile	% Below The 3rd Centile	No. Weighed	No. Below 3rd Centile	% Below The 3rd Centile
0-5 months	163 650	3 693	3	190 286	4 013	2.1
6-11 months	140 468	3 313	3	185 081	3 812	2.1
12-23 months	174 394	6 924	4	213 814	8 103	3.8
24- 59 months	152 065	6 144	4	228 910	8 180	3.6
Total	630 577	20 074	4	818 091	24 108	2.9

A 77% decrease in number of children weighed was noted this year compared to 24.3% in 2006 and increase from 2.9% to 4% in children below the 3rd centile.

Child Health Days Campaign – June and November

BROAD OBJECTIVES

- **To give opportunity to all the under fives to receive all the vaccines that were**

overdue and due including Vitamin A supplements and oral polio vaccine irrespective of the vaccination status so as to reduce Vitamin A Deficiency, increase immunisation coverages and eradicate Poliomyelitis.

SPECIFIC OBJECTIVES

- **To give oral polio drops to all children between 0-59 months and increase the polio coverage to > 90%.**
- **To give Vitamin A supplements to all children between 6-59 months and increase Vitamin A coverage > 85%.**
- **To give routine antigens to all children who are due and overdue and increase antigen coverages to > 90%.**
- **To give T.T. antigens to all women of child bearing age (WCBA) and increase TT coverages to > 70%.**

Table 40: POLIO COVERAGES JUNE 2007

District	Target Population	Doses Administered	%
North Western	26 113	18 273	70
South West	20 053	17 797	89
Northern	11 908	8 726	74
South Eastern	11 849	11405	97
Southern	30 453	17 487	58
Western	32 979	29 339	89
Eastern	25 969	20 269	78
W.S.W	45 257	30 884	69
Prison	-	1 190	-
A/Force	-	832	-
Police	-	1 058	-
Army	-	465	-
Harare Province	201 098	157 725	79

Table 41: POLIO COVERAGES 26 – 30 NOVEMBER 2007

District	Target Population	Doses Administered	
		TOTAL	%
North Western	26 113	17 169	65.7
South West	20 053	18 673	93
Northern	11 908	8 527	74.3
South Eastern	11 849	8 789	74.2
Southern	30 453	17 208	57.8
Western	30 979	26 547	80.5
Eastern	25 969	22 402	86
W.S.W	45 257	29 869	73.4
Pari Hosp	-	980	-

Harare	**-**	**627**	**-**
Prisons	**-**	**1 137**	**-**
A/Force	**-**	**846**	**106**
Police	**1 700**	**1 578**	**92.8**
Army	**700**	**545**	**77.9**
Harare Province	**201 098**	**15 897**	**77**

The Polio coverages for June and November CHDs campaign were more or less the same i.e. 79 and 77 respectively. Here Population that which is the denominator could be higher than the children that are there. Only South Eastern District had a coverage of 97% above the set target in June and Southern the lowest coverage of 58%.

Table 42: VITAMIN A COVERAGE NOVEMBER 2007

District	Target Population	Grand Total	% Coverage
North Western	**23 266**	**13 559**	**59**
South Western	**17 168**	**15 808**	**89**
South Eastern	**10 436**	**7970**	**74.6**
Southern	**27 133**	**15 659**	**57.7**
Western	**29 383**	**23 522**	**80.1**
Northern	**10 419**	**8220**	**81.3**
Eastern	**23 039**	**22 091**	**84**
W.S.W.	**35 512**	**25 313**	**72**
Prison	**-**	**721**	**-**
Harare	**-**	**-**	**-**
Pari Hosp	**-**	**809**	**-**
A/Force	**755**	**800**	**99.2**
Police	**-**	**1 490**	**87**
Army	**600**	**447**	**75**
Harare Province	**179 174**	**136 762**	**76.3**

Vitamin A coverage for both June and November show a more or less the same picture of 77% and 76% coverages. S.W. had a higher coverage above the set target i.e. 93% in June and Southern District had the lowest again 58%.

Table 43: POLIO COVERAGES JUNE 2007

District	Target Population	Doses Administered			% Coverage
		Male	Female	Total	
North Western	**26 113**	**8 370**	**8 799**	**17 169**	**65.7**
South West	**20 053**	**9 384**	**9 289**	**18 673**	**93**
Northern	**11 908**	**4 142**	**4 385**	**8 527**	**74.3**
South Eastern	**11 849**	**4 690**	**4 690**	**8789**	**74.2**
Southern	**30 453**	**-**	**-**	**17 208**	**57.8**
Western	**30 979**	**12 486**	**14 061**	**26 547**	**80.5**
Eastern	**25 969**	**10 857**	**11 545**	**22 402**	**86**
W.S.W	**45 257**	**15 035**	**14 834**	**29 869**	**73.4**
Pari Hosp	**-**	**488**	**442**	**980**	**-**

Harare		**-**	**-**	**627**	**-**
Prisons	**-**	**513**	**624**	**1 137**	**-**
A/Force	**-**	**-**	**-**	**846**	**106**
Police	**1 700**	**739**	**839**	**1 578**	**92.8**
Army	**700**	**275**	**270**	**545**	**77.9**
Harare Province	**201 098**	**66 938**	**69 778**	**15 897**	**77**

Tetanus Toxoid Vaccination (TT) During Child Health Days December 2007

Women of child Bearing Age (WCBA) continue to be given Tetanus Toxoid. Target group is from 15 years to 49 years. Antenal mothers get their tetanus vaccine when they come for booking. If all mothers get their valid and booster doses then we are assured of a high percentage of babies born protected.

WCBA Population = 408 244
Expected pregnancy population = 68 041

During the November CHDs none of the District attained the target of 90% and above.

Table 44: Tetanus Doses given to women of Child Bearing Age and Antenatal Mothers and TT2+ Coverage January – December 2007

Expected pregnancies 68 041

DISTRICT	1ST DOSE	2ND – 5TH DOSE TT 2+	% COVERAGE
Central	**96**	**357**	**-**
South Eastern	**708**	**2 566**	**-**
Eastern	**594**	**7 482**	**-**
Northern	**169**	**1 814**	**-**
North Western	**1 419**	**5 430**	**-**
Western	**269**	**4 453**	**-**
South Western	**427**	**4 527**	**-**
West South West	**2 947**	**7 097**	**-**
Southern	**1 979**	**5 921**	**-**
Total	**8 608**	**39 647**	**59 exp. Pregnancies**

Coverage WCBA = 10%
Expected Pregnancies = 59%

Most of the women who come to book in city clinics had their TT during childhood.

Table 45: Vaccines Wastage Rates January – December 2007

DISTRICT	BCG %	OPV %	DPT %	HBV %	DT %	MEASLES %	TT %
Northern	**84**	**21**	**16**	**6**	**4**	**61**	**43**
Southern	**75**	**19**	**1**	**1**	**3**	**51**	**3**
Eastern	**53**	**7**	**11**	**3**	**15**	**27**	**11**
West	**43**	**2**	**1**	**1**	**1**	**25**	**6**
South Western	**40**	**8**	**6**	**8**	**11**	**19**	**10**
South East/Central	**90**	**8**	**11**	**4**	**10**	**67**	**3**
West South West	**44**	**8**	**5**	**4**	**10**	**34**	**5**

North Western	**77**	**3**	**6**	**2**	**10**	**50**	**17**

Some clinics failed to visit Grades 3 and seven in 2007 because of problems of fuel transport and staff shortage.

EPI Disease Surveillance

Broad

To monitor the effectiveness of EPI activities in the Targeted diseases of the under 5s.

The diseases under surveillance are poliomyelitis, measles neonatal tetanus and adverse events following Immunisation.

Specific Objectives for AFP

- **To detect 2 cases of AFP in every 100 000 children under the age of 15 years Target 100%**
- **To have stool adequacy of 80% in all identified AFP cases, 2 stool specimens to be collected within 24-48 hours apart within 14 days of onset of paralysis and transported to Virology Laboratory within 3 days of collection under the correct temperatures of $+2^0$ - $+ 8^0$ C Target 80%.**
- **Timeliness of reporting →80%.**

Challenges

Low stool adequacy

- **Poor communication between central Hospital staff and City Council staff when patients are admitted or discharged.**
- **Knowledge gape as regard to EPI disease surveillance strategies and procedures**
- **Knowledge gap on the importance of collecting second stool especially in Hospital when the patient has been admitted**
- **High staff turnover.**

Plans

- **Strengthening of communication between Hospital and City Health staff**
- **Orientation and training of staff from Central Hospitals, City Health staff and staff from Private Institutions**
- **Formation of EPI surveillance coordination committees at all levels**

Table 46: AFP surveillance Performance Indicators 2002-2007

INDICATORS	2007	2006	2005	2004	2003	2002
Expected no of AFP cases	10	10	12	6	6	5
Detected cases	16	20	14	7	5	8
% of AFP cases with adequate stools	63%	85%	64%	71%	60%	38%

Harare City had a stool adequacy of 63%. All AFP cases had first stools taken, second stools were not collected in while in Hospital. Target for stool adequacy us 80% ↑

Table 47: Harare City AFP Surveillance Performance Indicators by District January to December 2007

DISTRICT	CASES DETECTED	% OF AFP CASES WITH ADEQUATE STOOLS	
Eastern	2	2	100
Northern	1	1	100
North Western	0	0	0
Southern	1	0	0
South Eastern/Central	2	1	50
South Western	1	1	100
Western	1	1	100
West South West	0	0	0
Harare Group of Hosp.	0	0	0
BRIDH	1	0	0
Parirenyatwa	3	3	100
Avenues	2	0	0
West End	1	0	0
St Annes	1	0	0
Harare City Total	16	10	63

Measles Surveillance 2002 to 2007

Table 48: Tested GM Measles and Rubella

YEAR	MEASLES SUSPECTED CASES	BLOOD TAKEN FOR 11GM MEASLES/RUBELLA	POS MEASLES	POSITIVE RUBELLA
2007	27	27	0	11
2006	15	15	0	3
2005	37	37	2	7
2004	67	67	2	23
2003	20	20	2	7
2002	18	18	1	-9
2001	48	48	1	2

Measles surveillance

Table 49: Suspected measles cases – Tested and Results Measles 2007

AGE	IMMUNISATION STATUS			SOURCE		BLOOD TAKEN	MEASLES RESULTS			RUBELLA RESULTS		
	Vac	Not Vac	Not stated	Urban	Rural		Neg (-ve)	Pos (+ve)	Indeter	Neg (-ve)	Pos (+ve)	Indeter
<5 years	10	0	0	10	0	10	9	0	1	7	3	0
5 – 14 years	16	0	1	17	0	17	17	0	0	6	8	3
15+ years	0	0	0	0	0	0	0	0	0	0	0	0
Total	26	0	1	27	0	27	26	0	1	13	11	3

Key: Vac = Vaccinated, N/S = Not Stated, Indeter = Indeterminate, Neg = Negative, Pos = Positive

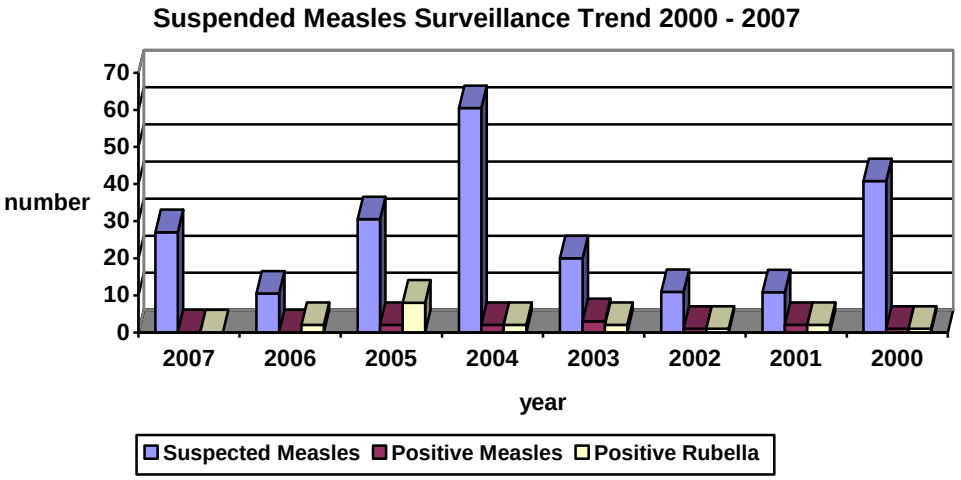


Table 50: Suspected Measles cases for January to December 2007 by District

DISTRICT	SUSPECTED CASES DETECTED	SPECIMEN TAKEN	MEASLES 1 1 GM + VE	RUBELLA 1 GM + VE
Eastern	3	3	0	1
Northern	3	3	0	1
North Western	6	6	0	4
Southern	2	2	0	1
W South Western	9	9	0	4
Western	4	4	0	0
South Western	0	0	0	0
South East/Central	0	0	0	0
TOTAL	27	27	0	11

Antigen	Number	Type of Reaction	Action and results
BCG	2	Abscess	Treated and recovered
DT	1	Abscess	Treated and recovered
HBV	1	Abscess	Treated and recovered
DPT	8	7 site abscess	All treated and recovered,1 convulsion
DPT, HB, Polio	3	Temperatures	1 treated and recovered 2 died, no post Mortem done

The two deaths recorded were given Polio, DPT/HB at 3 months, developed temperature, and died after some hours. No post mortem was done as all happened during the weekend. Parents could not wait for a post mortem, hence cause of death not known whether vaccine related or not site Abscesses probably due to poor injection technique. Re-training of vaccine administration and technique done in all clinics.

School Health Services

Harare City Health continues to offer school Health Services as in high density suburbs and some of the schools in low density suburbs. The main objective of school health service is to screen the children and detect early nutritional problem, current infectious and non infectious conditions, mentally and physical handicaps that may inhibit educational progress. General physical screening is carried out as well as giving vaccine booster doses to those who have been missed. The services offered are limited to zero and Grade 1 pupils first term, Grade 7 2nd term and Grade 3 during third term. Manpower and other resource limit provision of

these services to other Grades. In the low density areas only zero and Grade 1 are screened. Problems identified are referred to the appropriate institutions. For detailed nutritional status data refer to nutrition unit in chapter 5.

Table 51: Number of Schools Visited by District and Grade

DISTRICT	NO. OF SCHOOOLS VISITED	GRADE 1	GRADE 3	GRADE 7	TOTAL CHILDREN SCREENED
Northern					
Hatcliffe	2	574	501	487	1 562
Eastern					
Greendale	3	265	0	0	265
Tafara	5	1 240	0	865	2 105
Admiral Tait	1	173	0	0	173
Total	9				
Southern					
Waterfalls	2	136	0	0	136
Mbare	8	1417	0	0	1 413
Sunningdale	3	437	0	0	437
Total	13	1 990	0	0	1 990
South Western					
Highfield	6	1001	478	795	2 276
Glen Norah	4	717	678	621	2 016
Southerton	2	309	332	298	936
Western Triangle	5	1182	677	853	2 692
Rutsanana	4	947	872	664	2 483
Total	21	4 138	3 036	3 229	10 403
West South West					
Budiriro	5	1 313	1 243	1 120	3 676
Glen View	5	1 722	1 041	1 008	3 771
Mufakose	9	1 767	1 632	1 497	4 896
Glen View Sate	4	1 143	1 048	921	3 112
Total	23	5 795	5245	4 253	15 293
Western					
Kambuzuma	1	874	0	635	1 509
Kuwadzana	8	2 438	0	2 038	4 476
Warren Park	1	861	0	107	968
Total	10	4 173	0	2 146	6 953
North Western					
Rujeko	1	1 750	0	1 210	2 954
Avondale	1	238	0	0	850
Belvedere	9	850	0	0	540
Mabelreign	4	540	0	0	238
Total	23	2 378	0	1 210	4 582
South Eastern					
Hatfield	3	954	0	0	954
Grand Total	104	22 874	8 501	13 117	44 492

Table 52: TOTAL NUMBER OF CHILDREN SEEN

DISTRICT/ SUBURB	TOTAL NUMBER OF CHILDREN SEEN	CHILDREN WITH DENTAL CARIES	% OF CHILDREN WITH DENTAL CARIES	CHILDREN WITH RING WORMS	% OF CHILDREN WITH RING WORMS	CHILDREN WITH SKIN CONDITIONS	% OF CHILDREN WITH SKIN CONDITIONS	COUGHS AND COLDS	% OF	CHILDREN WITH SCABIES	% OF CHILDREN WITH SCABIES
Mbare	1 417	178	13	234	17	27	2	456	33	9	1
Rujeko	2 954	224	8	216	8	39	2	15	0.54	10	1
Kuwadzana	4 476	296	7	360	8	30	0.68	12	0.27	1	0
Mufakose	4 896	239	5	623	2	59	2	21	0.43	24	0.50
Kambuzuma	1 509	111	8	78	6	50	4	6	0.40	8	0.53
Warren Park	968	89	10	183	19	15	2	7	0.72	14	1
Budiriro	3 676	421	17	652	24	156	5	146	4	7	0.20
Glen Norah	2 016	125	7	85	5	24	2	32	2	3	0.15
Glen View	3 771	430	12	787	21	154	4	219	6	19	0.50
Glen View Sat	3 112	281	9	369	12	71	3	181	6	9	0.29
Highfield	2 276	252	11	192	9	41	2	69	3	17	0.29
Western Tria	2 692	318	12	261	10	49	2	30	2	21	0.78
Mabvuku	1 716	134	8	90	6	25	2	52	3	3	0.18
Tafara	2 105	103	5	42	2	61	3	36	2	5	0.24
Hatcliffe	1 562	98	7	55	4	27	2	40	3	9	0.58
Sunningdale	437	57	13	20	5	4	2	5	2	4	0.91
Southerton	936	56	17	24	3	12	2	27		4	0.43
Rutsanana	2483	55	3	87	4	6	0.24	5	3	8	0.32
Waterfalls	136	44	23	11	8	0	0	0	0	0	0
Belvedere	850	24	3	16	2	0	2	0	0	0	0
Mabelreign	540	10	2	17	4	38	7	20	4	14	3
Total	44 528	3 503	8	4 357	10	906	2	962	3	88	1

FAMILY PLANNING SERVICES (FP)

Table 53: Attendances for Family Planning by District for 2007 and 2006

DISTRICT	2007	2006	% INCREASE/ DECREASE
Northern	4 182	5 464	27
Eastern	8 986	10 661	16
South Eastern	3 942	3 620	9
Southern	6 553	10 007	35
South Western	9 805	12 384	21
West South West	9 626	16 755	43
Western	6 614	13 150	50
North Western	8 476	9 346	9
Total		1 715	
Grand total	58 184	83 469	30

There was a marked decrease in all districts except South Eastern that had an increase of 9%. All contraceptive pills and injectables were readily available. Zimbabwe National Family Planning continues with the top up system to the clinics.

Table 54a: Trends in New Acceptors and Attendances 2005 -2007

	2007	2006	2005
New Acceptors	8 684	11 984	9 902
Total Attendances	58 184	83 469	52 975

Table 54b: Trends in New Acceptors by method 2007-2005

METHOD	2007	2006	2005

Progestogen (POP)	**4 803**	**5 676**	**6 709**
Combined oral pill (COP)	**731**	**83 469**	**52 975**
Depo Provera	**3 150**	**2 492**	**2 690**

Table 55: A five year comparison of Family Planning Attendances to Issues

YEAR	ATTENDANCES	PILL PACKETS ISSUED	FEMALE	MALE	IUD INSERTED	DEPO PROVERA
2007	**58 184**	**137 190**	**23 773**	**559 446**	**0**	**46 483**
2006	**83 469**	**104 710**	**23 427**	**762 698**	**0**	**27 424**
2005	**52 975**	**116 771**	**3 221**	**667 663**	**0**	**28 797**
2004	**37 428**	**85 147**	**2 458**	**46 573**	**0**	**19 564**
2003	**38 810**	**76 500**	**0**	**708 674**	**0**	**10 419**
2002	**51 870**	**104 739**	**0**	**996 945**	**0**	**22 198**
2001	**48 460**	**116 884**	**0**	**1 424 368**	**0**	**20 509**

The tables above show a decrease in both attendances, new acceptors of POP methods of contraception and an increase of 41% in COP and 26% in Depo Provera compared with year 2006.

CURATIVE SERVICES

- **Primary care clinics**
- **Chronic services**
- **Psychiatry services**

PRIMARY CARE CLINICS

A total of 961 452 patients were treated at the City's clinics in 2007 compared to 987 883 treated in 2006 a decrease of 2.7%. The decrease may be due to the fact that for almost three months clinics were forced to close due to industrial action and only offered selective services. Table 50 shows attendance for 2007 compared to 2006 and table 51 shows initial attendants in age groups for 2007 compared to 2006.

Table 56: Clinic Attendance for 2007 compared to 2006

	2007			2006	
	Male	Female	Total	Total	% Increased/ Decreased
Initial	290 433	317 187	607 620	578 097	5.1
Repeats	175 546	178 286	353 832	409 786	-13.7
Total	465 979	495 473	961 452	987 883	-2.7

Table 57: Initial Attendance by age group 2007 compared to 2006

	2007			2006	
Age Group	Male	Female	Total	Total	% Increased/ Decreased
0-4	92 742	78 190	170 932	194 592	-12.2
5-14	39 964	33 644	73 608	72 721	1.2
15+	157 727	205 353	363 080	310 784	14.4
Total	290 433	317 187	607 620	578 097	5.1

In 2007 a total of 38 949 patients were referred to the next level of care compared to 51 306 referred in 2006 which is 6.4% and 8.9% of the initial attendants respectively.

Table 58 below shows clinic attendants by clinic and district for 2007.

Table 58: Clinic Attendance for 2007 by clinic and district

DISTRICT/CLINIC	INITIAL ATTENDANCES			TOTAL ATTENDANCES		
	Male	Female	Total	Male	Female	Total
Central						
Parirenyatwa	6 320	6 654	12 974	8 504	8 419	16 923
Total	6 320	6 654	12 974	8 504	8 419	16 923
Northern						
Borrowdale	4 974	4 768	9 742	6 499	6 094	12 593
Mt. Pleasant	5 886	6 336	12 222	7 599	8 197	15 796
Hatcliffe	6 441	8 060	14 501	10 190	12 368	23 358
Total	17 301	19 164	56 465	24 288	26 659	50 927
Eastern						
Mabvuku Polyclinic	20 023	20 827	40 850	29 162	31 807	60 969
Highlands PCC	6 179	6 873	13 052	8 998	9 873	18 871
Mabvuku Satellite	7 480	7 814	15 294	9 107	9 079	18 186
Total	33 682	35 514	69 196	47 267	22 139	63 408
South Eastern						
Hatifield	5 455	5 432	10 887	7 778	7 379	15 357
Arcadia	5 013	5 847	10 860	7 181	8 387	15 568
Total	10 468	112 789	21 747	14 959	82 178	30 925
Southern						
Mbare Polyclinic	17 754	19 414	37 168	28 575	33 318	61 893
Matapi	10 673	8 996	56 837	16 629	14 028	30 657
Mbare Hostels	6 197	9 483	12 314	11 140	109 962	22 136
Sunningdale	7 882	15 320	15 365	10 634	12 613	23 267
Waterfalls	14 646	15 320	29 966	25 435	26 896	52 331
Hopley	1 250	3 324	4 574	2 296	4 646	6 942
Total	58 402	62 654	121 056	89 169	95 797	197 226
South Western						
Southerton	4 740	4 080	9 550	7 948	6 478	14 424
Highfield	11 886	11 806	23 692	2 435	233 562	48 097
Rutsanana	9 668	9 949	19 617	18 668	189 683	37 636
Western Triangle	7 198	8 003	15 201	15 061	17 228	32 287
Glen Norah Satellite	6 443	7 556	14 099	13 721	16 955	32 674
Total	40 035	41 394	81 429	81 768	82 635	16 5118
West South West						
Glen View	12 394	17 053	29 447	17 779	23 143	40 922
Budiriro	20 418	13 984	36 402	34 005	26 468	60 483
Glen View Satellite	7 237	8 773	16 010	11 004	12 258	23 262
Mufakose	12 911	13 728	26 339	22 048	23 413	45 461
Total	32 960	55 538	108 498	84 836	85 292	170 128
Western						
Warren park	10 072	14 209	24 281	15 398	19 859	35 257
Kuwadzana	20 931	2 421	45 252	31 263	30 915	66 128
Kambuzuma	10 941	11 423	22 366	18 914	18 914	37 709
Total	4 194	49 955	91 899	65 525	73 569	139 094
North Western						
Avondale	2 879	3 978	6 857	4 375	11 833	10 292
Marlborough	7 186	9 360	16 546	9 369	9 556	20 655
Mabelreign	5 148	6 353	11 501	6 127	7 345	13 472
Rujeko	10 594	10 675	21 269	19 059	18 877	37 936
Belvedere	3 514	4 669	8 183	5 012	5 952	10 964
Total	29 321	35 035	64 356	13 939	47 436	93 319
Total Clinics only	290 433	31 918	607 620	204 352	78 306	961452

Table 58 shows that the busiest clinics are Kuwadzana, Mbare Poly, Waterfalls Satellite, Budiriro and Mabvuku Poly and the busiest districts are Southern District, West South

West District, Western District and South Western. Of special note however is Waterfalls Satellite whose attendances of 52 331 is more than all the other Poly clinics except those mentioned above and yet it operates with an establishment of a small satellite clinic.

Morbidity Pattern

The five most common ailments treated at the clinics were Acute Respiratory Tract Infections (ARI), ear, nose and throat infections (ENT), Skin conditions, sexually transmitted infectious (STI) and injuries.

Table 59 compares the common ailments at Primary Care Clinics in 2007 to 2006.

Table 59: Comparison of the Five Commonest Conditions at primary Care Clinic for 2007 and 2006

CONDITIONS	2007	2006	% INCREASE/ DECREASE
Acute Respiratory infection (ARI)	170 582	181 245	-5.9
Skin Conditions	59 886	76 575	-21.8
Ear Nose and Throat Infection (ENT)	60 981	68 074	-10.4
Sexually Transmitted Infection (STI)	37 046	28 786	28.7
Injuries	25 837	21 826	18.4

There is a decrease of all ailments treated maybe due to the relative decrease in total patients seen.

Table 60 shows Diarrhoea, Dysentery and Nutritional Conditions treated at the Primary Care clinics in 2007.

Table 60: Selected common ailments treated in 2007

CONDITION	0-4 YEARS			5-14 YEARS			15+ YEARS			ALL AGES		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Watery Diarrhoea												
No dehydration	3 161	2 803	5 966	843	798	1 641	2 608	2 841	5 449	6 612	6 444	13 056
Mild dehydration	549	450	1 548	119	124	243	329	428	807	1 047	1 002	2 049
Severe dehydration	120	96	216	17	14	31	70	72	142	207	182	389
Dysentery	284	368	652	21	23	44	19	5	24	889	989	1 880
Nutritional Conditions												
Kwashiokor	239	271	510	21	23	44	19	5	24	279	299	578
Marasmus	44	44	88	4	4	8	0	0	0	48	48	96
Pellagra	0	1	1	3	3	6	57	53	110	57	57	117
Acute Respiratory Tract Infection (ARI)												
Mild (Cough & colds)	14 931	14021	28 952	5 857	5 640	11 477	10 112	12 119	32 231	30 880	31 780	62 660
Moderate	21 632	20 475	42 107	7 439	6 783	14 222	21 017	21 017	43 632	50 088	49 873	99 961
Severe	2 790	2 238	5 028	529	408	937	937	937	1 996	4 256	3 705	7 961
ENT	11 707	10 903	22 610	6 298	6 578	12 876	10 133	15 362	25 499	28 138	32 843	
Diseases of the Eye												
Cataracts	29	37	66	27	20	47	254	264	518	310	321	631
All other eye diseases	2 909	2 531	5 440	1 265	1 175	2 440	2 707	3 353	6 060	6 881	7 059	13 940
Skin diseases												
Chicken pox	596	486	1 082	675	738	1 413	717	726	14 413	1 988	1 950	3 938
Herpes Zoster	27	19	46	61	77	136	1 070	1 439	2 509	1 158	1 535	2 983
Scabies	2 929	2 688	5 617	1 831	1 641	3 472	1 301	1 310	2 611	6 061	5 639	11 700
Other forms of skin dis.	9 712	8 728	8 440	4 688	4 048	8 776	8 056	10 261	18 317	22 456	23 037	45 493
Injuries												
Burns and Scalds	989	853	1 842	503	367	870	605	567	1 172	2 097	1 787	3 884
Other Injuries	2 282	1 753	4 035	2 861	1 914	4 775	7 803	5 340	13 143	12 946	9 007	21 953
Sexually Transmitted Infections (STI)												
Urethra Discharge	5	10	15	6	19	25	6 021	11 820	17 841	6 032	11 849	17 881
Genital Ulcers	3	2	5	5	8	14	3 097	2 728	5 821	3 105	2 738	5 843
Conjunctivitis	470	421	891	0	0	0	0	0	0	470	421	891
Pelvic Inflammatory Dis.	0	0	0	0	18	18	0	4 604	4 604	0	4 622	4 622
Other forms	5	2	7	1	7	8	2 033	1 975	4 008	2 039	1 984	4 023

Chronic Diseases

A total of 6 586 chronic patients were in the registers of chronic patients kept by all the City clinics in 2007 compared to 7 868 who were in the registers in 2006 a decrease of 19.5%. In 2006 there was a decrease of patients in the register by 3.5% compared to 2005. The number of patients in register continues to decrease, maybe due to the unavailability of chronic drugs at our clinics. Clinics have experienced a severe shortage of these drugs. There were 47 527 repeat visits in 2007 compared to 77 660 made in 2006 a decrease of 38.8%. Table 61 shows the top five conditions seen in 2007 compared to 2006.

Table 61: Top five conditions seen in 2007 compared to 2006

CONDITION	2007 ATTENDANCES	2006 ATTENDANCES	% INCREASE/ DECREASE
Hypertension	46 322	49 489	-10.6
Gout/Arthritis	4 846	8 916	-43.6
Diabetes	5 712	6 952	-17.8
Asthma	5 448	6 493	-16.1
Epilepsy	2 101	2 965	-29.1

Table 61 shows a drastic reduction in all the conditions, this was caused by the shortage of chronic drugs in all clinics in the city as previously stated. As a result of shortage of drugs there were 2 037 defaulters as patients did not see the need to make a return visit to the clinic.

TB HIV/AIDS

There were 4 485 HIV/AIDS related patients in the register and 6 506 TB patients in the register in December 2007 compared to 10 824 patients in the register in December 2006 for both HIV/AIDS related and Tuberculosis. There was a slight increase of 1.5%.

There were 12 106 defaulters in 2007 compared to 35 125 defaulters recorded in 2006. The number of defaulters recorded reduced significantly as patients in this category become more aware of the need for compliancy due to extensive health education and counseling sessions both group and individual.

Visitors

In 2007 there were 4 524 visitors compared to 19 000 in 2006. The decrease was because in 2007 people were encouraged to collect their drugs from their clinics where they are registered. There was no marked shortage of drugs in this category and patients were able to get drugs from their clinics.

Psychiatric Services

There were 209 psychiatry patients in register in December 2007 compared to 353 who were in the register in 2006. A total of 57 new psychiatry patients and 2 185 treated in 2007 compared to 83 new patients and 3 421 repeat visit a decrease of 31.3% and 36.1% respectively.

There were 1 279 defaulters in 2007 compared to 2 120 in 2006 resulting in 153 being struck at the register. The decrease in repeat visits could have been prompted by shortage of drugs for psychiatry conditions. Psychiatry drugs were completely out of stock in most clinics and patients ended up buying their drugs from private pharmacies or from the central hospitals.

MUNICIPAL MATERNITY UNITS

- **Attendances**
- **Transfers**
- **Deliveries**
- **Maternal Death**
- **Still birth**
- **Post Natal Examination**
- **Liaison meetings**

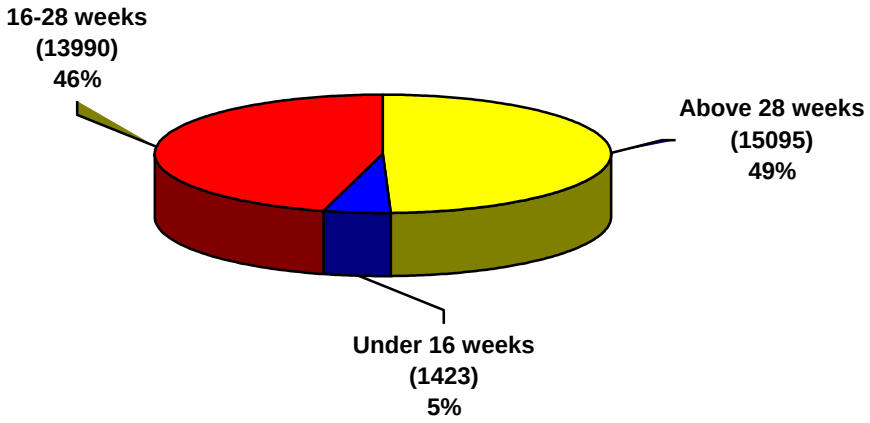
Attendances for antenatal clinic

A total of 29 085 pregnant women were booked with the city clinics for antenatal care in year 2007 compared to 20760 who attended for antenatal care in 2006 an increase of 40%. This marked increase could be because the maternity fees still remained affordable to most residents and because of services offered, the city clinics remained the preferred provider for maternity services.

Table 62: Booking by district and figure 1 shows booking by weeks of gestation

DISTRICT	2007			2006		
	<16 Weeks Early	>16 Weeks Late	% Early Bookers	<16 Weeks Early	>16 Weeks late	% Early Bookers
Central	18	307	5.5	4	214	108
Northern	111	2 017	5.2	39	1 152	3.3
Eastern	238	3 091	7.1	125	2 174	5.4
South Eastern	69	1 027	6.2	34	635	5.1
Southern	154	3 531	4.2	117	2 466	2.6
South Western	190	4 171	4.4	101	2 763	3.5
West South West	184	5 903	3.0	175	4 954	3.1
Western	255	5 610	4.3	170	4 295	3.8
North Western	204	3 428	5.6	118	2 107	9.3
Total	1 423	29 085	4.9	883	20 760	4.1

Figure 1



Antenatal Transfers

A total of 3 049 were transferred for antenatal care in 2007 compared to 3 201 who were transferred in 2006. The total percentage of transfers to booking was 10.0% in 2007 as opposed to 14,8 in 2006. Please see table 57 below.

Antenatal transfers

Table 63: Bookings, ANC attendances and transfers for 2007 and 2006

DISTRICT/CLINIC	2007					2006		
	Bookings	Attendances	Transfers	% TF Bookings	Bookings	Attendances	Transfers	% TF Bookings
Central								
Parirenyatwa	325	880	40	12.3	218	649	42	19.3
Northern								
Highlands	216	502	26	12.0	127	555	36	28.3
Borrowdale	245	642	37	15.1	131	386	37	28.2
Mt Pleasant	435	1 340	97	22.3	208	754	56	26.9
Hatcliffe	1 232	2 798	78	6.3	725	2 270	119	16.4
Total	2 128	5 284	238	11,2	1 191	3 965	248	20.8
Eastern								
Mabvuku	2 192	3 987	178	8.1	1 675	3 430	251	8.7
Tafara	539	1 113	48	8.9	185	617	33	13.5
Greendale	317	795	84	26.5	244	692	84	11
Eastlea	281	624	77	27.4	195	471	46	14.3
Total	3 329	6 519	387	11.6	2 299	5 210	414	18.0
South Eastern								
Hatfield	707	1 599	150	2.2	397	1 554	119	30.0
Braeside	389	1 160	14	3.6	272	898	38	14.0
Total	1 096	2 759	164	14.9	669	2 452	157	23.5
Southern								
Edith Opperman	2 638	5 905	196	7.4	1 785	455	242	13.6
Sunningdale	671	1 473	90	13.4	452	1 352	130	28.8
Waterfalls	376	772	26	6.9	346	826	29	8.4
Total	3 685	8 150	312	8.5	2 583	6 728	401	15.5
South Western								
Highfield	1 726	3 485	222	12.9	1 273	3 637	133	10.4
Rutsanana	2 635	5 479	154	5.8	1 591	4 089	196	12.3
Total	4 361	8 964	376	8.6	2 864	7 726	329	11.5
West South West								
Glen view	2 201	3 848	200	9.1	1 735	3 864	304	9.2
Budiriro	2 320	3 234	249	10.7	2 068	4 610	286	9.9
Mufakose	1 566	3 711	164	10.5	1 326	2 886	271	15.2
Total	6 087	10 773	613	10.1	5 129	11 360	864	10.8
Western								
Warren Park	1 464	2 767	115	7.9	1 237	3 580	162	13.1
Kuwadzana	3 192	6 994	262	8.2	2 453	6 006	316	12.9
Kambuzuma	1 209	2 784	121	10.0	775	2 360	130	16.8
Total	5 865	12 245	498	8,5	4 465	11 946	608	13.6
North Western								
Avondale	245	509	30	12.3	150	520	34	22.7
Marlborough	531	1 197	78	14.7	279	1 113	53	19.0
Mabelreign	424	951	53	12.5	297	768	69	23.2
Rujeko	2 089	4 782	223	10.7	1 294	3 272	187	14.5
Belvedere	345	992	37	10.7	205	830	28	13.7
Total	3 632	8 431	421	11.6	2 225	6 503	371	16.7
Grand Total	30 508	64 025	3049	10.0	21 643	56 539	3 201	14.8

KEY: **TF =Transfers**

Admissions in labour, deliveries and transfers

A total of 26 557 pregnant women were admitted in labour at the city's 12 maternity units in 2007 compared to 27 087 who were admitted in 2006 a slight decrease of 1,9% compared to 2006 admissions. In 2007 5 518 i.e 20.8% of the admission were transferred to next level of care and in 2006 27,2% were transferred. This means most of the clients were managed at the local level.

The five main reasons for transfers in labour are prolonged labour are given in the table below:

P.I.H - Preterm labour meconium stained liquor, foetal distress

Prolonged labour	**-**	**21,9%**
P.I.H	**-**	**12,9%**
Preterm labour	**-**	**12,2%**
MSL	**-**	**10,9%**
Foetal distress	**-**	**8,6%**
Early rupture of membranes	**-**	**4,2%**
Delayed 2nd stage	**-**	**2,0%**
All other conditions	**-**	**27.2%**

Deliveries

A total of 21 039 deliveries were conducted at the city's maternity units in 2007 compared to 16 526 conducted in 2006 an increase in deliveries of 27.3%. This shows that the city clinics are now the preferred maternity units by the community because of good client care and affordable maternity fees that encompass the mother baby package up to 6 weeks.

Figure 11

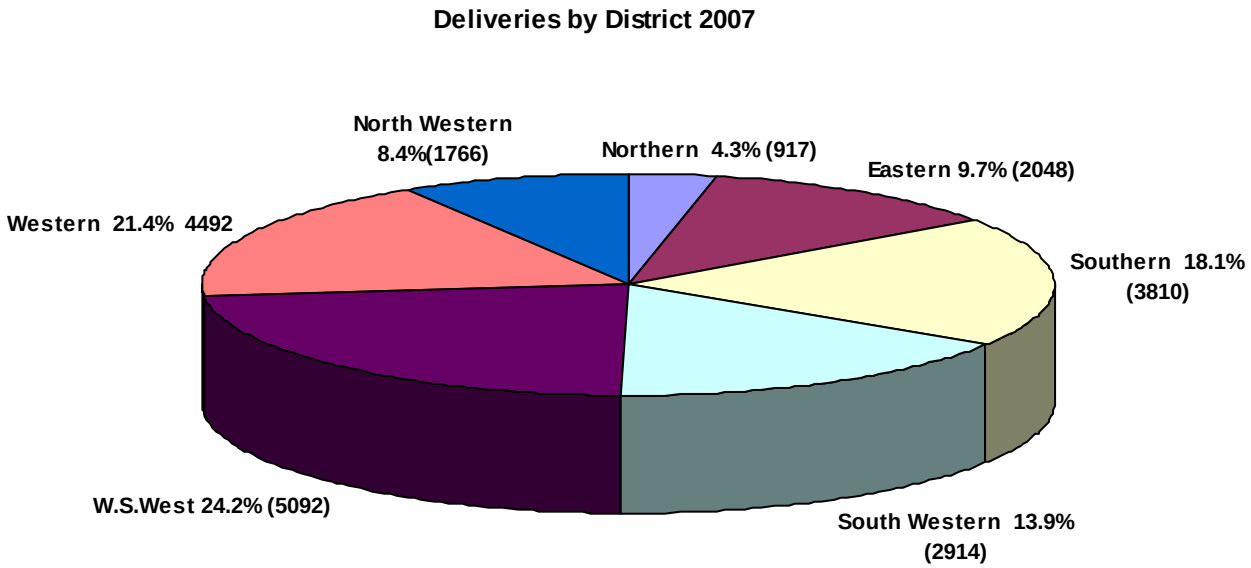


Table 64 below shows deliveries by district and clinic compares 2007 to 2006.

Table 64: Deliveries for 2007 and 2006 by district and clinics

DISTRICT	2007			2006			% INCREASE/DECREASE
	Booked	Unbooked	Total	Booked	Unbooked	Total	
Northern							
Hatcliffe	812	105	917	477	131	608	598
Eastern							
Mabvuku	1 906	142	2 048	1 429	280	1 709	19.8
Total	1 906	142	2 048	1 429	280	1 709	19.8
Southern							
Edith Opperman	3 277	533	3 810	1 918	645	2 563	48.6
Total	3 277	533	3 810	1 918	645	2 563	48.6
South Western							
Highfield	1 175	121	1 296	803	157	960	35
Rutsanana	1 438	180	1 618	118	291	1 409	14.8
Total	2 613	301	2 914	1 921	448	2 369	23
West South West							
Glen view	1517	235	1 752	1 129	302	1 431	22.4
Budiriro	1 708	473	2 181	1 411	442	1 853	17.7
Mufakose	1 047	112	1 159	718	196	914	26.8
Total	4 072	820	5 092	3 258	940	4 198	21.3
Western							
Warren Park	809	71	880	953	145	1 098	19.9
Kuwadzana	2 526	398	2 924	1622	363	1 985	47.3
Kambuzuma	624	64	688	493	115	608	Nil
Total	3 959	533	4 492	3 068	623	3 091	21.7
North Western							
Rujeko	1 553	213	1 766	992	393	1 385	27.5
Total	1 553	213	1 766	992	393	1 385	27.5
Grand Total	18 392	2 647	21 039	13 063	3 463	16 526	27.3

All the clinics and districts with the exception of Warren Park had a marked increase in deliveries. Warren Park instead had a decrease of 19.9%.

This maybe because Warren Park Clinic closed its maternity unit during the 3 months industrial action where as all other maternity unit remained open for this important service.

Born Before Arrival (BBA)

There was a total of 1 481 BBA of which 930 were booked and 551 were unbooked.

Maternal death

There were 3 maternal death recorded in 2007 compared to 4 recorded in 2006.

All the deaths were unavoidable at clinic level. 2 were from Mabvuku maternity and 1 from Edith Operman maternity.

- **One was a para 2 Gr 3 booked and was immuno suppressed.**
  Admitted after self delivery and was bleeding profusely and very pale and gasping and died.

- **Second maternal death was also from Mabvuku Para 2 Gr 3 Booked? Immuno suppressed was treated for chest infections and TB investigations were done and were negative admitted in a cold clummy state, gasping and frothing resuscitation failed.**
- **Third maternal death was from Edith Opperman maternity. She was a Para 2 Gr 3 unbooked admitted with history of having aborted two days ago in the communal areas and bled profusely. Admitted in a pyrexia state, tender abdomen, restless and breathless and delirious. Patient died 30 minutes later before arrival of the ambulance.**
  Cause of death septic abortion and anaemia.

Stillbirth by Booking

Table 65: Stillbirths by booking status

STILL BIRTHS	2007				2006			
	Booked	Unbooked	Total	SB Rate Per 1000	Booked	Unbooked	Total	SB Rate Per 1000
Fresh	22	6	28	1.3	22	13	35	5.9
Macerated	36	27	63	3.0	30	32	62	
Fresh (BBA)	7	5	12	8	3	5	8	10.1
Macerated (BBA)	4	5	9	6	4	0	4	
Total	57	55	112	4.9	59	50	109	8.2

The still birth rate remains unchanged 6.0 per 1000 in 2004 and 6.0 per 1000 in 2003.

Neonatal death

There was a total of 48 neonatal, 30 were from booked deliveries and 18 were from unbooked deliveries. This is an increase in neonatal death but the rate is less compared to 2006.

Post Natal Attendances

A total of 11722 women attended for post natal check up less than 13496 who attended for 2006.

Table 66: Post Natal Attendances 2007 vs 2006

POSTNATAL CHECK UP	2007			2006			PERCENT INCREASE/ DECREASE
	City Booked Patients	Booked with other Institutions	Total	City Booked Patients	Booked with other Institutions	Total	
	11 505	2 485	13 990	5 726 6 424	1 448 1 196	7 174 7 620	
Total	11 505	2 485	13 990	12 150	2 644	14 794	-5.4

CHAPTER V

NUTRITION

- **Nutrition Unit**
- **Assessment of Nutritional Status**
- **Kwashiorkor and Pellagra**
- **Community Based Nutrition Therapeutic Care programme (CNCP)**
- **Vitamin A supplementation**
- **Dietetic Services**
- **Low birth weight**
- **Nutrition Surveillance Through Growth Monitoring**
- **Food and Nutrition Sentinel Site Surveillance**
- **Targeted Feeding Programme**
- **Baby Friendly Hospital/Health Centre Initiative**
- **IDD**
- **Breast feeding counselling and HIV/infant feeding counselling**
- **World Breastfeeding Week**
- **World Food Day**

"The right to adequate nutrition is as fundamental as the right to life itself. The Universal Declaration of Human rights recognizes freedom from hunger as one of the inalienable and inviolable rights of all members of the human family. In fact it is the most basic of them all because the debilitating effects of hunger precludes the exercise of the right to life, liberty and security of a person to self –determination and even to freedom of thought, conscience and religion". "FAO World food Day 1996"

INTRODUCTION

The overall goal of the nutrition unit remains that of improving the nutritional status of people of the City of Harare. The unit's aims were to: -

- **prevent malnutrition and nutritionally associated illnesses**
- **prevent micronutrient deficiencies**
- **provide the needy and vulnerable groups with appropriate supplementary feeding**
- **promote, protect and support breastfeeding**
- **To provide our clients with relevant nutrition education information to be able to make informed choices.**

The data on nutritional status continued to yield very useful information, which the department uses for planning purposes.

The results from the nutrition sentinel surveillance monitoring conducted in 2007 demonstrated that:-

A standard food basket is beyond the reach of many families in Harare.

There was an acute shortage of safe drinking water for families in both Mabvuku and Tafara.

Children coming from households where a member was chronically ill were at risk of being malnourished.

The nutrition unit conducted several workshops and trained health workers in relevant nutrition topics and continued to update other health personnel on current issues relating to nutrition.

The data on nutritional status continued to yield very useful information, which the department uses for planning purposes.

In 2007 there was a general deterioration in nutritional status on all the indicators, height for age, weight for height and weight for age, comparing to the previous year.

Chronic malnutrition or stunting increased during the year.

Acute under nutrition or wasting also increased during 2007, compared to the previous year.

The number of kwashiorkor cases increased by 18%.

The number of pellagra cases increased by 45%.

The prevalence of LBW increased throughout the City.

For the third year running, growth monitoring figures decreased by over 30%.

Under fives found to be nutritionally at risk (loosing weight and static weight) increased in 2007.

The number of orphaned children who needed assistance continued to increase each year.

Vitamin A supplementation coverage for the under fives increased significantly during the year.

Vitamin A coverage for the postnatal mothers also increased significantly during the year.

The proportion of well-nourished pupils had decreased significantly throughout the year, on all indicators.

The community based Nutrition Care Programme started in Harare in June and by the end of the year 148 children had been recruited.

Iodine Deficiency Disorders (IDD) monitoring that was undertaken towards the end of the year and showed that:

Although Harare residents are said to consume iodised salt, laboratory tests showed that less than 50% consume appropriately iodated salt. Salt was no longer readily available

through the normal channels, and the commodity was very expensive. The 2007 Breastfeeding week Breastfeeding Theme *"Early Initiation of Breastfeeding within the first hour saves millions of babies*" was commemorated throughout our maternity units.

ASSESSMENT OF NUTRITIONAL STATUS

Yearly the nutritional well being of individuals continues to be a key objective in human development and remained at the helm of our development strategies, plans and priorities. We continued to use the most commonly accepted indicators of nutritional status based on the age, sex, weight and height of the children. From this data, indicators were derived for stunting (low height for age), wasting (low weight for height) and underweight (low weight for age).

SAMPLE

The nutritional status of those pupils present on the day of surveillance was assessed. Grade 1 data was collected during 1st term, but grade 7 and 3 date which should have been collected during the 2nd and 3rd term respectively was only collected at a few areas due to critical shortages of staff at some of the clinics. Weights and heights of 19 646 pupils from 95 high-density schools in the City of Harare (Table 1) were measured during year 2007. Of these, 50.4% were males and 49.6% females with ages ranging from 5 years to 8 years. Pupils whose dates of birth were missing were only assessed on the weight-for-height index but excluded from both the height-for-age and weight-for-age indicators. The number of pupils with dates of birth missing fluctuates from year to year. 561 males and 421 female grade 1 pupils had their dates of birth missing in 2007. Pupils whose heights exceeded 145 cm for the boys and 137 cm for the girls were also excluded from the weight-for-height index. Most of the pupils were in the range.

Table 67: Distribution of Primary Schools where Assessment of Nutritional Status was carried out by Area, grade for grade ones and Pupils Assessed in 2007

Area	No. of Schools	Grade 1
Budiriro	5	1 308
Dzivarasekwa	7	1 717
Glen Norah	8	1 664
Glen View	10	2 853
Hatcliffe	2	541
Highfield	11	1 890
Kambuzuma	5	869
Kuwadzana	8	2 362
Mabvuku	4	909
Mbare	8	1 427
Mufakose	9	1 709
Southerton & Lochinvar	2	309
Sunningdale	2	454
Tafara	5(4)	695
Warren Park	9(6)	906
Total	95	19 622

Table 68: Percentile Distribution for Height-for-Age, Weight-for-Height and Weight-for-Age for all Pupils Assessed

Percentile	Height-for-Age			Weight-for-Height			Weight-for-Age		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	%	%	%	%	%	%	%	%	%
Below 3rd	11.7	9.5	10.6	6.7	6.5	6.6	9.3	5.5	7.4
3 - 10th	12.6	11.6	12.1	9.4	11.1	10.3	17.8	12.9	15.4
10th - 90th	70.9	72.2	71.6	82.0	78.2	80.1	71.6	79.4	75.5
Above 90th	4.8	6.7	5.6	1.6	4.2	3.7	1.3	2.2	1.8
Above 97th	0.8	2.3	1.6	0.7	1.7	1.2	0.5	0.7	0.6
Total No.	9 311	9308	18 619	9 881	9 727	19 608	9 306	9 319	18 625

Fig II: Weight For Height Distribution
Boys = 9 881 Girls = 9 727

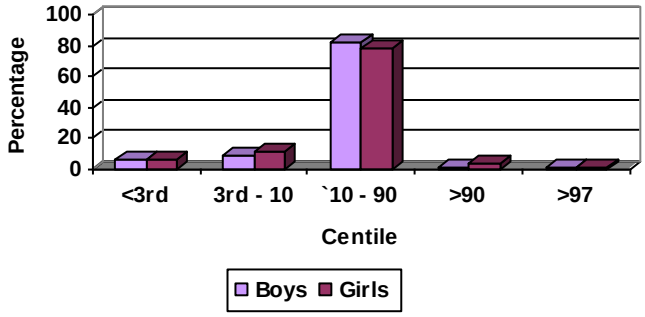


Fig I: Height ForAge Distribution
Boys = 9 306 Girls = 9 319

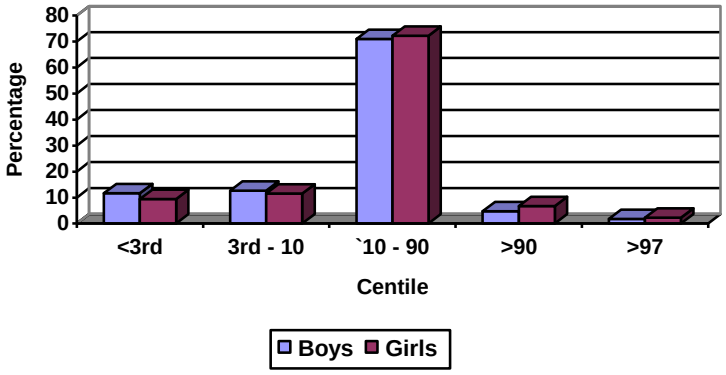
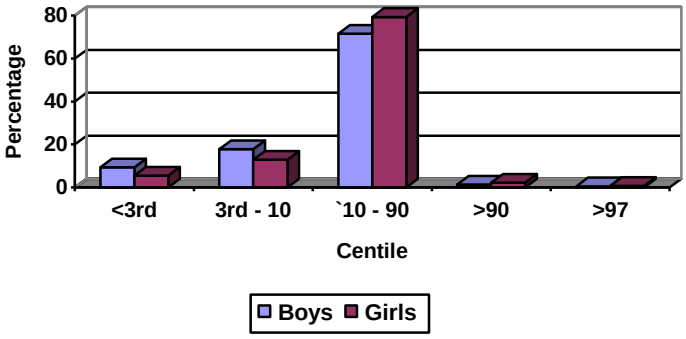


Fig III: Weight ForAge Distribution
Boys = 9 306 Girls = 9 319



The distribution of weights and heights for grade one pupils assessed is given in Table 2, and graphically illustrated in Figures I, II, and III.

In 2007 there was a general deterioration in nutritional status on all the indicators, height for age (HFA), weight for height (WFH), and weight for age (WFA), comparing to the previous year.

On the height for age index the proportion of pupils whose heights fell below the 3rd centile increased from 9.5% in 2006 to 11.7% in 2007 for the males; and from 7.6% in 2006 to 9.5% in 2007 for the females. On the WFH index there was also a deterioration for both boys and girls from 4.3 % (2006) to 6.7 % (2007) for the boys and from 4.1 (2006) to 6.5% (2007) for the girls.

There was also a noticeable decrease in children whose heights were above the 90th Centile. (HFA >90th Centile) 4.0% to 2.5% for the boys and 4.0% to 3.8% for the girls. Likewise for both boys and girls those whose WFH indices were above the 90th centile decreased from 1.5% to 1.4% for the boys and from 3.3% to 2.6% for the girls.

Stunting: (HFA<-2SD) or (Low Height-for-age)

Stunting among school going children reflects the levels of chronic under nutrition in a community. Table 69 gives the overall prevalence of stunting using <-2SD (HFA) as a cut-off-point for all children assessed.

Table 69: Prevalence of Stunting and Wasting using <- 2SD as cut- off-points for all pupils assessed

	Males	Females	Total
	%	%	%
Height-for-Age	9.7	7.9	8.8
Weight-for-Height	5.3	6.1	5.7
Weight-for-Age	4.4	4.4	4.4

Of the 19 646 grade 1 pupils assessed on the HFA indicator during 2007, 8.8% were stunted with the boys (9.7%) worse off than the girls (7.9%), Table 69.

Table 69 gives the prevalence of stunting for the whole City for the grade one pupils. More than 1 in 10 male pupils from Hatcliffe, Highfield, Kuwadzana, Mbare, Southerton and Lochinvar and Tafara were stunted. More than 1 in 10 female pupils from Kuwadzana, Southerton and Lochinvar and Tafara were also stunted.

Fig IV: Stunting for Grade 1 Pupils in Harare
% Height for Age <-2SD by Sex

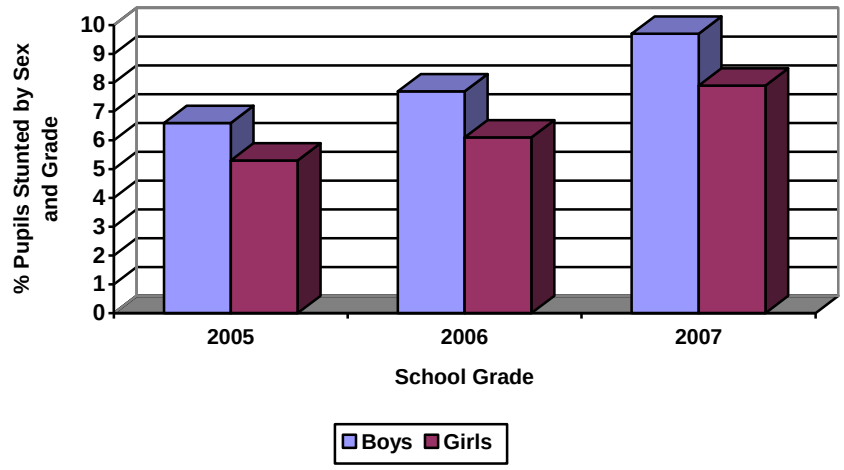


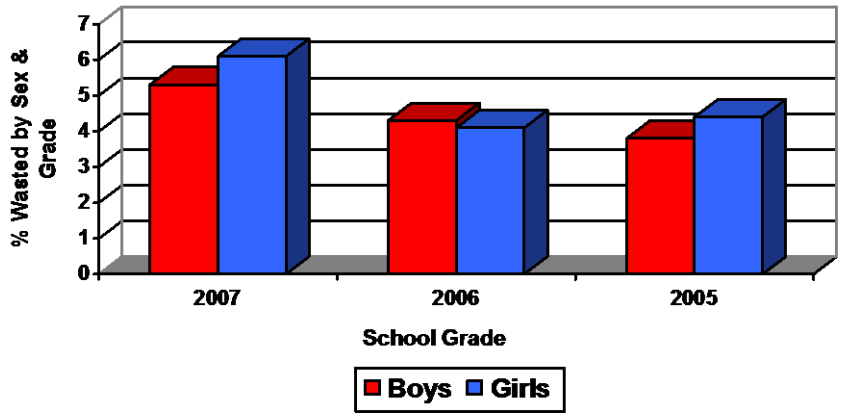
Table 70: Prevalence of Stunting Height-For-Age <- 2SD) by Sex and Area

Area	Grade 1	
	Male	Female
Height-For-Age	%	%
Budiriro	9.1	9.0
Dzivarasekwa	8.7	5.3
Glen Norah	5.4	2.0
Glen View	10.3	5.0
Hatcliffe	14.8	6.8
Highfield	2.8	2.8
Kambuzuma	6.4	9.0
Kuwadzana	17.4	14.3
Mabvuku	9.9	8.5
Mbare	11.5	6.5
Mufakose	8.2	9.3
Southerton & Lochinvar	15.5	14.4
Sunningdale	8.1	10.9
Tafara	15.5	27.8
Warren Park	7.8	3.8

Table 71: Prevalence of Wasting (Weight-For-Height <- 2SD) by Sex, and Area

Area	Grade 1	
	Male	Female
Weight-For-Height	%	%
Budiriro	0.8	0.9
Dzivarasekwa	5.6	5.5
Glen Norah	9.6	8.6
Glen View	1.2	2.0
Hatcliffe	14.7	20.6
Highfield	11.7	22.2
Kambuzuma	1.8	2.1
Kuwadzana	5.1	4.9
Mabvuku	5.4	4.4
Mbare	2.6	2.6
Mufakose	1.3	2.0
Southerton & Lochinvar	2.0	2.5
Sunningdale	0.4	1.3
Tafara	14.0	12.3
Warren Park	1.1	2.9
TOTAL	5.3	6.1

Fig V: Wasting for Grade 1 Pupils in Harare
% Weight for Height <-2SD



WASTING: (WFH <- 2SD) or (Low Weight-For-Height)

Wasting amongst primary school children reflects the level of acute under nutrition in a community. A total of 19 608 grades 1 pupils were assessed on the weight-for-height index. Overall 5.7% of these pupils were wasted with the females (6.1%) worse off than the males (5.3%), (Table 71).

The prevalence of acute malnutrition or wasting for Grades 1 pupils by sex and area is shown in Table 71. The overall prevalence of wasting increased for both sexes in 2007 comparing to the previous year. (Figure V)

Hatcliffe, Highfield and Tafara had more than 1 in 10 of their pupils, (both male and female) wasted, at entry point (grade 1).

Discussion

The nutritional status of Harare's high-density areas primary school pupils deteriorated throughout the City in 2007.

Chronic malnutrition or stunting increased.

Similar to previous years the boys were as a whole worse off than girls on all indicators.

Overall acute under nutrition or wasting increased during 2007, compared to the previous year.

Distinct area differences remained quite apparent.

The findings from these visits continue to point to the effect of the harsh economic situation being felt throughout the country by the majority of Zimbabweans. Most of the malnourished children were from deprived needy homes; some were from ex squatter and holder camps with numerous problems, where food was generally in short supply. Although very little benefits were reported, these families continued to be referred to the Social Welfare for assistance.

Similar to the previous year it again appeared that there was a substantial reduction in the number of Grade I pupils recruited in 2007.

NUTRITION REHABILITATION

Severe Cases of Malnutrition

Severe cases of kwashiorkor continue to be managed at Harare and Parirenyatwa Hospitals before being discharged back to our clinics for follow up care. The therapeutic feeding programme at Harare Hospital was operational, and the city is handling many discharged cases on the out patient programme.

The Community Based Nutrition Care programme (CBNCP)

The City of Harare CBNCP programme was launched in 2007. Training started in March and in total 3 workshops were held that trained all Deputy Nursing Officers, all Health Promotion Officers, 6 district nursing Officers, 3 Nutritionists and most Sisters In charge, Registered general nurses and State Certified nurses.

The programme was introduced in the City to try and address the growing numbers of malnourished children before they deteriorated to full blown kwashiorkor. The two paediatric hospitals were overcrowded, there was increased cross infection and some mothers were unwilling to stay in hospital with malnourished children for the stipulated long periods.

The aims of the CBNCP programme are:

- **To decentralise treatment of malnourished children,**
- **To provide a revised screening and admission criteria (based on new classification of acute malnutrition) using the mid–upper- arm- circumference (MUAC).**
- **To make sure that hospitalisation was only for children with medical complications requiring stabilisation.**

Commodities used in the CBNCP:

The ready to use food (RUTF) in the form of plumpy nut is used in this programme. RUTF invented in the 1990s is a peanut butter based food specifically designed to treat severe malnutrition without complications. It is an oil–based food containing little water (which makes it microbiologically safe), which can keep for several months in simple packaging and can be eaten raw. It contains most important micronutrients and comes in 92g sachets.

Areas of operation

The CBNCP for Harare City started in June 2007 and is operational in 4 districts.

- **Southern District - Mbare Poly and Holey Clinic**
- **Northern District - Hatcliffe Poly Clinic**
- **North Western District - Dzivarasekwa Poly Clinic**
- **Eastern District - Mabvuku Satellite Clinic**

Table 72: No of children recruited to the CBNCP by area 2008

CLINIC	TOTAL ADMITTED	NO DISCHARGED	NUMBER IN PROGRAMME
Rujeko	58	21	37
Mbare	71	16	56
Mabvuku	77	29	48
Hatcliffe	8	1	7
Total	214	67	148

By the end of December 2007, 58 children from Rujeko, 71 from Mbare, 8 from Hatcliffe and 8 from 77 from Mabvuku had been recruited to the programme.

The response had been overwhelming many mothers were keen to have their children recruited to the programme. The number of overt Kwashiorkor cases had reduced dramatically. Children recruited to the programme recovered well.

Kwashiorkor Cases

The number of Kwashiorkor cases attended to throughout the City clinics increased by 18% during 2007 (580) compared to 2006 (490). Similar to the previous years the majority of these cases, (72%) were under fives, 23% between 5-14 years and 5% of the cases were above the age of five. The distribution of these cases by district is shown in Figure VI.

26% of the kwashiorkor cases were from the West South West, followed by the Southern (17%) and the South Western (14%).

Pellagra Cases

109 cases of Pellagra were attended to at our clinics throughout the year, showing an increase of 45% from 75 cases seen during 2006. Most (95.0%) of these cases were over the age of 15, with only 5 cases between 5 and 14 years, and none the cases were below the age of five.

Figure VII illustrates areas from where these cases came from. (29%) of the cases came from the South Eastern, followed by the West South West with (22%) cases). Most pellagra cases in Harare are known Kachasu drinkers, found in the surrounding squatter camps, along Mukuwisi and Marimba rivers, and from Hopley farm.

Fig VI: No. of Kashiorkor Cases by Age and District

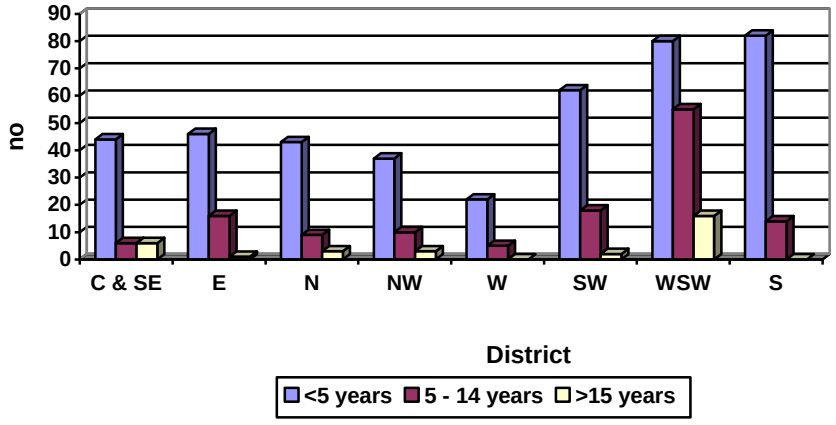
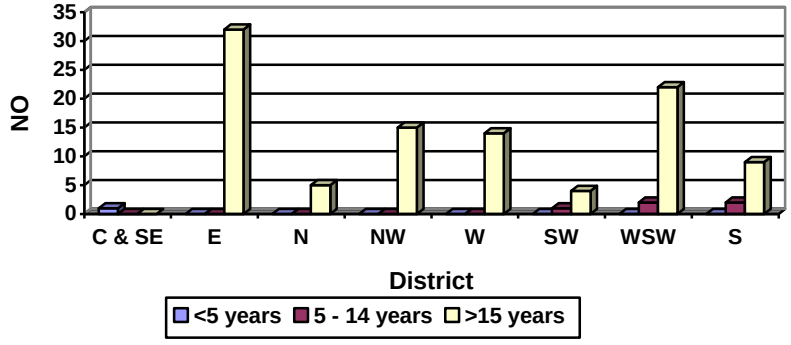


Fig VII: No. of Pellagra Cases by Age and District



VITAMIN A SUPPLEMENTATION

Vitamin A or retinal is an essential micronutrient for humans that the body cannot produce. It is a fat-soluble vitamin that is stored in the liver and helps with growth and

development, protects the body against infections and reinforces the body's immunity. Vitamin A is necessary for the maintenance and reconstitution of certain tissues such as:

- **The conjunctiva, the cornea and certain retinal tissues of the eye**
- **The mucous membrane of the gastro-intestinal tract**
- **The lining of the bronchioles in the lungs**

<u>Strategies for the control of Vitamin A Deficiency include:</u>

- **Promotion of the production of Vitamin A rich foods**
- **Promotion of breastfeeding**
- **Nutrition education on the consumption of vitamin A rich foods**
- **Food fortification with Vitamin A and**
- **Supplementation with vitamin A capsules**
- **Following the micronutrient survey, Vitamin A supplementation was embarked upon as a national strategy in 2003.**

<u>Supplementation:</u>

Nationally, all children (0 to 71 months) and lactating women (soon after delivery) were targeted for supplementation during 2007. The children were supplemented at 6 months intervals.

<u>Dosage:</u>

Non Breasted Infants	**0 to 5 months**	**50 000 IU orally every 6 months**
Infants	**6 to 11 months**	**100 000 IU orally every 6 months**
Children	**12 to 71 months**	**200 000 IU orally every 6 months**
Mothers	**post partum – lactating**	**200 000 IU orally once soon after delivery**

The City Health Department continued to offer Vitamin A supplementation throughout the year and during the two NIDs and child health days held during June and November.

Table 7 gives Vitamin A supplementation for children below 6 years throughout the City by District for the year.

Table 73: Number of children given Vitamin A in units by Month and Age of the Child

MONTH	*AGE IN GROUP MONTHS AND UNITS OF VITAMIN A GIVEN*					
	0 – 5 50 000	6 – 11 100 000	12 – 23 200 000	24 – 59 200 000	60 – 71 200 000	TOTAL
January	32	2 008	1 897	2 488	383	6 808
February	16	2 018	1 828	1 927	574	6 363
March	38	2 155	1688	1 759	827	6 467
April	18	1 831	1 238	1 039	458	4 584
May	2	492	317	245	146	1 202
June	293	8 785	26 831	25 373	1 450	62 732
July	10	918	522	5 977	262	2 309
August	20	1 193	516	590	304	2 623
September	9	1 591	637	577	312	3 126
October	23	1 507	605	638	347	3 120
November	80	5 359	18 250	30 268	1 388	55 345
December	12	877	1 027	1 128	227	3 271
TOTAL	553	28 734	55 356	66 629	6 678	157 950

The number of under fives given vitamin A during 2007 at the City of Harare's MCH's clinics decreased by 40.4%compared to 2006. The two scheduled NIDs and Child health days of June and November during which vitamin supplementation was emphasised also contributed substantially for those two months. 1n 2007 the City managed to achieve Vitamin A coverage rate of 84.8% for our target population of 201 098 under fives. Training was also intensified for all health workers in the city; our gratitude continues to go to the Ministry of Health and Child welfare and UNICEF for timely supply of the appropriate doses of Vitamin A and teaching materials.

Table 74: Number of newly- Delivered- Mothers given Vitamin A (200 000 units) by Maternity/Units and Month

AREA	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
Budiriro	200	114	180	172	199	221	135	156	206	181	201	187	2 152
Edith Opperman	248	251	289	299	342	373	454	315	343	363	369	387	4 033
Glen View	141	132	165	140	188	171	113	147	157	141	152	150	1 797
Hatcliffe	72	53	78	73	73	86	79	100	110	83	77	80	964
Highfield	87	90	93	104	117	258	85	83	112	105	99	100	1 333
Kambuzuma	54	55	66	65	02	51	110	63	58	68	55	66	703
Kuwadzana	184	206	213	186	357	318	279	237	260	214	238	238	2 930
Mabvuku	158	188	190	188	177	186	183	184	239	225	181	230	2 329
Mufakose	83	83	89	91	118	57	93	80	113	125	103	121	1 156
Rujeko	117	129	148	140	179	144	159	140	145	134	150	186	1 771
Rutsanana	136	141	171	152	208	29	15	170	190	165	169	201	1 747
Warren Park	88	98	112	88	**	**	02	71	88	100	88	103	838
Total	1 568	1 540	1 794	1 698	1 960	1 894	1 707	1 736	2021	1 904	1 882	2 049	21 753

***nurses strike**

Vitamin A supplementation for postnatal mothers intensified throughout the city including the private clinics. Most mothers who delivered at our 12 maternity units and those who

delivered at the named private clinics (Avenues Clinic, Baines Avenue Clinic, Belvedere Maternity, West End Clinics and other maternity Homes) were offered Vitamin A 200 000 units whilst still in-patients (to rule out giving large doses of Vitamin A to any woman who might be pregnant). In total 17 046 mothers who delivered at our 12 Maternity Units was each given Vitamin A supplementation before discharge.

DIETETIC SERVICES

Beatrice Road and Wilkins Hospitals

Closer liaison was maintained between the nutrition unit and the Hospital food Services Supervisors of Wilkins and the Beatrice Road Hospital kitchens. Several meetings were held with senior kitchen staff and several improvements were noticed in the catering for patients. Meal times and the provision of snacks, which used to cause some problems, were adjusted so as to reduce the long gap that existed for patients without meals. The two hospitals continue to plate individual meals for the patients and are also implementing the National Hospital Food Services Guidelines.

LOW BIRTH WEIGHT (BIRTH WEIGHT BELOW 2.5 KG)

The overall prevalence of LBW in 2007 amongst babies delivered or attended to soon after delivery, at the City of Harare's 12 Maternity Clinics was 8.8%.

Table 75: Prevalence of low birth weight (birth weight below 2.5 kg) by area and month

Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Tot
Budiriro	15.7	7.7	7.6	5.9	3.4	9.0	3.0	14.8	4.0	7.5	9.9	9.7	8.2
Edith Opperman	10.0	11.4	9.1	7.9	6.4	5.1	6.5	5.6	7.8	7.2	7.3	11.5	8.0
Glen View	8.8	4.7	7.8	11.8	9.3	5.2	6.5	1.3	14.9	11.1	4.6	7.1	7.8
Hatcliffe	8.2	12.0	8.6	6.8	1.4	3.9	12.5	6.0	5.5	6.0	7.1	11.1	7.4
Highfield	2.4	4.7	7.9	8.0	7.9	8.7	8.5	6.8	5.8	8.8	8.9	1.0	6.6
Kambuzuma	1.9	3.6	1.6	5.1	0	15.4	5.8	13.0	14.0	9.5	10.5	10.9	7.6
Kuwadzana	3.8	5.8	7.5	3.2	4.4	8.1	12.1	8.7	15.2	19.7	11.8	16.3	9.3
Mabvuku	12.9	5.4	10.8	5.9	10.1	15.6	9.9	8.9	8.9	10.6	7.3	9.3	9.6
Mufakose	13.6	23.2	13.0	17.9	7.9	12.3	5.0	17.4	8.0	13.0	9.8	2.6	12.0
Rujeko	7.7	10.9	12.1	15.3	10.1	6.3	10.7	4.4	7.7	2.9	6.8	13.8	9.1
Rutsanana	15.3	14.3	6.7	11.6	15.7	15.4	9.1	11.1	8.3	18.1	20.1	8.8	12.1
Warren Park	3.3	9.9	8.3	3.4	*	*	0	8.9	9.4	4.7	8.0	5.8	5.1
Total	8.6	9.4	8.7	8.6	7.0	9.5	7.5	8.9	9.2	9.9	9.3	9.0	8.8

***nurses strike**

Table 9 shows the prevalence of low birth weight by maternity center for 2007. Overall more than 1 in 10 babies delivered at Rujeko (12.0%) and Rutsanana (12.1%) were born LBW. Mufakose was the only area that recorded more than 1 in 5 babies (20.1%) delivered during February being LBW.

More than 1 in 10 babies delivered at Rutsanana during 8 months of the year were LBW (Table 9). Similar to the previous years more than 1 in 10 babies delivered at Rujeko and Mufakose for 7 months of the year were also LBW.

Similarly more than 1 in 10 babies delivered at Kambuzuma, Kuwadzana, and Mabvuku Maternity Centres for 5 months of the year were LBW. Edith Opperman, Glen View, and Hatcliffe also recorded LBW of more than 1 in 10 for 3 months of the year.

Warren Park and Highfield were the only two Maternity Centres that did not record a LBW prevalence of more than 10% throughout the year.

Of all the babies delivered (or attended to soon after delivery) at our maternity units, 6.8% of them (1 431) were Born Before Arrival (BBA), with 19.6% (281) of them being LBW. Of the 857 babies delivered at our maternity units prematurely (born before 37 weeks gestation) 80.2% of them were LBW, and 906 (4.3%) were small for gestational age, or small for dates, indicating growth retardation during pregnancy, which could be associated with poor nutritional status during pregnancy.

NUTRITION SURVEILLANCE THROUGH GROWTH MONITORING:

Attendance for growth monitoring in 2007 decreased by 30.3% compared to 2006. A total of 628 099 weights were recorded at growth monitoring sessions throughout the city with 92.4% as re-attendances and 7.6% as new attenders, with 3.0% of these weights falling below the 3rd Centile.

Overall 11.5% were found to be nutritionally at risk, with 7.4% losing weight and 4.1% static weight.

Table 76: Nutrition Surveillance by Age Group 2007

		0-5 Months	6-11 Months	12-23 Months	24-59 Months	Total
New attendances	No.	28 954	2 836	5 241	10 783	47 814
Re-attendances No.		137 954	140 219	159 954	143 007	580 288
Total (new + repeats)		166 059	143 055	165 195	153 790	628 099
GainingWeight	No.	134 105	126 761	131 714	121 053	513 575
	%	97.8	90.4	82.3	84.6	88.5
Static	No.	1 454	5 841	9 704	6 880	23 879
	%	1.1	4.2	6.1	4.8	4.1
Losing Weight	No.	1 604	7 617	18 536	15 074	42 831
	%	1.2	5.4	11.6	10.5	7.4
Above the line	No.	162 274	139 708	158 107	147 742	607 831
	%	97.7	97.7	95.7	96.1	96.8
Below the line	No.	3 785	3 347	7 088	6 048	20 268
	%	2.3	2.4	4.3	3.9	3.2
Born below 2.5 kg	No.	2 633	1 393	1 539	1 245	6 810
	%	1.6	1.0	0.9	0.8	1.1
Attending Nutrition Sessions	No.	787	5 227	4 956	2 942	13 912
	%	0.5	3.7	3.0	1.9	2.2

Fig IX: Prevalence: Growth Faltering by Month 2007

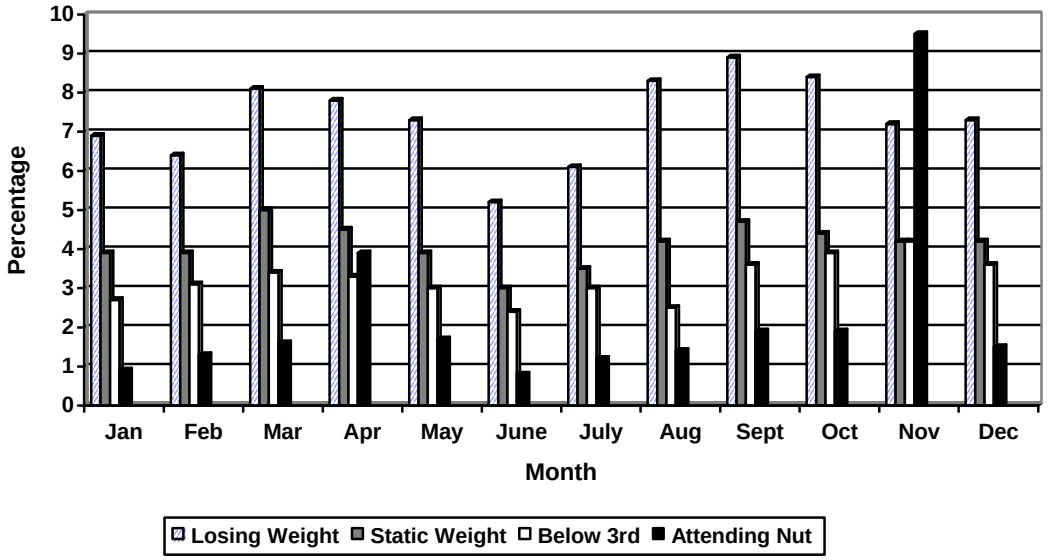


Figure IX illustrates the overall growth faltering by month for 2007. The number of under fives attending nutrition sessions increased significantly for the month of November, which can be attributed to the increase in children on CBNCP.

Demonstration nutrition sessions continued to be held throughout the City for children found to be nutritionally at risk. These sessions included nutrition education and demonstrations on the preparation of balanced diets utilizing the locally available, affordable foods.

Figure X graphically also shows monthly attendances for growth monitoring for the past five years. Attendance for growth monitoring decreased significantly throughout the year and was lowest comparing to other previous years.

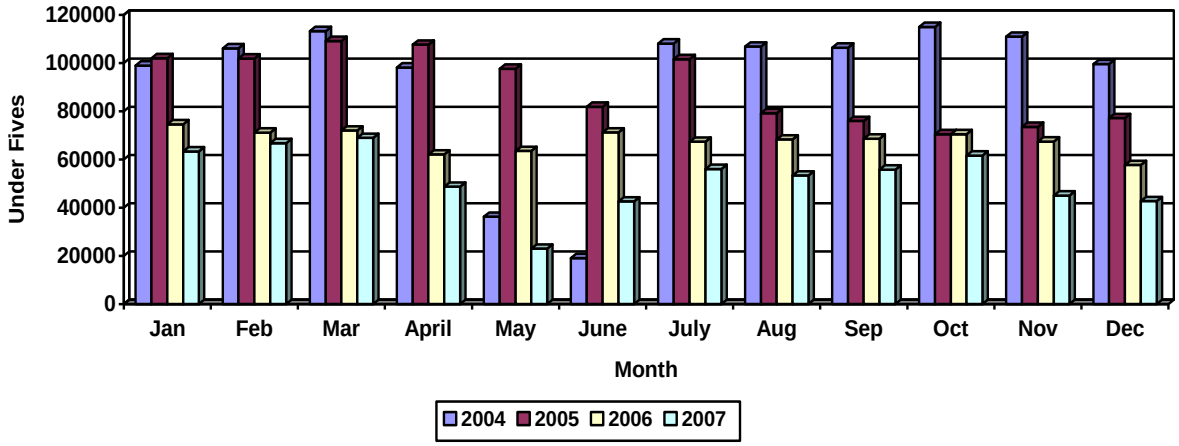
FOOD AND NUTRITION SENTINEL SITE SURVEILLANCE

The food and nutrition surveillance system was implemented in order to monitor the country's millennium development goals, especially the first one, of eradicating hunger and poverty.

The objective of the surveillance system is to provide information required by decision makers both private and public to make informed and timely interventions for improved food and nutrition security. The Ministry of Health and child welfare Nutrition unit in conjunction with the Food and Nutrition Council were instrumental in the establishment of the surveillance system.

In 2007 two Food and Nutrition Sentinel Site Surveillance data collection exercises were conducted in June and October. Information on food and nutrition, and food security, sanitation, maternal and child health, together with anthropometric measures were captured. Household salt testing aimed at monitoring the salt iodisation was also conducted.

Fig X: Growth Monitoring by Month Total Attendance



Preliminary findings show that:

- **There was a marked deterioration in nutritional status compared to the previous year. Nearly one in three children was stunted.**
- **Children coming from households where a member was chronically ill are at risk of being malnourished.**
- **Similar to 2006 results, the 2007 standard food basket was beyond the reach of many families in Harare.**
- **The rapid salt tests showed that most salt was iodated.**
- **Similar to the previous year there was an acute shortage of safe drinking water for families in both Mabvuku and Tafara.**
- **Vitamin A supplementation coverage was high in Harare.**

TARGETED CHILD SUPPLEMENTARY FEEDING SCHEME

The targeted feeding programme for children under the age of five, who were found growth faltering, which was started in Harare in March 2003, was suspended on May 7th 2005. The implementing partner for the City of Harare *HELP FROM GERMANY* still waits to recommence the programme.

***HELP FROM GERMANY*, had erected structures at 10 clinics namely, Dzivaresekwa, Mabvuku Satellite, Kambuzuma, Warren Park, Kuwadzana, Rutsanana, Glen Norah Satellite, Highfield, Western Triangle, Glen View Poly which eased the congestion at most of these clinics.**

BABY FRIENDLY HOSPITAL INITIATIVE: (BFHI)

The BFHI was emphasized throughout the year. Several intensive workshops were held during which many City of Harare health workers (nurses, health promotion officers and nutritionists) were trained.

IODINE DEFICIENCY DISORDERS (IDD) MONITORING 2007

Background information

Iodine is a trace element that is required in small amounts by the body for normal growth and development. Iodine deficiency is the greatest single cause of mental retardation and preventable brain damage, (WHO 2002). Deficiency in Iodine causes a range of abnormalities including goiter (swelling of the thyroid gland in the neck) and cretinism, which occurs in the first trimester of pregnancy. Iodine deficiency in pre-school aged children slows down mental development and causes goitre. In 1988, the Ministry of Health and Child Welfare conducted the first nationwide goitre survey amongst primary school children. The survey revealed that the entire Zimbabwe was iodine deficient. Approximately 40% of the children surveyed had goitre. Murewa district had the largest goitre prevalence of above 78%. In 1990 iodised oil capsules were distributed in Murewa as a short term control measure whilst awaiting universal salt iodation.

Zimbabwe started importing iodated salt from Botswana. The distribution of iodised oil capsules was therefore ceased. Later on in 1995, legislation was put in place for all salt for human consumption to be iodated at 30-90ppm.

An IDD monitoring system was developed and put in place in 1992. Matobo, Karoi, Shurugwi, Nyanga, Chimanimani, Centenary, Chegutu, Bikita, Chikomba, Binga, Murewa and Harare were randomly selected as sentinel districts for the IDD monitoring system. The IDD control programme was to be monitored every 2 – 3 Years.

Harare data shows that in 1992 the overall total goitre rate was 20.5% for the three selected primary schools namely Dzivarasekwa 4, Tafara 5 and Chitsere primary schools. In accordance with the ICCIDD criteria, these communities were mildly affected by IDD since the goitre prevalence rate fell between 10 and 30%. Between 1998 and 2002 total goitre rate fell from 17.8% to 5.6%.

The visible goitre was almost eradicated from 1.9% to 0.1% during the same periods. Overall goitre rate has declined since the IDD control programme started. The main objective of the 2007 IDD monitoring programme was to monitor both process and impact indicators of the IDD control programme in order to ensure suitable elimination of IDD.

The specific objectives are:

- **To assess the availability of iodated salt at Household level.**
- **To assess the presence of iodine in salt**
- **To establish urinary iodine levels in school children.**
- **To make recommendations for the strengthening of IDD surveillance.**

Harare was treated as a district and three primary schools which were originally randomly selected namely Chitsere in Mbare, Dzivarasekwa No 4 school in Dzivarasekwa and Tafara No 5 School in Tafara, were visited .

Urine Samples

50 urine samples were collected from 50 randomly chosen pupils from each of the three schools.

Rapid Salt Testing

100 children at each of the three schools were requested to bring salt from their households and to ask their parents where they bought the salt. Salt brought in by the children was tested for the presence or absence of iodine using the rapid iodine test kits.

Collection of salt for analysis by titration at the Laboratory:

From Households

Ten salt samples were collected/bartered with households that resided near each of the 3 schools Due to the acute shortage of salt in the City; the city nutrition unit bought a substantial amount of salt which they exchanged with households. The thirty salt samples were then sent to government analyst laboratories for analysis by titration.

From Shops/Salt Traders

In general salt was in very short supply in shops and tuck shops throughout Harare. Only three samples were bought from traders /vendors near each of the three schools. Salt from different countries was available at Mbare Musika; however this salt was very expensive.

RESULTS:

Out of the 30 shops visited in the city only 8 (27%) of them had salt.

Table 77: Rapid salt test results

NAME OF SCHOOL	FINE SALT IODATE PRESENT	FINE SALT IODATE ABSENT	COARSE SALT IODATE PRESENT	COARSE SALT IODATE ABSENT	TOTAL SALT SAMPLES
Dzivarasekwa No. 4	96	1	3	0	100
Chitsere	97	3	0	0	100
Tafara No 5	93	2	5	0	100
Total	286	6	8	0	300

Of the 300 samples of salt brought in by the pupils from home, 98% of them were iodated. All the 8 samples of coarse salt were iodated.

Iodine levels by titration:

Household Salt

Of the 30 salt samples from households srrounding the school, and sent to the Government Analyst for analysis by titration, only half (50%) of them had iodine levels of the recommended levels (25-55 parts per million) the remainder were below 25-55 per million (ppm).

Traders/vendors

None of the salt samples bought from shops/vendors in Harare had the recommended levels of iodate. 7 out of the 8 bought had iodine levels below 25 ppm and 1 sample had levels above 55ppm.

Urine

150 urine samples collected in Harare were also sent to the Government analyst for analysis. Only a third (29.3%) of the children's' urines had iodate within the recommended (100ug – 2000ug) levels.

Source of salt:

Most of the salt being consumed in the city is being bought from local shops/vendors or shops in Central Business District. A few samples were bought in from South Africa, Botswana and Mozambique. There were a few samples that had very dark reaction on the rapid test' indicating a heavy load of potassium iodate.

BREAST FEEDING COUNSELLING AND HIV/INFANT FEEDING COUNSELLING COURSE

Breastfeeding is the traditional practice accepted by most women and continued to be promoted and supported throughout the City.

The advent of HIV/AIDS continues to bring controversies in respect of the manner breastfeeding messages are delivered to the all mothers who use our health facilities. It has been proven that there are a proportion of HIV positive mothers who may pass on the virus to their babies through breast-feeding. It is now imperative that women ought to be given the right information pertaining to this, and those who know their status offered support in whatever option pertaining to infant feeding they would have taken.

Yearly the City Health Department has intensified training Health workers who deal with pregnant and lactating women in Breastfeeding counseling and in the use of National Breastfeeding and HIV guidelines. The Infant and young feeding component was added to the course which becomes the integrated *INFANT AND YOUNG CHILD FEEDING:*

The main objectives of these courses were: -

- **To train health workers on breastfeeding counseling.**
- **To train health workers on HIV and infant feeding counseling.**
- **To train health workers on the use of the Zimbabwe HIV/AIDS and Infant feeding guidelines.**
- **To train health workers on the prevention of parent to child transmission (PPTCT) of HIV.**
- **To revise breastfeeding management concepts covered in the BFHI course.**

One workshop which proved to be very beneficial was held for senior health personnel towards the end of year.

WORLD BREASTFEEDING WEEK (1 – 7 AUGUST 2007)

2007 .Theme: "BREASTFEEDING THE FIRST HOUR" ***early initiation and exclusive breastfeeding for six months can save more than one million of babies.***

The World Alliance for Breastfeeding Action (WABA) organizes the World Breastfeeding Week (WBW) annually as part of its global mobilization strategy to increase public awareness on the importance of breastfeeding. From August 1 – 7 each year, communities around the world campaign for the revival and maintenance of a culture of natural breastfeeding worldwide

The objectives of 2007 breastfeeding week theme were:

- **To mobilise the world to the potential of saving ONE million babies starting with one simple action: allowing the baby to initiate breastfeeding in the first hour of life.**
- **To promote immediate skin -to- skin contact of the mother and baby and continuing with exclusive breastfeeding for six months.**
- **To encourages ministers of health and other authorities, to include the initiation of breastfeeding in the first hour as a key indicator for preventive health.**
- **To ensure that families know how important a baby's first hour is, so that they can make sure their babies are given this opportunity.**
- **To support the newly revised and revitalised Baby Friendly Hospital initiative (BFHI), with its emphasis on integration and expansion and on the early initiation of Breastfeeding.**

Zimbabwe took several activities to commemorate the 2007 Breastfeeding week theme. Hospitals and maternity clinics were challenged throughout the country to celebrate the theme. Initiation of Breastfeeding within the first hour of life has the potential to make a major contribution to the health of the world' children

The 2007 breastfeeding week theme was launched and commemorated at Ndanga Hospital in Masvingo Province. All the maternity clinics in the city intensified "early initiation of breast feeding.

THE WORLD FOOD DAY (16 OCTOBER 2007)

The City Health Nutrition Unit remains a member of National World Food committee, which annually directs the activities of the Zimbabwe National Programmes.

WORKSHOPS

The nutrition unit scheduled to conduct several workshops for different health workers in the department. We managed to run 4 BFHI, and a six day combined course on breastfeeding/lactation management and breastfeeding counselling / HIV/infant feeding counselling course for Sisters in charge. Other topics covered for other cadre included Nutrition and HIV and Aids, Iodine Deficiency Disorders (IDD), growth monitoring and

improving growth monitoring techniques, data collection, assessment of nutritional status, foods and their nutritive values, diets, and weaning diets. Nutrition surveillance tools were also included on the training schedule.

NEEDY AND ORPHANED CHILDREN

Similar to previous years, many orphaned babies and triplets presented at our clinics and were screened, but the department was only able to assist a few due to shortage of resources. The majority of these cases continue to come from very disadvantaged and destitute families. Although assistance was sought for such children, the numbers were becoming too high and most of them were referred to social services for assistance, which was never forthcoming. The number of orphaned children continues to increase throughout the City most of which is due to the HIV/AIDS pandemic.

CONCLUSION

Yearly the nutritional status data continues to yield invaluable information, which was used for nutrition planning and intervention purposes.

For several years it has been demonstrated that areas with high prevalences of LBW also experienced high levels of chronic malnutrition (Mbare, Mufakose, Mabvuku, Rutsanana and Kuwadzana) exhibited high levels of chronic malnutrition.)

- **Chronic malnutrition or stunting continues to increase during the year.**
- **Acute under nutrition or wasting also increased during 2007, compared to the previous year.**
- **Both Kwashiorkor and Pellagra cases increased during the year.**
- **The number of grade 1 pupils enrolled in the city decreased.**
- **LBW also increased throughout the City.**
- **For the fourth year running figures for growth monitoring decreased by over 30%.**
- **Under fives found to be nutritionally at risk (loosing weight and static weight) increased in 2007.**
- **The number of orphaned children who needed assistance continued to increase each year.**
- **Over 100 children were admitted to the CBNC programme since June 2007.**
- **Vitamin A coverage for the postnatal mothers also increased significantly during the year, with nearly all mothers who delivered at our centres being supplemented.**

Nutrition education remained at the centre of all nutrition unit's activities during the year. Special emphasis was placed on making communities cope with all nutritional problems by using the available resources. Several nutrition clinics were held especially for diabetics

and hypertensive patients. Special emphasis was paid to counseling especially mothers with breastfeeding problems, on infant feeding choices and to mothers of babies who failed to thrive. Nutrition gardens were revived at some clinics and the produce of which was used for demonstration feeding sessions.

The nutrition unit would like to thank all the other units for working well with us throughout the year.

CHAPTER VI

HEALTH EDUCATION

INTRODUCTION

The main aim of health education/promotion was to deliver a comprehensive multi-disciplinary health promotion service inorder to educate the residents to be responsible for their own health using every possible means and strategy.

The health promotion section effectively co-ordinated health education activities within the health service groups in the communities and other partners in health. This coordination function created opportunities to draw together communities and further initiate programmes designed to promote health at all levels.

Health education officers, Graphic Artist and Health Promoters worked tirelessly in order to meet the set targets and accomplish organizational goals.

Identified operational key result areas emphasized were:-

- **Prevention and control of disease outbreaks and all communicable diseases.**
- **Promotion of reproductive health including STI/HIV/AIDS and PMTCT.**
- **Prevention of Child Abuse and promotion of child rights and child health.**
- **Promotion of Environmental hygiene.**
- **Promotion of Quality Care through Advocacy and Social Mobilisation on the clients charter.**

A recorded total of 1 907 181 residents benefited from a variety of health promotion programmes carried out within Harare in 2007 compared to 1 052 007 in 2006. There was an increase of 28% in 2007.

Coordination of patient education in clinics and hospitals

Health promotion section consolidated and developed a health education topic guide for use by health personnel after they had identified their needs. The programme is a strategy which offers proactive information and education to groups and individuals attending clinics and hospitals. Health Promoters were given the same inputs on the topic guide to ensure effective community education during their door to door visits.

Table 78: Health Education Topic Guide for the year 2007

MONTH	TOPIC
January	**- Control of Diarrhoeal Diseases (cholera, typhoid, dysentery)** **- Keeping of records i.e. clinic cards, maternity books, birth confirmation.** **- Personal and Environmental Hygiene** **- SARS** **- Mushroom poisoning** **- Bilharzia**
February	**- STI's: .Genital Herpes** **. Genital warts** **- Opportunistic Infections** **- Malaria** **- Drowning/Lighting** **- Services offered by Council**
March	**- Tuberculosis , HIV& AIDS** **- World TB Day commemorations** **- Skin conditions** **- VCT services** **- Drug compliance** **- Adherence in ART programme**
April	**- World Health Day Commemorations** **- Child Abuse** **- Chronic conditions i.e. Hypertension, Diabetes Mellitus, Asthma, Arthritis** **- Depression** **- EPI Promotion (Immunisations)**
May	**- Dog bites (Rabies)** **- Family Planning** **- Reproductive Health** **- ARI/CDD** **- Burns**
June	**- Home accidents/Road accidents** **- Day of the African child** **- Drug and Alcohol Abuse day** **- Child Rights/Child Abuse** **- Career Guidance** **- Scabies** **- Juvenile Delinquency**
July	**- World Population Day** **- Nutrition, using locally available foods** **- ANC** **- PMTCT** **- Measles** **- Hepatitis B**
August	**- Breast feeding promotion** **- Infant feeding Options in PMTCT** **- Home Based Care/ Nutrition in HIV/AIDS** **- Agricultural Show**

Month	Topic
September	**- Epilepsy week** **- Sanitation week** **- Personal and Environmental Hygiene, Refuse disposal** **- Allergies** **- Menopause/Andropause**
October	**- Cancer Week (Cervix, Breast, Prostate Gland, Kaposi Sarcoma)** **- Mental Health Day** **- World Food Day** **- Malaria week** **- Counselling skills**
November	**- World Diabetes Day** **- HIV and AIDS Week** **- 7 Killer Diseases/ Adverse events following Immunisation** **- Budgeting** **- Gender Based Violence**
December	**- World AIDS Day** **- STDS, HIV and AIDS** **- Opportunistic Infections** **- Support Groups and ARVS** **- VCT**

NB **ARI, STI's/HIV and AIDS and Tuberculosis and promotion of environmental hygiene- education continued throughout the year using every available opportunity and strategy.**

- **When there was any other disease outbreak, we took action by emphasizing that educationally so as to help minimize the problem.**
- **Self Health care at individual and community level was our goal in the empowering process**

Capacity Building

Departmental calendar of In-service Training Programmes

An in-service training calendar was developed and distributed to all districts and units following submission of identified training needs of staff. Development of an in-service training calendar helped to ensure a coordinated approach in training programmes and avoided duplication and fragmentation of programmes.

A total of 1732 clients benefited from in-service training sessions in 2007 as compared to 1 924 clients in 2006. There was a decrease of 10%. The 10% decrease could be attributed to harsh economic conditions and shortage of manpower in the districts.

Community Education

Health education worked with various organized groups in the communities. This resulted in capacity building of the communities at large with health information. A total of 28,686 clients were reached in 610 sessions in 2007 as compared to 17 947 clients in 2006. There was an increase of clients who benefited from the community education and training.

Topics covered were as follows:-

- **Domestic violence**
- **HIV and AIDS**
- **Scabies**
- **VCT**
- **Control of Diarrhoeal Diseases**
- **Rabies**
- **Menopause/Andropause**
- **Anthrax**
- **Child Rights/ Prevention of Child Abuse**
- **ARI/CDD**

Beneficiaries of Community Education

- **Community based Organizations**
- **Health Promoters**
- **Women's Clubs**
- **Out of school youths**
- **District Aids Action Committees (DAACS)**
- **Vendors**
- **Market place**

Community campaign strategy

Cholera campaigns using public address system and house to house visits reached much of the Harare residents within the districts. The campaigns were spearheaded by the health education officers with the support of health promoters and health workers. IEC material on all Diarrhoeal Diseases was distributed.

A total of 1 490 407 clients benefited from the campaigns done in all districts in 2007 as compared to 989 554 in 2006. There was an increase of clients reached in 2007. It shows that the campaign strategy ensures a wider dissemination of information for behaviour change. The campaign strategy was employed as a social mobilization tool for such programmes as:-

- **EPI promotion**
- **Child Rights and Child Abuse Prevention**
- **Control of Diarrhoeal Diseases**
- **Tuberculosis and HIV and AIDS**

Health Education/Promotion in schools

Health education officers as resource persons within their districts were invited to schools for delivery of information and education in response to identified needs. A total of 48 623 pupils were reached in 2007 as compared to 19 991 in 2006. There was an increase of pupils reached in 2007. This reflects that the health education officers worked tirelessly to impart health knowledge to the future leaders who are our window of hope in Harare. Targeting schools ensures wider dissemination of health information to communities.

Topics highlighted included the following:-

- **Facts about growing up (Puberty)**
- **STIs, HIV and AIDS**
- **Child Rights/Child Abuse**
- **Seven Killer Diseases**
- **Alcohol and drug abuse**
- **Life skills**
- **Dental health**
- **Bilharzia**
- **Prevention of diarrhoeal diseases**

<u>Health Education/Promotion in industries</u>

In order to reach all target groups within society, health eduaction section accepted invitations from workplaces to give information and education on identified needs of health information targeted at men and women at their workplaces.

A total of 2 635 workers were reached in 2007 as compared to 4 237 workers in 2006. There was a decrease of workers reached in 2007. This could be due to harsh economic environment and lack of resources that is I.E.C information and transport.

Topics highlighted during the sessions included the following:-

- **HIV and AIDS**
- **Condom Promotion**
- **Food hygiene**
- **Cholera Prevention**
- **Tuberculosis**
- **Home Based Care**

<u>Health Education in churches</u>

A variety of talks were given to the churches through invitations. These churches identified their topics for discussion or training

A total of 5 981 church members were reached as compared to 18 354 in 2006. There was a decrease of church members reached in 2007. Churches have to be targeted in 2008 since it's an opportunity for reaching out men, women, youths and children.

Topics covered were as follows:

- **Antiretroviral therapy (ART)**
- **HIV and AIDS**
- **Reproductive Health**
- **Cholera prevention/ control of Diarrhoeal Diseases**
- **Child Health Days**
- **Orphan care**
- **Positive living**

PARTNERSHIP WITH KEY STAKEHOLDERS IN HEALTH

Collaborative meeting and programmes were held with various key stakeholders in health. Partners helped in sharing experiences, enhancing technical skills and preventing duplicating of effort at district and provincial level.

The following were the key stakeholders:-

STAKEHOLDERS	ACTIVITIES
Ministry of Health and Child Welfare	• Launch of FDCs • World Health Day Launch • I.E.C. material Production for Control of Diarrhoeal Diseases and other Diseases • EPI Programme • Draft of Health Promotion Policy
National AIDS Council	• World Aids Day Launch • PAAC meetings • DAAC meetings • NAC workshops • Exhibition of NAC partners in Nutrition and ARVs
KAPNEK	• PMTCT programmes • Rapid HIV Tests Training
ISPED	• PMTCT Plus Training
Mashambanzou	• Home based care kits
MAVAMBO	• Child Rights/ Child Abuse Prevention
J.S.I	• Training of health Promoters on OI/ ART Awareness
Island Hospice	• Training of Palliative Care and Counselling
Musasa Project	• Prevention of Domestic Violence
UNICEF	• Information, Education, Communication materials on Diarrhoeal Diseases

EXHIBITIONS

The section represented the department at the Harare Agricultural Show.
The theme was ‘‘*Harare promoting partnerships as an innovation to feed the nation’’*. The exhibition was very successful.

Summary of all health education activities and attendances

Table 78: Summary of health education activities between 2006 and 2007

ACTIVITY	TOTAL ATTENDANCE		
	2007	2006	%
Community Training	28 686	17 947	59.8
Community campaigns	1 490 407	989 554	50.4
Staff in-service	1 732	1 924	- 10
Schools and Colleges	48 623	19 991	143
Industry/Workplace	2 635	4 237	- 38
Churches	5 981	18 354	- 67
Clinics and Hospitals	320 486	629 166	-49
Staff development	2 597	-	100
Co-ordination meetings	6 034	-	100
GRAND TOTAL	1 907 181	1 052 007	28

Other Activities

- **The Chief Health Promotion Officer facilitated in the training of OI/ART and cascading the Zimbabwe National HIV and AIDS strategic plan (ZNASP) to key stakeholders in health.**
- **District Health Education officers participated in Nutrition Sentinel Surveillance.**
- **District Health Executive planning meetings were held quarterly in all districts.**
- **District AIDS Action Committee meetings were held on monthly basis in all the districts.**
- **Health Education/Promotion planning meetings were held weekly. Sharing of experiences and information exchange enhanced health education officers' skills and knowledge.**
- **Deputy Chief Health Education Officer and District Health Promotion Officers informed, educated and distributed IEC material to the general public at Harare Agricultural Show.**
- **Health Promoters Executive meetings were held monthly.**
- **HIV and AIDS stakeholders meetings were held quarterly.**
- **All the Health Education officers facilitated at several training sessions both at district and central level.**
- **All health education officers were involved during TB Launch of Fixed Dose Combination (FDCS) as well as social mobilisation and advocacy in all districts.**

STUDENT ATTACHMENT TO HEALTH EDUCATION SECTION

Five (5) students undertaking a Bachelor of Science degree programme in Health Promotion benefited from an attachment to the section. Students were assisted in coming up with a Social and Epidemiological Behavioural, and Educational programmes. Students were assessed on their competence in lesson delivery.

Health Promotion Research

The District Health Education Officers were involved in Tuberculosis Rapid Assessment.

The objectives were:

- **To establish the reasons for low TB cure rate in Harare.**
- **To ascertain why patients default.**
- **To try and find a way forward.**

Methodology:

- **Discussions with TB Stakeholders**
- **Focus group discussions.**
- **Desk review of registers and reports**

Results

- **Lack of uniformity in management of TB**
- **Incomplete registration of TB patients in the Districts.**

Recommendations were:

- **Induction workshops for new staff is needed.**
- **To revive supervisory visits by Medical Examination Centre.**
- **Appropriate intervention following analysis needs to be done.**
- **TB meeting and planning to be done.**

HEALTH PROMOTERS PROGRAMME

Health promoters Programme continues to be the backbone of all Community health promotion programme in Harare. The main strength of the programme is their mandate to carry out house to house visits in the community where they live and where they were selected by that community in order to represent the communities in health issues as a grass root worker. They played a pivotal role in promoting the health of Harare residents by mobilizing communities to partake in health related programmes.

Health promoters OI/ART training programme

Two hundred and fifty five (255) health promoters were trained on OI/ART. The theme was "Community Engagement for Anti-Retroviral Treatment." The overall aim was to provide a comprehensive package for HIV and AIDS prevention, care, treatment and psychosocial support for residents through strengthening the involvement of community volunteers in the provision of ART services. The programme was successful. It was funded by JSI. Now OI/ART awareness in the community has increased tremendously. This was seen by the number of clients who are self reporting at the clinics for HIV Tests.

NATIONAL IMMUNISATION DAYS AND CHILD HEALTH DAYS

Health promoters managed to do extensive social mobilisation for June and November 2007 immunisation activities. Strategies used were group talks, house to house visits and distribution of I.E.C materials in the communities. During the November Child Health Days a documentary was shot as a best practice where health promoters sang and gave a group talk. Even house visit was included in the documentary. This was done at Mbare Poly Clinic, house of the client, and Mupedzanhamo Peoples Market in Mbare.

PMTCT: Pretest Counselling

Twenty seven (27) health promoters were involved in pretest counselling in Maternity Units in Harare. This has helped in the uptake of PMTCT programme. 14, 756 clients were pretest counselled by the HP Counsellors.

Unbooked Pregnancies

There was a decrease in the unbooked pregnancies assisted in 2007, 1 918 as compared to 2006, where 2 867 unbooked pregnancies were assisted. This can be attributed to health information given on the dangers of not being booked highlighted during group talks in Antenatal period.

Child abuse problems other than rape

There was a decrease of Child Abuse cases being reported in 2007. Six hundred and forty four cases were reported as compared to 2006 where 1 160 cases were reported. This might mean that residents are now aware of the forms of abuse because of the intensity of messages being disseminated about the consequences the parent or guardian will face, if caught abusing children.

The health promoters programme needs continued support as a cost effective and sustainable community development programme for Harare.

AUDIO VISUAL PRODUCTIONS

The Art and Graphic Unit continued to work tirelessly despite the challenges they faced. The main challenges included material resources and equipment. The Audio Visual Unit at Mbare Hostels was not operating at full capacity due to lack of modern equipment. In 2007 one continued to be shared by the two Graphic Artists. Nothing was done to improve both studios, though the two Graphic Artists ensured that the needed materials were designed, produced for the health department and other departments in City of Harare.

Summary of Health Promoters Activities

The table below shows the health promoters activities carried out in the districts during their mandate to carry out house to house visits. The impact of health promoters programme was seen in the reduction of unbooked pregnancies and child abuse figures which decreased in 2007 as compared to 2006.

Below are 2007 health promoters' statistics showing work done as compared to 2006.

The following is a summary of activities carried out by health promoters during their house to house visits in the districts:	South Western District	Southern	Western	West South West	North Western	Northern	Eastern	2007	2006
No. of unbooked pregnancies assisted	299	441	334	490	156	78	120	1 918	2 847
No. of teenage pregnancies counseled	410	250	247	431	600	37	161	2 133	1 901
No. of Child Abuse problems other than rape	60	194	125	126	68	23	48	644	1 160
Rape cases	5	9	6	32	4	1	12	69	203
No. of baby dumping cases encountered	6	16	26	25	2	2	6	83	358
Patients referred for initial Rx at clinics and hospitals	1 288	616	371	723	177	255	68	3 498	5 399
Patients helped at home	1 122	978	745	973	263	504	290	4 875	7 911
Patients accompanied to clinics	359	519	289	260	115	87	30	1 659	3 294
Practical sessions disposal of rubbish	456	894	1 219	1 865	6	213	77	4 730	6 243
First Aid Cases dealt with TB and Others	289	1 614	478	310	243	57	68	3 059	2 858
No. of follow up cases	2 242	1 357	1 248	1 502	239	717	266	7 571	15 863
Successful motivation for immunization	248	1 668	589	19 507	126	1 216	230	23 504	37 837
Disabled patients rescued from confinement	6	197	170	25	169	4	1	572	841
Diarrhoeal cases dealt with	3 338	1 077	534	1 410	256	742	218	7 575	9 417
ARI cases dealt with	2 555	2 082	525	1 574	247	128	159	7 270	11 768
STI cases encountered	370	133	79	33	7	39	39	700	847
Burns	30	125	36	115	383	39	30	758	860
Abortions	26	37	26	21	7	29	20	166	308
Dog bites	19	50	7	29	4	19	8	136	283
Suicide	6	20	2	28	2	8	14	80	270
RTA	63	59	72	61	107	8	14	384	579
No. of Home based care cases	244	1 352	364	743	351	125	219	3 390	5 990
Epilepsy cases	38	134	59	1 511	22	5	67	476	377
Skin conditions	246	437	304	538	125	307	162	2 119	5 249
Others	256	113	166	1 178	22	2 177	211	4 123	13 541
OI/ART/PPTCT/Social Mobilisation	4 152	3 230	2 748	1 874	1 858	1 658	1 772	17 292	40 569
PPTCT Pretest Counselling	2 340	4 235	1 139	4 892	1 030	1 120	2 378	14 756	25 274

The following is the breakdown of the work done by Graphic Artist:

TYPE OF MEDIA	QUALITY	ACTIVITY
Posters		
Quality patient care Posters	520	Clinics
Millennium Developmental Goals	60	Districts
Cholera	2 500	Cholera Campaign
Cholera Mode of Transmission	5	Cholera Campaign
WHO Staging	25	OI Clinic
Post Exposure Prophylaxis	10	Wilkins Hospital
Staff Establishment	5	G.U.C.
Zimbabwe International Trade Fair 2007		
Department of Works	10	ZITF
Department of Housing	10	ZITF
Department of Health	11	ZITF
City Treasury	10	ZITF
Municipal Police	8	ZITF
Municipal Traffic	3	ZITF
Town House	5	ZITF
Public Relations	6	ZITF
Harare Exhibition Agricultural Show		
Brochures		
City Treasury Bronchure	100	ZITF
O.I. Genital Warts	200	O.I. Clinic
Candidiasis	200	O.I. Clinic
Managing your food	300	O.I. Clinic
Oral Care	400	O.I. Clinic
Mushroom Bronchures	200	Health Education
Manyoka	10 000	Health Education
Cholera	1 700	Health Education
Tuberculosis		
FDC TB Posters	5 000	TB FDC Launch
Bronchures	3 000	TB FDC Launch
T- Shirts	200	TB FDC Launch
Banners EPI	16	All districts and Hospitals
EPI Calendars	500	For all Districts and Hospitals
Hats	300	TB (FDCS)
Leaflets	2 000	TB Launch
Others		
Letter Heads	100	Waste Management
Harare Holdings	5	Logos
Material Distribution		
Mbare Hostels		
AIDS Booklets	400	
Cholera Posters	7 400	
Cholera Stickers	2 000	

Impact of Health Promotion Programmes

Health Promotion programmes were effective as revealed by:-

- **Increase in requests for health information in community based organizations, non governmental organizations, schools and industry.**
- **Containment of cholera outbreaks and diarrhoeal diseases despite factors such as blocked sewers, vending everywhere, frequent water cuts and erratic refuse collection.**
- **Early treatment seeking behaviour for Tuberculosis patients for VCT, for treatment of opportunistic infections.**
- **Improved immunisation coverages and uptake of Expanded Programme on Immunisation (EPI) especially on National Immunisation Days(NIDS) and Child Health Days (CHDs).**
- **Increase of HIV and AIDS activities in all Districts.**

ACHIEVEMENTS

District Health Education Officers and the section as a whole continued to work as a team despite material resources constraints.

The following achievements were made in 2007:-

- **Trained health workers and other key stakeholders on behaviour change communication strategy and Zimbabwe National AIDS strategic plan.**
- **Health Education managed to develop and distribute I.E.C. material as well as being Resource Persons for Harare.**
- **Successfully coordinated inservice training programmes in the districts.**
- **Successfully trained 255 health promoters on OI/ART awareness activities.**
- **Successfully launched Fixed Dose Combination (FDCs) for Tuberculosis treatment for the Nation.**
- **Successfully represented the department at Harare Agricultural Show and Commemoration Days.**
- **Successfully conducted advocacy and social mobilisation activities for June and November National Immunisation Days and Child Health Days.**
- **We conducted reactive and proactive cholera campaigns especially in the Eastern District plus other districts.**
- **Workplace Health Promotion Programme was further strengthened throughout greater Harare as evidenced by the officers who facilitated at different work places and communities.**
- **Health Education managed to prepare all the departmental requirements for ZITF 2007 and Agricultural Show.**
- **All District Health Education Officers were trained in Behaviour communication strategy and other relevant disciplines.**

Constraints

1. **Inadequate transport for effective coordination of health promotion activities.**
2. **Lack of adequate equipment (appropriate technology) to conduct training and produce IEC materials.**
3. **Rampant water cuts, indiscriminant refuse disposal and blocked sewers hinder the effective implementation of hygiene programmes in the City.**

RECOMMENDATIONS

- **There is need to update training equipment such as LCDs , Overhead Projectors, Laptops, Camera, DVD, Public Address System and Video Camera**
- **Two computers are needed**
- **Health Education Officers need to be trained in power point.**
- **Health promoters need to be motivated through provision of uniforms, tennis shoes, notebooks, raincoats and pens.**
- **There is need for a specific vehicle for Health Education section's activities.**
- **Vacant posts need to be filled in.**

CONCLUSION

Given the growing needs for information and education for Harare residents, it is vital that health education is given enough manpower and material resources in order for the section to effectively play its pivotal role of capacity building among service providers and within communities. All the fundamental issues such as unblocking of blocked sewers, supply of adequate water and proper waste management need to be in place to ensure effective health promotion in the City.

CHAPTER VII

RESEARCH AND DEVELOPMENT

INTRODUCTION

The Research and Development's mission is to advance knowledge and promote innovations that improve the health and care of Harare residents. The overall objective of the unit is to contribute to the generation of evidence based information for use by policy makers and managers at all levels of the health system for strengthening the health systems and services. Emphasis is placed on promoting the generation, dissemination and use of knowledge for enhancing health systems. Many of the studies conducted by the unit are used to assess new technologies, and evaluate the cost effectiveness of services.

In 2007 the unit a process evaluation of antiretroviral therapy programme at Wilkins Opportunistic Infections clinic.

Health System Research (HSR)

1.1 Title: A process evaluation of Antiretroviral Therapy programme at Wilkins OI Clinic

1.2 Background: The City of Harare, Health Department started offering ART services through Wilkins Infectious diseases Hospital in 2004. In order to track the progress of the decentralization process and improve resource utilization, we therefore conducted an evaluation of the ART programme at Wilkins OI Clinic.

1.3 Objectives of the Evaluation Process

1.3.1 Broad Objective

The broad objective of the study was to evaluate the antiretroviral programme at Wilkins Infectious Diseases Hospital.

1.3.2 Specific Objectives

- **To analyze procedures followed in booking and registering patients for ARVs**
- **To assess the number of health workers trained and knowledgeable about ART.**
- **To determine the time it takes for one to be initiated on ARVs and reasons for the delay if any.**
- **To establish the percentage of patients with improved CD4 count at the end of six (6) months**
- **To evaluate patient satisfaction with services provided at the OI clinic**

1.4 Methods and Materials

A descriptive cross sectional study was conducted. Interviewer administered questionnaires were used to collect data from patients and staff. A total of 70 patients on ART for 6 months and above were interviewed. Participants were selected as they attended scheduled visits to the ART clinic. Patients aged 15 years and above were considered eligible for the study. Data from files and record cards was collected on dates of ART registration, CD4 count and clinical stage using a standardized form. A check list was used to assess the availability of essential drugs and supplies to the clinic.

1.5 Results

Seventy (70) percent of the patients waited for more than 2 hours for review and collection of drugs. Forty eight (48) percent of the patients felt the waiting period was too long. Delays were at the payments and records desk. Pertaining to decentralization of ART services, 46 out of 70 patients were willing to be reviewed and collect drugs from their local clinics. The clinic attends to about 250 patients per day. Staffing levels are low with five full time nurses and two locum nurses instead of the full compliment of 10. Registers were not up to date owing to work load. Stock outs of stalanev 30/40 were occasionally experienced.

1.6 Discussion

The ART programme at Wilkins OI clinic bears testimony that even in a poor resources setting, treatment of HIV/AIDS with antiretroviral drugs is feasible. Generally the patients' demographics revealed a poor patient population with poor clinical status at the time of presentation. The results showed that the median initial CD4 count of 94 cells/mm3 was far below the WHO HIV/AIDS defining level of 350 cells/mm3 suggesting that most patients presenting at the OI clinic were acutely symptomatic. However that was a favorable outcome in CD4 count change and weight changes amongst the patients after 6 months of treatment. The median CD4 count was 235 cells/mm3 and the median weight increased by 7.5kgs.

Among those with sexual partners, only 6 patients had not disclosed their status to their partners. Disclosure is important but maybe controversial. It may motivate sexual partners to seek testing, change behavior and ultimately decrease the transmission of HIV, at the same time it may create conflicts with partners. About 14% of the patients admitted sharing drugs with someone. This practice is disturbing as it may compromise optimal treatment adherence.

The time the patients spent waiting to be reviewed and collect drugs was of concern. 30% of the patients waited for less than two (2) hours to be served. Most patients indicated that delays were mainly at the records and cash office. The shortages of staff versus the high number of patients that require ART contribute to the delays. Since ART is an important public health programme in Zimbabwe, there is need to prioritise allocation of staff to the clinic. The level of training of health workers was highly commendable.

1.7 Conclusion

The City Health Department Directorate should consider allocating more staff to Wilkins OI clinic and opening more ART initiation sites at clinic level in the high density suburbs. The results from the study suggest a high practitioner adherence to ART guidelines. The Wilkins OI clinic is understaffed and this is mainly the reason for continuous long waiting time before a patient is initiated on ARVs. However, given these challenges, Wilkins OI clinic provides some evidence that resource-poor nations can provide and deliver successful HIV/AIDS treatment if ARV drugs are made available.

1.8 Recommendations

- **More Nurses and Nurse Counselors should be trained and allocated to Wilkins OI clinic so that individual counseling sessions are done. Emphasis currently is on group counseling.**
- **Education on the dangers of drug sharing should be done at every review session**
- **More clerical staff is needed to assist with registers and patient records keeping**
- **More ART initiation sites should be opened especially in high density suburbs**
- **ARV drugs should constantly be available**
- **The Directorate should look into ways of improving the working environment. Emphasis should be on revamping the furniture crisis and the clinic set up itself**
- **More resources need to be channeled to City clinics if the HIV challenges have to be met.**

MEDICAL SOCIAL WORK

Introduction

The role played by social work intervention at the two City Health hospitals continued to grow in both stature and importance as seen by the ever increasing number of patients/clients in need of social welfare assistance. However, there has been no corresponding increase in the resources allocated to the Department and this proved a very challenging year in the nascent life of the department.

OBSERVATIONS

Social Welfare Assistance

This formed an integral part of social welfare assistance.

The hyperinflationary environment prevailing in the country meant that hospital fees at both council institutions and the major referral centers continued to escalate, coupled with the ever increasing number of clients seeking treatment at the Opportunistic Infections Clinic. Social Workers were inundated with clients in need of Free Medical Assistance Treatment Orders.

These clients were further referred to the Department of Social Services for public assistance and other institutions that provide psychosocial assistance to people living with HIV and AIDS and their families.

Organizations such as Rokpa and Mashambanzou came in handy in providing food and other material assistance.

Pre and Post test counseling for HIV test

The inception of Provider Initiated HIV Voluntary counseling and testing meant an upsurge in the number of clients who were offered this service. All clients passing through the tuberculosis out patient Chest Clinic and the wards were offered this service. This resulted in a record number of patients being offered the service.

Family counseling, bereavement counseling and defaulters counseling

The importance of counseling in any setting, which provides social welfare services, cannot be over emphasized. Provision of psychosocial support to patients and their families remains integral in the treatment processes.

Recommendations

1. **It is respectfully recommended that the social work section be allocated a vehicle to carry out its roles.**
2. **There is need for a complete overhaul of the system of disposing stillbirths.**

Problems encountered during the year

1. **Home visits, tracing of relatives of deceased and admitted patients as well as the disposal of bodies approved for pauper burials was greatly hampered by the in-availability of transport. Consequently, bodies overstayed in mortuaries and patients overstayed in the hospital wards after being discharged.**
2. **Disposal of stillbirths and bodies approved for pauper burial**
   The company that was contracted by the Department of Social welfare exhibited a high degree of negligence and dereliction of duty resulting in bodies overstaying in the mortuary for close to a year

Table 79: Summary of Social Welfare Cases Attended to for the Year 2007

TYPE OF CASE	NUMBER	
	2007	2006
Pre test counseling for HIV test	1 100	429
Post test counseling for HIV test	840	397
Defaulters Counseling	17	68
Bereavement Counseling	8	5
Supportive Counseling	5	23
Home visits for:		
Home assessment/family counseling	3	10
Tracing relatives of deceased patients	12	20
Wheel chair follow up	0	0
Tracing of relatives of admitted patients	6	12
Tracing of relatives of deceased patients by:		
Letter	0	1
Phone or through the media	16	17
Public/Social Welfare assistance:		
School fees	2	0
Rent	8	0
Clothing	0	0
Bus warrant/transport	4	35
Free medical treatment	2 200	1 341
Pauper burial adults	12	12
Clients institutionalized	3	0
Child welfare type of case		
Neglect	3	0
Physical injury	0	0
Sexual abuse	2	1
Emotional abuse	28	0
Orphans	50	15
Industrial relations		
Unfair labor practices	1	0
Notifying employers and makingarrangements for payment of		
Sick leave pay, wages & salaries	1	1
Admitted in hospital	7	0
Arranging for Home Based Care and referred patients through		
City health community sisters	3	56
Provincial medical directorate	2	7
Referral for palliative care and support services at:		
Mashambanzou	27	10
Nursing homes	0	5
Hiring of appliances from the Department and other external agencies		
Wheelchairs	0	0
Crutches	0	0
Walking frames	0	0
Commodes	0	0
Total	4 729	2465

CHAPTER VIII

SEXUALLY TRANSMITTED INFECTIONS (STIs)

- **Genitourinary Centre (GUC)**
- **City Primary Care Clinics**
- **Voluntary Counselling and Testing (VCT)**
- **Training**

GENITOURINARY CENTRE (GUC)

INTRODUCTION

The centre is situated at the Wilkins Infectious Diseases Hospital, 2 km from the central business district. The centre serves as:-

- **A referral centre for management of sexually transmitted infections. These are referred from council clinics, government hospitals and from the private sector. Although it is a referral centre, walk in cases are also accepted.**
- **A training school for qualified nurses in the syndromic management of STIs and training of trainers. The students are drawn from the city health department, private sector, uniformed forces, provincial and district hospitals.**
- **It also serves as a venue for workshops that are organised within the city health department.**

STAFF ESTABLISHMENT

TITLE	ESTABLISHMENT	IN POST	VACANCY
Venereologist	2	1	1
Sister in Charge	1	0	1
RGN	9	7	2
Lab Scientist	1	0	1
Clerical Officer	1	0	1
Clinic Orderly	2	1	1
Clinic Attendant	6	5	1
General Hand	2	0	2

GUC CLINIC ATTENDANCES

A total number of 5 423 clients were seen at the GUC clinics during the year 2007 and this represents an 8% increase as compared to the previous year when 5 029 cases were recorded.

Females were in the majority and accounted for 56% of the total number of clients and this adds support to the widely held view that females have a better health care seeking behaviour compared to their male counterparts.

The increase may be due to increased awareness of the interrelationship between STIs and HIV as a result of intensified health education. The community is now probably aware of the importance of early treatment of STIs limit the spread of HIV.

An added benefit is also that once one tests positive they are then referred to the Opportunistic Infections Clinic (OIC) which is just nearby for further follow-up regarding anti-retroviral therapy.

Table 80: GUC conditions by age and sex for 2007

AGE	0-4YRS		5-14YRS		15-19YRS		20-29YRS		30-39YRS		40-49YRS		50 YRS		TOTAL		GRAND TOTAL
DISEASES/ CONDITIONS	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea Positive	0	0	0	0	1	0	3	0	1	0	3	0	0	0	8	0	8
Gonorrhoea Opthalmia Neonatorum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non Gonococcal Opthalmia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non Gonococcal Urethritis	0	0	0	0	2	0	137	0	100	0	33	0	14	0	286	0	286
Non Gonococcal Cervcitis	0	0	0	2	0	40	0	336	0	181	0	36	0	11	0	606	606
PID		0		0		2		50		28		12		1	0	93	93
Chancroid	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1
Primary Syphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Secondary Syphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGV	0	0	0	0	0	0	6	1	3	0	3	0	0	0	12	1	13
Genital Herpes	0	0	0	0	2	3	55	53	68	68	22	27	8	6	155	157	312
Genital Warts	2	4	2	3	4	31	115	167	80	84	32	18	6	3	241	310	551
Candida	0	0	0	0	0	13	2	169	0	57	0	7	0	2	2	248	250
Trichomonas	0	0	0	0	0	0	0	2	0	1	1	0	0	0	1	3	4
Orchitis	0	0	0	0	1	0	14	0	16	0	3	0	1	0	35	0	35
Balanitis	0	0	0	0	5	0	67	0	40	0	16	0	6	0	134	0	134
Paraphimosis	0	0	0	0	0	0	12	0	1	0	5	0	1	0	19	0	19
Menstrual Disorders		0		0		1		4		0		0		0	0	5	5
UTI	0	0	0	0	2	0	45	1	27	2	7	2	7	1	88	6	94
Moluscum	2	1	0	2	0	2	4	11	12	9	2	1	2	0	22	26	48
Others	7	20	8	19	6	14	167	155	148	94	67	57	35	27	438	386	824
Referrals	2	6	0	6	1	5	13	16	20	6	6	9	1	1	43	59	102
Total	13	31	10	32	24	111	641	965	516	540	200	169	81	52	1485	1900	3385

Table 81: TOP FIVE CONDITIONS SEEN AT GUC FROM 2004 – 2007

CONDITION	2007	2006	2005	2004
Non Gonococcal Cervicitis	598	468	653	726
Genital Warts	563	457	522	847
Genital herpes	317	331	404	514
Non Gonococcal Urethritis	285	287	512	279
Candidiasis	245	213	227	-

As was the case in the previous two years, non gonococcal cervitis continued to be the most common condition.

PRIMARY CARE CLINICS ATTENDANCES

Urethra discharge	**-**	**94**
Vaginal discharge	**-**	**257**
PID	**-**	**61**
Opthalmia	**-**	**74**
Genital ulcers	**-**	**73**
Repeat visits	**-**	**132**

A total number of 37 046 clients were seen in the primary care clinics during the year 2007 and this figure includes both initial and repeat visits.

Of this total, 64% were females and again this supports the view that females are more likely to present to clinics when they don't feel well than males.

Vaginal discharge accounted for the highest number of cases and it should be kept in mind that not all cases are necessarily caused by sexually transmitted organisms.

TRAINING

No training was conducted at GUC in 2007 due to financial constraints. There was no substantive national STI coordinator in the first six months of the year and hence sourcing for funds for training was a major handicap.

The centre trained 17 nurses from the City Health department in the clinical management of survivors of rape. Financial support came through the United Nations Population Funds (UNFPA).

Provider Initiated Testing and Counselling (PITC)

Wilkins Hospital was chosen as one of the pilot sites for the national PITC program. Nurses from the TB clinic, TB ward and the GU centre were trained in basic counselling skills and rapid HIV testing.

The Population Services International was instrumental in providing technical expertise for the training and also offered support after the program had taken off.

The program started on 1 August 2007 instead of April when other pilot sites started because of the industrial action in the City at the time.

Initially the uptake for testing was low but as time went on the numbers started to rise, with attendances increasing every month except for the month of December.

The decrease may be attributed to the cash crisis prevailing at the time and also because of breaks during the Unity Day and Christmas holidays.

Table 82: PITC Attendances for the Period August 2007 to December 2007

MONTH	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Attendances	119	212	259	259	162

The PITC clients were from GU clinic, TB outpatients and the ward and a total number of 1 011 were tested.

Table 83: BREAKDOWN OF PITC ATTENDANCES

GU	329
TB OPD	612
HOSPITAL (WARD)	4
OTHERS	66

The majority of the clients were from TB outpatients which contributed 60% of the total number tested.

ACHIEVEMENTS

- **All the nurses at GUC and TB outpatients had PITC training in basic counselling skills and this was coordinated by the PSI.**
- **Three nurses were trained rapid HIV testing and this was also coordinated by the PSI.**

CONSTRAINTS

- **For the first time since inception, no training course was conducted at GUC due financial constraints.**
- **Drug supplies improved with the exception of nystatin pessaries, acyclovir and ciprofloxacin which were erratic.**
- **Cryotherapy is still not being carried out due to the unavailability of the equipment. GUC continues to refer clients to the private sector for treatment and most of them cannot afford it.**

Staff Shortage

There are vacant posts for a veneorologist, sister in charge, two nurses, laboratory scientist, clerical officer and a clinic orderly.

With the introduction of the PITC program, there is need for two more nurses for the clinic to deliver quality service.

There is need for a laboratory scientist to be based at the GU centre especially when there is training in progress.

Repairs

The toilets in the administration block and lecture hall are still not functioning well. The roof on the corridor connecting the female and male clinics continues to leak in the rainy season, damaging the floor extensively. The relevant departments are aware of the persistent problems.

VOLUNTARY COUNSELLING AND TESTING

- **The New Start Centre is within the Wilkins hospital grounds. The centre continued to offer counselling and testing services for clients who came in voluntarily and others referred by health care providers.**
- **With more people being aware of the existence of the O I clinic at Wilkins, the demand for services has risen greatly. Clients find it convenient to be referred from the site to the clinic.**

Table 84: ATTENDANCES AT GENITO URINARY CENTRE SITE 01 TESTING AND COUNSELLING SINCE 2002

MONTH	2007	2006	2005	2004	2003	2002
January	452	493	477	238	271	267
February	430	410	474	323	257	321
March	476	498	431	382	232	273
April	374	384	382	33	240	250
May	452	428	271	486	265	306
June	484	415	437	326	186	349
July	463	404	411	359	233	356
August	595	364	439	586	378	315
September	693	378	446	370	296	306
October	756	389	396	355	277	340
November	878	462	432	426	308	271
December	536	337	371	386	318	238
Total	6 589	4 962	4 967	4 619	3 261	3 592

Table 84 shows the number of clients who have attended the site since 2002. The number of clients in 2007 increased by 32.8% compared to 2006. Two promotions were held during the year. Mother's day promotion which ran from 1 May 2007 to 19 May 2007. The World Aids Day promotion from 19 November to 1 December was well received, with November recording the highest attendance in 2007.

PLANS FOR 2008

- **All nurses at GUC to be trained in rapid HIV testing.**
- **To conduct two courses for training of trainers (TOT)**
- **To conduct six four-week courses in syndromic management of STIs for nurses.**

CONCLUSION

The GUC will strive to continue giving comprehensive health care during the year 2008 despite constraints mentioned. It is also hoped that the staff shortage problem will be addressed early so that service delivery will improve

CHAPTER IX

SPECIALIST SERVICES

- **Tuberculosis Services**
- **Pharmaceutical Services**
- **Medical Laboratory Services**
- **Dental Services**

INTRODUCTION

The year 2007 was a challenge to the City of Harare TB services with insufficient funds and fuel for supervisory visits. Tuberculosis continued to be one of the biggest challenges facing the Harare City Health department just the same as the past five or so years. However new cases decreased by 13.2% (i.e. from 8 748 for yr 2006 to 7 592 for year 2007). The majority of the Districts realized a decrease in the number of TB cases in 2007 compared to 2006. Only the Central district realized an increase, though minimal i.e. 4.3%. Sputum positives decreased from 2 415(27.6%) in 2006 to 1 981(26.1%) in 2007. The cure rate for new sputum positive cases was 90.4%, against the national target of 85%.

Support visits by a team from the Medical Examination Centre and the Infectious Diseases Control Unit largely continue not happen due to inadequate transport.

Fig 1: Notification of All forms of TB in Harare (including PMD cases) 1997 - 2006

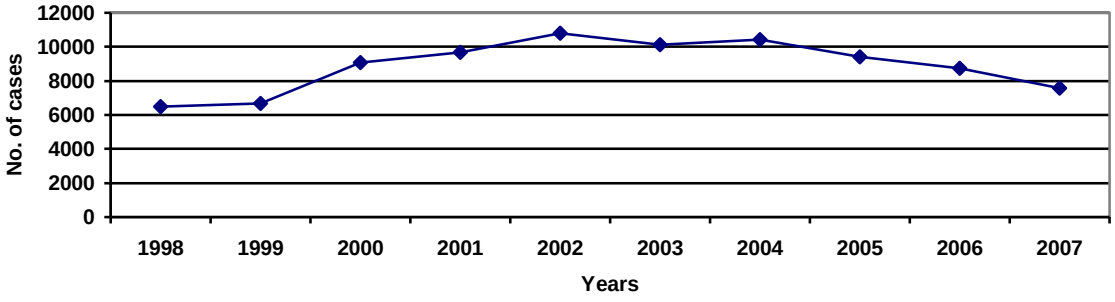


Fig 2: Notification of New PTB Sputum +ve
(Harare Cases Only) 1996 - 2007

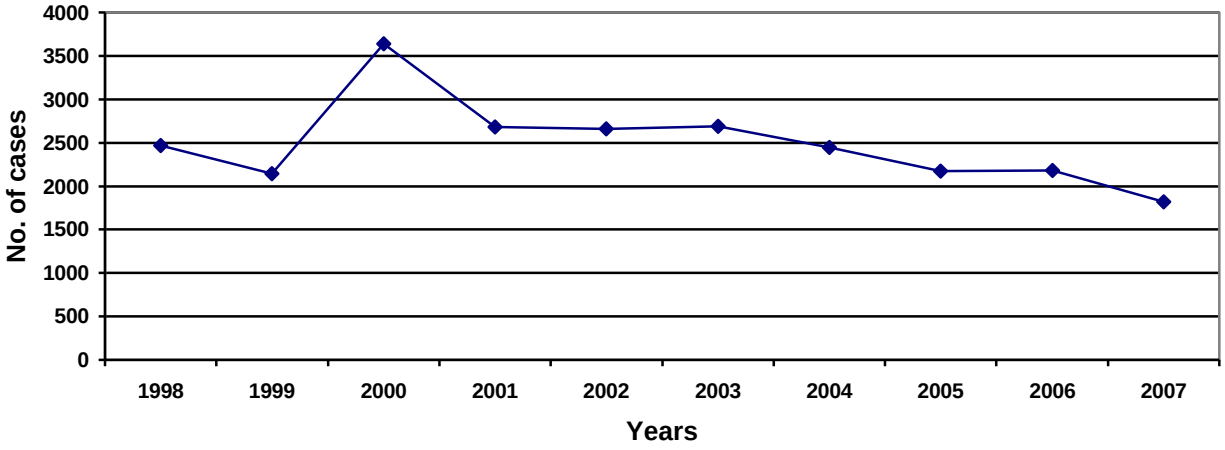


Table 85: TB New cases: Distribution by Diagnosis (Harare District Only i.e. excluding transfers to PMD) Comparison of year 2007 and 2006

DIAGNOSIS	% CHANGE	2007	2006
PTB Positive	-16.6	1 822	2 181
PTB Negative	-32.2	1 114	1 644
PTB Sputum Not Done	-5.9	1 862	1 978
Pleural Effusion	-1.4	996	1 010
TB Meningitis	-6.7	166	178
TB Lymphadenitis	0.9	217	215
Miliary TB	6.0	142	134
TB Pericaditis	41.5	75	53
TB Peritonitis	-12.5	14	16
Primary TB	-85.7	1	7
TB Bones & Joints	-500.0	0	5
Other Forms of TB	6.7	285	267
GRAND TOTAL	-12.9	6 694	7 688

The proportion of patients with sputum not done decreased by 5.9% (from 1 978 in 2006 to 1 862 in the year 2007. This improvement may have been due to improved staff in the laboratory to process the sputums for TB microscopy. There was some decrease in sputum positive TB in 2007 compared to 2006 and this has been the trend since 2003.

Table 86: Distribution by District; TB cases notified in Harare, Comparison of Year 2007 and 2006

DISTRICT	% Change	2007	2006
CENTRAL	4.3	96	92
EASTERN	-21.4	622	791
NORTHERN	-5.8	277	294
NORTH WESTERN	-8.9	841	922
Provincial Medical Director	-11.2	697	785
SOUTHERN	-11.4	1 170	1 320
SOUTH EASTERN	-10.6	262	293
SOUTH WESTERN	-13.1	1 121	1 290
WESTERN	-13.6	1 108	1 282
WEST SOUTH WEST	-16.7	1 398	1 679
GRAND TOTAL	-13.2	7 592	8 748

The proportion of Provincial Medical Director (PMD) cases was almost the same for 2007 and 2006 (9.2% and 8.9% respectively) of the notified TB cases.

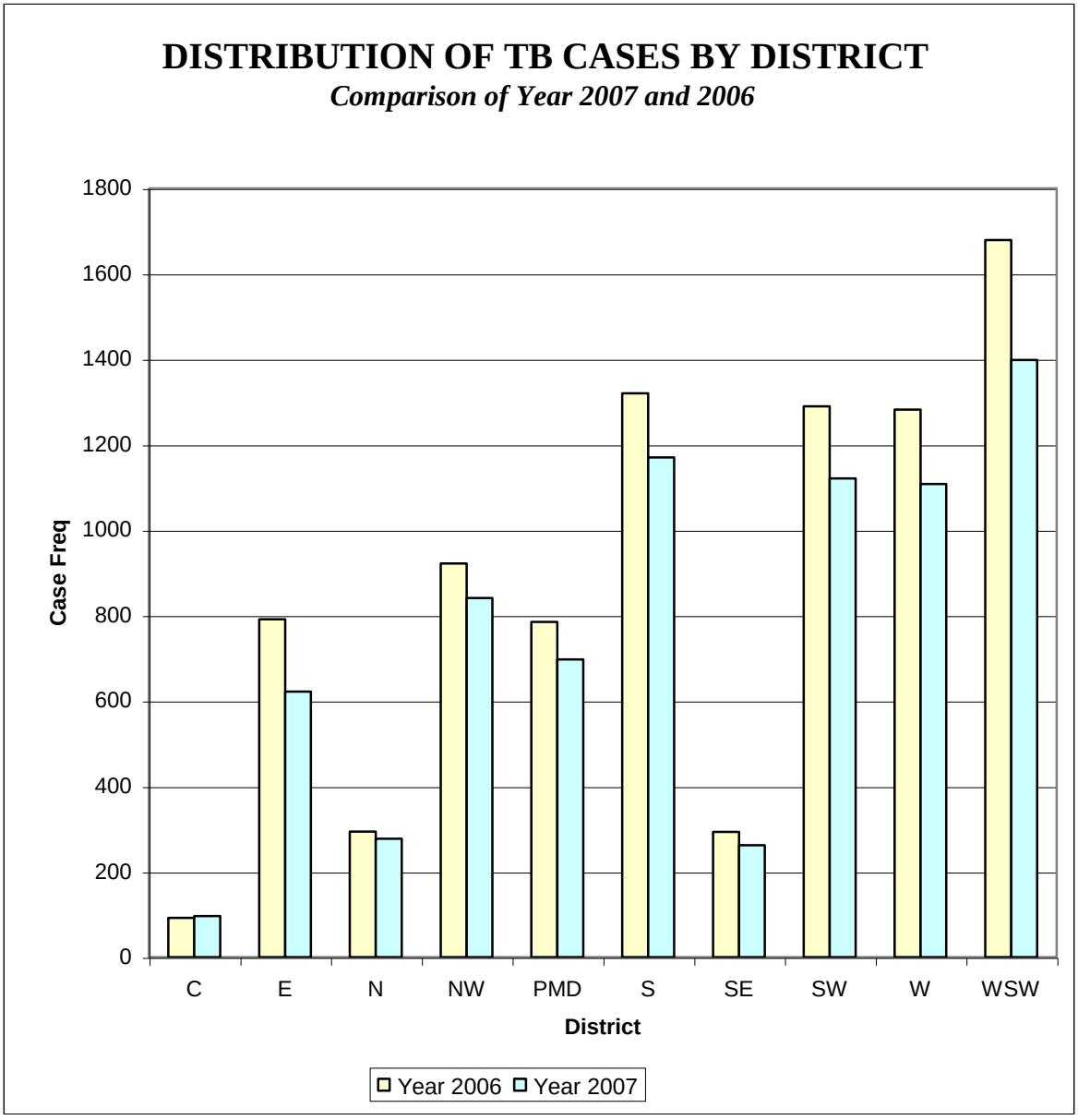
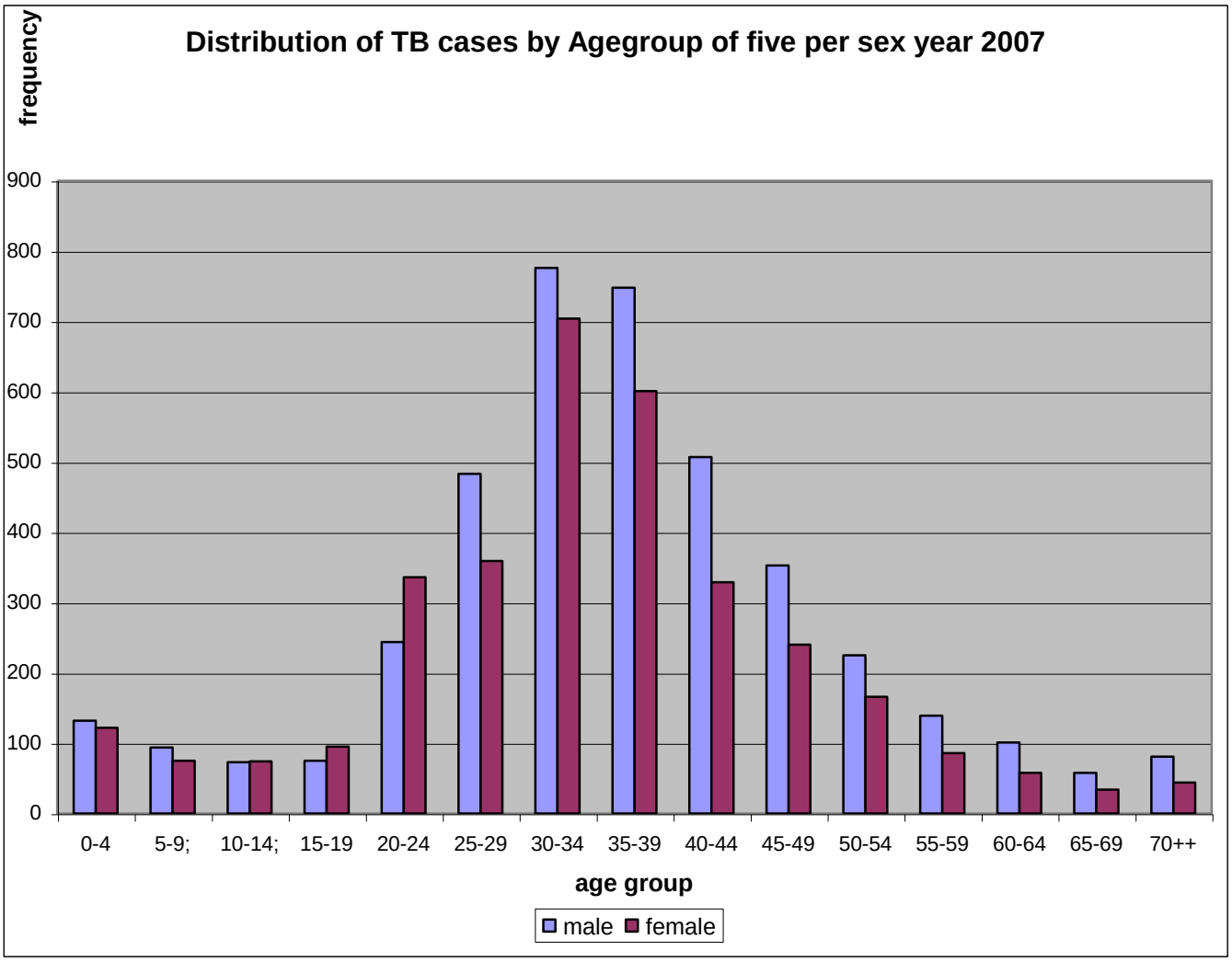


Table 87: Top Ten suburbs by Notification Rates in 2007

Suburb	District	Number of Cases	Total Population	Rate per 100 000 Population
Mbare	Southern	806	134 569	599.0
Mufakose	West South West	364	77 113	472.03
Highfield	South Western	596	120 961	492.72
Glen View	West South West	523	114 913	455.13
Glen Norah	South Western	419	87 697	477.78
Kuwadzana	Western	569	123 985	458.93
Budiriro	West South West	498	111 889	445.08
Dzivaresekwa	North Western	345	92 100	374.59
Warren Park	Western	232	58 969	393.43
Mabvuku	Eastern	262	58 969	444.31

The notification rate of 599.0 per 100 000 population for Mbare, though it decreased from 687 per 100 000 still is the highest in the City. There is need to double efforts in the control of TB in this suburb. The notification rates per 100 000 population in six of the top ten suburbs are above 400, whereas the benchmark for high disease burden is at 300.



The most affected age groups remained the economically productive age groups of 30 to 59 where notification rates of over seven hundred per hundred thousand continued to be observed. However the 65-69 year age group notification rate decreased from around one thousand per hundred thousand in 2006 to only about one hundred per one hundred thousand.

Table 88: Distribution of Relapses, Treatment after Default, Treatment Failures and Re-treatments by age and sex, 2007

Age Group (Years)	Relapses		Treatment after Default		Treatment Failure		Re-treatment		Total 2007	Total 2006
	Male	Female	Male	Female	Male	Female	Male	Female		
Below 1	0	0	0	0	0	0	0	0	0	0
1-4	0	0	1	0	0	0	0	0	1	3
5-14	0	1	0	0	0	0	4	7	12	9
15-29	5	4	0	1	0	0	9	8	27	43
30-54	11	10	1	0	0	0	82	52	156	248
55+	0	4	0	0	0	0	10	4	18	16
Total	16	19	2	1	0	0	105	71	214	301

There was a 28.9% decrease in the category two patients. Sputum positive cases accounted for 16.4% of the total cases. There was need to strengthen the follow up of these patients as this was their last chance at cure. There was however no treatment after failure cases noted.

Case holding:

Note that the cohort analysis of treatment outcome for 2006 will only be available late in the year 2007. The latest completed outcome analysis being discussed here was for 2005.

DEFINITIONS

Cured: **Initially sputum positive patient who completed treatment and had a negative smear result, on at least two occasions, one of which was at the completion of treatment.**

Rx Completed: **Sputum smear positive cases who completed treatment, with negative sputum at the end of intensive phase, but with no or one negative sputum examination in the continuation phase and none at the end of treatment.**

OR Sputum smear negative or extra-pulmonary patient, who received a full course of treatment.

Defaulter: **A patient who at any time after registration had not collected drugs for two months or more.**

Unknown: **Not known what happened to patient. To be added to defaulter.**

Transfer Out: **A patient who has been transferred to another reporting unit and his/her treatment results are unknown.**

Table 89: Outcome Analysis by Type of Cases in 2006

outcome	PULMONARY TB SMEAR POSITIVE				PULMONARY TB SMEAR NEGATIVE				EXTRA PULMONARY TUBERCULOSIS				TOTAL CASES	
	NEW CASES		RELAPSES		NEW CASES		RE-TREATMENTS		NEW CASES		RE-TREATMENTS			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
CURED	1208	923	29	32	###	###	##	#	##	###	##	#	1237	955
RX COMPLETED	30	28	2	1	2001	1680	109	79	875	962	19	8	3036	2758
FAILURE	0	0	0	0	###	###	##	##	##	###	##	#	0	0
DEFAULTED	5	2	0	0	4	0	1	0	3	2	0	0	13	4
DIED	65	28	1	1	169	102	10	5	56	71	0	0	301	207
TRANSFER OUT	36	29	1	0	46	50	4	0	20	27	0	0	107	106
UNKNOWN	2	1	0	0	6	5	0	0	6	4	0	0	14	10
TOTAL	1346	1011	33	34	2226	1837	124	84	960	1066	19	8	4708	4040

No treatment failure was noted throughout the year, good work which should be kept-up. Success rate for sputum positive for 2005 was 90.4%. The mechanism to get the outcome of all the out of Harare patients remains elusive hence the impossibility in attaining the WHO recommended success rate of 85% for the country. Case fatality rate in PTB +ve cases is 2.8% less than in PTB –ve cases. There were severe shortages of transport, which could have contributed to the non-retrieval of the defaulters who got recorded as unknown.

SUMMARY OF OTHER ACTIVITIES

The City's TB services continued to be involved in the development of the TB program at Local, National and International levels through our active participation in organizing activities such as local TB meetings, National Expert Committee as well as the National TB Program Planning meetings.

Training

Some training courses were planned for 2007 for staff on the ground including the City doctors on proper and early diagnosis of TB and case holding and training on the job continued.

Way forward

Operational Research (OR) was more active in the City's TB program with involvement in a TB trial design and an operations research design on Integrated HIV Care. We continued to work with partners like the Biomedical Research and Training Institute

MEDICAL EXAMINATION CENTER (MEC)

The Medical Examination Centre based at Beatrice Road Infectious Diseases Hospital had four main functions, namely:-

1. **Physical screening and routine chest x-rays for referred and voluntary clients.**
2. **Screening of food handlers under section 71 of the Public Health Act (Chapter 15.09)**
3. **Case finding of suspected TB cases and management of confirmed cases.**
4. **Provider initiated HIV testing and counseling (PITC)**

Medical Examination Annual Attendants

Table 90: Medical Examination Centre Annual Attendees for 2007 and 2006

	2007	2006
Physical screening, Mass radiographs, Food handlers	1 960	30 517
WIDH and TB out-patients X-rays	71	1 397
Hospital x-rayed patients BRIDH	1 306	141
TB Patients seen by nurses and Doctors	21 915	23 335
Immigrants	67	82
Typhoid vaccinations	273	931
HIV/AIDS pre and post testing counseling	2 668	693
Total attendances	28 260	56 403

The total annual attendances decreased by almost 50% probably due to lack of X-Ray films for the better part of 2007.

Table 91: Results of Rectal Swabs taken during Screening in 2007 and 2006

Year	Total rectal swabs	No. Positive	% positive
2007	1 960	29	1.48
2006	2 332	45	1.92

TB Program

In the year 2006, staff from MEC and the Infectious Diseases Control Unit organized workshops for health workers on TB management in all districts of the City of Harare. During the year 2006, the MEC staff carried out support visits to most of the clinics with the main aim of evaluating the impact of the 2005 TB management workshops. The evaluation showed some improvement in the management of TB cases, though and also a big motivation to the health workers.

The main problem of year 2007 continued to be the supply of Anti-TB drugs, having shifted from single dose to fixed dose combinations. Most of the clinics were operating with anti-TB drugs which were far below the required minimum stock levels.

As from July 2006 a provider initiated HIV counseling and testing was started, and efforts are made that every TB patient is counseled and offered HIV testing, those found to be positive are then referred to the opportunistic clinic (within the same premises of BRIDH or WIDH). This initiative led to an increase in HIV testing uptake of 25.97%

PHARMACEUTICAL SERVICES

INTRODUCTION

The year 2007 was full of challenges that disturbed the section especially the procurement aspect. The pharmacy sections' situation worsened further due to drugs scarcity, hyper-inflation, insufficient funds and inefficiency of the purchase order authorization process. Transportation of stocks to clinics faced fuel hiccups leading to late deliveries. National Pharmaceutical company stock levels were so low that we failed to acquire sufficient stocks for our services. Time for payments to Natpharm was shortened such that our account was frequently suspended hindering us from frequent ordering due to overdue payments.

The Pharmacy section had been going without a Pharmacist after the Chief Pharmacist had been dismissed nearly two years ago. Fortunately Mr G Chareka a qualified Pharmacist joined the Pharmacy section as the head in December. The section is still facing staff shortage which include Pharmacy Technicians and Chief Clerical Officers.

Table 92: City Medical Stores Percentage Stock out by Month for 2007

Month	Percentage (%)
	All stock items including vital drugs
January	65
February	60
March	70
April	65
May	70
June	60
July	45
August	35
September	25
October	20
November	20
December	20

The Natpharm stocks exceeded 50% of total stocks obtained but only about 10% of the expenditure due to subsidized prices.

EXPENDITURE ON PHARMACEUTICAL AND MEDICAL SUPPLIES

The total expenditure for the year 2007 was as follows: $92 568 492 586.00

- **Purchases from private sector amounted to $89 033 203 587.00**
- **Natpharm purchases amounted to $3 535 288 999.00**

The table below shows the monthly expenditure of drugs and surgical sundries for the year 2007.

Table 93: Expenditure on drugs in Medical Sundries by Month for 2007

Month	Private Sector Purchases Vital Items only ($)	Natpharm Purchases ($)
January	121 745 861.00	-
February	120 866 727.00	-
March	204 186 965.00	54 061 489.00
April	823 972 441.00	-
May	-	980 470 710.00
June	1 878 911 145.00	-
July	2 059 239 511.00	-
August	3 296 067 761.00	-
September	8 105 689 104.00	-
October	26 208 210 399.00	-
November	21 214 190 431.00	2 500 756 800.00
December	25 000 123 242.00	–
Total	89 033 203 587.00	3 535 288 999.00
Grand Total		92 568 492 586.00

STOCK PROFILE

Anti-TB Drugs

There was a severe shortage of streptomycin injection during the first half of the year. The rest of the drugs were in stock with good levels and these were improved by introduction of the Fixed Dose Combination drugs in the last quarter of the year. Amongst these the isoniazid and ethambutol combination had the lowest level until year end.

Anti-hypertensive Drugs

The two drugs which were in stock are hydrochlorothiazide and methyldopa. Atenolol, Nifedipine, Captopril and others were not in stock for the whole year. This negatively affected a number of chronic clients who entirely depend on council clinics for their usual supplies.

Antibiotic Drugs

Second quarter of the year adult antibiotics were in stock and suspensions were out of stock with the exception of Cotrimoxazole. All other suspensions only came in by the second quarter and were all gone by the last quarter. This was due to the Natpharm trend of availability.

Analgesics, Antipyretics and Anti-Inflammatory Drugs

Paracetamol tablets were also not available until November including Ibuprofen, Indomethacin and aspirin.

Immunologicals (Vaccines)

Vaccines were in adequate stocks throughout the year for child immunization programmes co-ordinated by World Health Organization. Other vaccines remained scarce both at Natpharm and the private sector which include antirabbies and typhoid. These two are now too expensive to import.

There is still a problem of power back up in case of blackouts such that the need for the generator at Beatrice hasn't been addressed as yet

Central Nervous System Drugs

Chlorpromazine was in stock for the whole year. Phenobarbitone only came in after the second half of the year. Modecate has been critically short on the market up to now for almost two years.

Surgical Sundries

The sundries levels remained generally average throughout the year with the exception of the fast moving items like suture material which remained in and out due to insufficient funds to buy bulk.

CONSTRAINTS

The issue of procuring drugs from one supplier was a big constraint because of availability issues. Also delaying of payments to suppliers caused our account to be suspended at certain times and manpower shortage at the pharmacy section was another major draw back. Natpharm was continuously adjusting its normal account settlement time frames to shorter periods unlike what used to happen in the previous years.

Prices of essentail drugs were rising daily incapacitating our maximum purchase order limits.

GOALS/OBJECTIVES FOR 2008

The main goal is to effectively materialize the pharmacy section's mission statement of making available all the essential drugs and related medical products, and ensuring their equitable distribution.

CONCLUSION

The section requires adequate funding and regular adjustment of the purchase order limits. The purchase order authorization process should not take time because drugs and sundries are life saving products, and in this time frame of hyperinflation the shorter the time for authorization the better for the council resources.

MEDICAL LABORATORY SERVICES

INTRODUCTION

The total number of specimens analyzed in the medical laboratory increased from 143 760 in 2006 to 179 237 in 2007. An increase of 24%, the two OI clinics are now our major supply of blood samples. Generally Harare residents now know that we have an efficient laboratory services and affordable prices of the same services to our ratepayers compared to high prices in private laboratories. There was a significant increase in TB samples from 36 918 in 2006 to 45 698 in 2007. Positivity rate however was stable. In the year under review four Medical Laboratory Scientists joined Council. This wa a major boost to our staff. The major challenge faced throughout the year remained the inability by Council to acquire new laboratory equipment. Hyperinflation and sky rocketing prices gobbled the annual medical laboratory budget by the first three months of the year.

STATISTICAL REPORT ON TESTS PERFORMED IN LABORATORIES

1. CLINICAL CHEMISTRY

Total specimens processed: 44 046

Clinical Chemistry Tests	2006	2007
Alkaline Phosphatase	2 418	4 795
Aspartate Aminotransferase	2 409	4 720
Alanine Aminotransferase	2 417	4 712
Direct Bilirubin	2 420	2 810
Total Bilirubin	2 421	2 383
Total Protein	2 431	2 734
Albumin	2 423	2 784
Uric Acid	16	3
Blood Glucose	567	1 284
Creatinine	2 426	3 823
Urea	2 427	4 853
Sodium	2 398	4 747
Potassium	2 382	4 398
Total	27 155	44 046

2. IMMUNO-HAEMATOLOGY

Total specimens processed: 15 031

Immuno-Haematology Tests	2006	2007
Rhesus Blood Type	20 986	14 629
D-Factor	672	402
Antibody Screening	0	0
Antibody Identification	0	0
Total	21 658	15 031

3. HAEMATOLOGY

Total specimens processed: 24 042

Haematology Tests	2006	2007
Full Blood Count	4 912	15 001
Differential Count	1 289	15 001
Reticulocyte Count	0	0
Sickle Cell Screen	0	0
Erythrocyte Sedimentation Rate	55	36
Prothrombin Time/Index	37	29
Film Comment	19	9
International Normalized Ratio	37	29
CD4 (absolute & %)	2 698	8 976
Total	8 707	24 042

4. BACTERIOLOGY

Total specimens processed: 52 930

Bacteriology Tests	2006	2007
Positive Culture Stool/Rectal Swab		
Shigella species	274	322
Salmonella species	78	88
Escherichia coli	0	0
Campylobacter species	0	0
Vibrio cholera	35	28
Total Positive Stool /Swab for Culture	435	552
Total Stool/Rectal Swab for Culture	*4 830*	*4 212*
Urine for Culture		
Positive Urine Culture	763	569
Total Urine Culture	*2 451*	*2 557*
Sputum for Acid Alcohol Fast Bacilli		
Positive Sputum for AAFBs	3 492	5 694
Total Sputum for AAFBs	*36 918*	*45 698*
STIs Microscopy		
Positive Smears for Gonococci-GNID	1 168	0
Positive Smears for Yeast Cells	91	0
Total Positive Smears	1 259	0
Bacterial Vaginosis	11	0
Total Smears for Microscopy	*3 987*	*0*
Routine Swabs for Culture		
Blood/CSF/Ear/Eye/Wound/Boil Swab	*344*	*563*
Total	48 530	52 930

5. SEROLOGY

Total specimens processed: 32 263

Serology Tests	2006	2007
Positive Rapid Plasma Reagin	84	156
Total Rapid Plasma Reagin	21 702	29 321
Treponema Pallidum Haemagglutination Positive	76	99
Total Treponema Pallidum Haemagglutination	112	156
Positive Rheumatoid Arthritis Latex Test	0	0
Total Rheumatoid Arthritis Latex Test	3	2
Positive Hepatitis B Virus Surface Antigen	0	35
Total Hepatitis B Virus Surface Antigen	0	146
Positive Hepatitis B Virus Core Antibody/Antigen	0	0
Total Hepatitis B Virus Core Antibody/Antigen	0	0
Positive Hepatitis B Virus Envelope Antigen/Antibody	0	0
Total Hepatitis B Virus Envelope Antigen/Antibody	0	0
Positive Hepatitis A Virus IgM	0	0
Total Hepatitis A Virus IgM	0	0
Positive Pregnancy Test	196	379
Total Pregnancy Test	439	772
Positive Human immunodeficiency virus	499	519
Total	1 344	2 022
Total Human Immunodeficiency Virus	24 455	32 263

6. PARASITOLOGY

Total specimens processed: 10 925

Paracitology Tests	2006	2007
Positive Parasites Identified		
Schistosoma mansoni	47	32
Giardia lamblia	1	0
Hookworm	0	0
Hymenolepis nana	2	0
Strongloides stercolaris	1	0
Ascaris lumbricoides	6	1
Entamoeba coli	3	0
Entamoeba histolytica	0	0
Entamoeba vermicularis	0	0
Ancylostoma larvae	0	0
Total Stool Microscopy	1 907	4 212
Urine for Microscopy		
Schistosoma haematobium	953	1 201
Trichomonas vaginalis	15	5
Total Urine for Microscopy	3 987	5 690
Blood Slides for Malaria Parasites		
Slides Positive for Plasmodium species	936	786
Total Slides for Malaria Parasites	7 361	1 023
Total	13 255	10 925

TESTS TOTAL FOR 2006 AND 2007

Test Totals By Discipline	2006	2007
Clinical Chemistry	27 155	44 046
Immuno-Haematology	21 656	15 031
Haematology	8 707	24 042
Bacteriology	48 530	52 930
Serology	24 455	32 263
Parasitology	13 255	10 925
Total	143 760	179 237

CONSTRAINTS

- **One microscope remained inadequate to examine timely the number of sputum samples received per day to maintain an acceptable result turn around time. Four microscopes are necessary to manage the workload and provide back up in case of a breakdown. The fluorescent microscope is still not working.**

- **Single-door refrigerators that are currently in-use are old and keep on breaking down, efforts to have a clod room in place have proved fruitless.**

- **Transportation of specimens and laboratory results to clinics has remained chaotic as no solutions were found to address this perennial problem and as such more work was performed after hours.**

- **For the fifth year running the laboratory continued to function without the substantive Head and Deputy Head thereby affecting service delivery as some decisions are made hesitantly.**

SUCCESSES

- **The laboratory acquired one chemistry analyzer.**

- **There was a marked improvement on performance in testing specimens for external quality control from the local agency, Zimbabwe National Quality Assurance Program and CD4 QC from ZEQAS in South Africa.**

- **The laboratory managed to provide consistent service with limited resources.**

- **The City Health account was good in paying our suppliers and most laboratory consumables were available.**

GOALS

- **To strengthen Laboratory Information and Communication Technologies (ICTs) through participating in the Laboratory Information Tracking System.**

- **To strategize and co-ordinate the procurement of essential laboratory equipment such as a Fluorescence Microscope, Clinical Chemistry Analyzer and a Coagulation Machine.**

- **Re-opening of the GUC Laboratory which was closed due to staff shortage.**

- **Institute new transportation strategies by employing the use of motorbikes for transportation of both specimens and results.**

- **Prioritize staff development to keep abreast with changing technologies.**

- **To continue to agitate for the change of the laboratory structure which has remained on the charts for too long?**

CONCLUSION

The laboratory had a critical shortage of staff. Salaries and benefits of staff need to be looked into before we loose more staff. The laboratory needs to strengthen Laboratory Information and Communication Technologies (ICTs) we need to participate in the Laboratory Information Tracking System as this may ease pressure on staff because most work is manual.

There is need to aggressively address the laboratory equipment issue so as to have uninterrupted laboratory services throughout the year. Council should adopt a replacement policy so that the laboratory does not wait for equipment to become obsolete before new purchases.

DENTAL CLINICS

A total of 14,098 attendances were recorded during 2007. This represents an increase of 17% compared to 12,018 patients in 2006. Only 13% of patients is covered to an adequate amount for dental benefits by a Medical Aid scheme.

Total extractions done increased by 16%. Also 2% more fillings were recorded.

The most significant increase recorded was in root canal treatments (+145%) and for a second consecutive year in surgical extractions and disimpactions (+30%). This should be attributed to the improvement in skills and confidence of our dental surgeons. Other factors contributing are less breakdowns of equipment and a change of mentality in patients who become more dental minded. About 40% more acrylic dentures were delivered.

An almost full complement of staff guaranteed a continuous service delivery except for the periods of electricity and water cuts which have affected our satellite clinics. Glen View Dental Clinic closed down on 15 August and remains closed. Notwithstanding these problems, all other satellite clinics became busier; Kuwadzana +64%; Mabvuku +90%; Mufakose +25%.

A donation of second hand equipment (including dental chairs) made operations more patient friendly and ergonomic to the operators. This allowed us to install an extra dental clinic in Hatcliffe, which will be commissioned as soon as we are guaranteed of electricity and water.

One Dental Therapist joined us beginning of the year. The last quarter of the year however 2 Dental Therapists and 1 Dental Officer resigned. This reduction in staff at the end of the year coincided with a reduced flow of patients when a cash shortage affected the country.

Our Oral and Dental Health education program for schools had to be abandoned as transport costs made it unaffordable.

BREAKDOWN OF SERVICES PROVIDED AT THE VARIOUS DENTAL UNITS

GERSHON DENTAL

Total Patients - 10 562
Paid - 6 291 (60%)
Free - 2 897 (27%)
Medical Aid - 1 374 (13%)

Services offered by Age group

Treatment	0-6 Years	7-17 Years	18+ Years	Total
Examination: Paid	59	319	7 382	7 760
Free	14	180	620	814
Reviews	3	69	214	286
Extractions* Paid	83	549	12 370	13 002
Free	21	298	890	1209
Scalings	0	33	227	260
Filling Amalgam	11	103	365	479
Filling Aesthetic	16	39	179	234
Temporary Fillings	14	26	104	144
Disimpactions: Paid	0	10	462	472
Free	0	3	191	194
Root Canals (Sessions)	0	19	342	361
Apicectomy	0	3	30	33
Septic Socket	0	51	260	311
Splinting	0	0	28	28
Orthodontics (Sessions)	0	46	4	50
Oral Surgery Minor	0	3	40	43
X-Ray: Paid	0	59	748	807
Free	0	17	274	291
Dentures (Sessions)	0	33	323	356
Crown and Bridge	0	0	8	8
Antibiotics: Paid	49	96	2 358	2 503
Free	11	38	340	389
Referrals	1	19	53	73
Not Treated/Appointment	0	94	388	482
Total Procedures	282	2 107	28 200	30 589

Acrylic Dentures - Full 38
- Partial 102
- Repair 17

KUWADZANA DENTAL

Total Patients - 1 895
Paid - 1 477 (78%)
Free - 198 (10%)
Medical Aid - 220 (12%)

Services offered by Age group

Treatment	0-6 Years	7-17 Years	18+ Years	Total
Examination: Paid	31	91	1 245	1 367
Free	0	5	111	116
Reviews	0	4	36	40
Extractions: Paid	44	90	1 191	1 325
Free	0	4	61	65
Scalings	0	2	28	30
Filling Amalgam	1	3	15	19
Filling Aesthetic	0	0	5	5
Temporary Fillings	0	0	3	3
Antibiotics: Paid	2	6	41	49
Free	1	2	14	17
Septic Sockets (Dry)	0	3	23	26
Referrals	0	5	35	40
Not Treated/Appointment	0	4	22	26
Total Procedures	79	219	2 830	3 128

MUFAKOSE DENTAL

Total Patients - 1 102
Paid - 700 (64%)
Free - 214 (19%)
Medical Aid - 188 (17%)

Services offered by Age group

Treatment	0-6 Years	7-17 Years	18+ Years	Total
Examination: Paid	27	69	828	924
Free	4	16	101	121
Reviews	0	4	36	40
Extractions: Paid	24	75	710	809
Free	0	13	72	85
Scalings	0	0	31	31
Filling Amalgam	0	0	39	39
Filling Aesthetic	0	0	0	0
Temporary Fillings	0	0	9	9
Antibiotics: Paid	0	3	63	66
Free	0	1	7	8
Septic Sockets (Dry)	0	0	26	26
Referrals	0	4	38	42
Not Treated/Appointment	0	6	43	49
Total Procedures	55	191	2 003	2 249

GLEN VIEW DENTAL
(Closed 15 Aug till end of year)

Total Patients - 132
Paid - 82 (62%)
Free - 29 (22%)
Medical Aid - 21 (16%)

Services offered by Age group

Treatment	0-6 Years	7-17 Years	18+ Years	Total
Examination: Paid	3	5	85	93
Free	1	2	18	21
Reviews	0	1	2	3
Extractions: Paid	5	6	93	104
Free	1	1	20	22
Antibiotics: Paid	0	1	3	4
Free	0	0	0	0
Septic sockets (Dry)	0	0	2	2
Referrals	2	2	18	22
Not Treated/Appointment	0	0	0	0
Total Procedures	12	18	241	271

MABVUKU DENTAL

Total Patients - 407
Paid - 183 (45%)
Free - 190 (47%)
Medical aid - 34 (8%)

Services offered by Age group

Treatment	0-6 Years	7-17 Years	18+ Years	Total
Examination: Paid	7	32	226	265
Free	3	10	122	135
Extractions: Paid	3	21	124	148
Free	0	17	38	55
Antibiotics: Paid	0	8	36	46
Free	0	3	8	9
Septic sockets (Dry)	0	0	12	12
Referrals	1	6	39	46
Not Treated/Appointment	0	0	0	0
Total Procedures	14	97	605	716

CHAPTER X

INFECTIOUS DISEASES HOSPITALS

- **Beatrice Road Infectious Diseases Hospital**
- **Wilkins Infectious Diseases Hospital**
- **Opportunistic Infection Clinic**

The city has two Infectious Diseases Hospitals, Beatrice Road Infectious Diseases Hospital in Mbare and Wilkins Infectious Diseases in Belvedere. The two hospitals receive patients from the private sector, two central hospitals and City Health clinics.

There has been a general decline in the admissions both TB patients and other communicable diseases.

The two hospitals had their challenges and successes. Below is a summary of the activities for the two hospitals.

1. BEATRICE ROAD INFECTIOUS DISEASES HOSPITAL

Introduction

The hospital is divided into two sections namely TB wards and fever wards.

Table 94 and 95 below show admissions and deaths that occurred in the two sections during sections during year 2007. Table III shows fever wards outpatient attendances.

Table 94: Comparison of Admissions in Tuberculosis Wards and Deaths 2006 and 2005

Disease	2007			2006		
	Admissions	Deaths	CFR %	Admissions	Deaths	CFR %
PTB Sputum Positive	188	64	34	268	66	25
PTB Sputum Negative	134	47	35	267	105	39
Other forms of TB	545	180	33	627	182	29
Chest Investigations	9	11	122	0	0	0
Others	0	0	0	21	9	42
Total	876	302	345	1 183	362	31

Total TB admissions decreased by 26% from 1 183 in year 2006 to 876 during year 2006. Total TB deaths decreased from 362 in 2006 to 302 in 2007. However despite the decreases in deaths the case fatality rate was higher in 2007 which recorded 34.5% 2006 when it was 30.6%.

Table 95: Comparison of Admissions and Deaths to Fever Wards 2007 and 2006

Disease	2007			2006		
	Admissions	Deaths	CFR %	Admissions	Deaths	CFR %
Dysentery	37	0	0	83	3	3.6
Watery Diarrhoea	60	8	13.3	207	6	2.9
Cholera	20	0	0	26	1	3.8
Chicken pox	17	4	23.5	35	7	20
Hepatitis A	0	0	0	0	0	0
Hepatitis B	1	0	0	3	0	0
Meningococcal Meningitis	1	0	0	1	0	0
Jaundice for investigation	3	2	66.7	12	5	41.7
Scabies	2	0	0	3	0	0
Measles (suspected)	1	0	0	0	0	0
Psoriasis	5	0	0	1	0	0
Herpes zoster	20	0	0	29	0	0
Anthrax	1	1	100	3	0	0
Others	0	0	0	5	0	0
Lodgers	25	0	0	47	0	0
Total	191	15	7.9	455	23	5.5

Total fever wards admissions decreased by 58% from 455 during year 2006 to 191 during the year under review. Total fever wards deaths decreased from 23 in 2006 to 15 in 2007. However despite the decreased in deaths the case fatality was higher in 2007 at 7.9% compared to 5% in 2006.

Cholera

Laboratory confirmed cases of cholera were 20 in 2007 compared to 26 in 2006. There were no fatalities during 2007 compared to one death in 2006. All the 20 cases of positive cholera during 2007 tested sero type INABA.

Please note that the 20 cases reported were those patients who were actually admitted into Beatrice Road Infectious Diseases Hospital. This figure does not include any cases who may have been managed elsewhere.

Measles

The one case of suspected measles tested negative for measles but positive for Rubella.

Table 96: Fever Outpatients Attendance 2006 and 2007

Diseases	2007	2006
Dysentery	401	949
Watery Diarrhoea	59	381
Jaundice for Investigation	1	133
Hepatitis A	13	9
Hepatitis B	88	12
Herpes Zoster	71	141
Chicken Pox	26	51
Dog Bites	99	624
Total	2 300	2 300

Total fever wards outpatients attendances decreased by 67% from 2 300 in year 2006 to 758 during the year under review. Attendances for all conditions were decrease as shown in Table 96.

Challenges

Because of the non-functioning of the elevator in TB wards male TB patients were being nursed on ground floor instead of on first and second floors. Female TB patients were then transferred to fever wards which are not very ideal for nursing TB patients: -

- **Trained staff shortage due to a high attrition rate.**
- **Transport problems for all staff resulting in a lot of absenteeism**
- **Erratic supply of drugs and sundries**
- **Delays in repairs of structures, buildings and hospital equipment.**

Achievements

Staff attended workshops on management of the following conditions: - cholera, tuberculosis, HIV and AIDS and expanded programme on immunisation.

CONCLUSION

I would like to thank all staff for working very hard despite the shortages during a very difficult 2007.

2. WILKINS INFECTIOUS DISEASES HOSPITAL (WIDH)

The hospital is situated at the corner of Drummond and Princess Roads in Milton Park, offers the following services:-

- **Admission of patients with infectious conditions mainly Tuberculosis (TB) and diarrhoeal cases.**
- **Out patient management of TB**
- **Outpatient management of HIV patients (OI clinic)**
- **Mortuary services**

Sources of patients

- **Referrals from Central Hospitals (Parirenyatwa and Harare)**
- **Private Institutions**
- **Specialists and Private Practitioners**
- **City Health Clinics**

Bed capacity: 35 bedded hospital for adults and children.

Table 97: Comparison of admissions and deaths for 2007 and 2006

DISEASES	2007			2006		
	Admissions	Deaths	CFR %	Admissions	Deaths	CFR %
PTB Sputum Positive	64	12	19	91	16	18
PTB Sputum Negative	20	3	15	27	9	33
PTB Sputum not done	76	25	33	39	14	36
Other forms of TB	60	18	30	74	24	32
Non TB admissions fevers	102	12	12	7	3	43
Total	322	70	22	238	66	28

CFR = Case fatality rate

- **Total hospital admissions increased by 34%**
- **68% were TB admissions**
- **32% were other communicable diseases**
- **TB admissions decreased by 5% compared to 2006**
- **Majority of PTB admissions (35%) were sputum not done. In 2006 PTB sputum not done were 17%**
- **Relapse cases were 5**

Extra-pulmonary TB was distributed as follows:-

- **Pleural TB - 29 (48%)**
- **Miliary TB - 16 (27%)**
- **TB Adenitis - 5 (%)**
- **TB Meningitis - 5 (%)**
- **Abdominal TB - 2 (%)**
- **Disseminated TB 2 (%)**

Fever admissions were almost the same as 2006 at 108 compared 102. Sixty-eight percent were dysentery cases.

Table 98: Comparisons of fever admissions for year 2007 and 2006

DISEASE	2007		2006	
	Admissions	Deaths	Admissions	Deaths
Dysentery	68	5	58	1
Chicken Pox	11	0	26	2
Herpes Zoster	6	0	5	0
Pneumonias	9	5	0	0
Hepatitis A	2	0	6	0
Hepatitis B	0	0	3	1
Jaundice for investigation	0	0	3	0
Measles suspect	0	0	1	0
Salmonella Species	1	0	3	0
Cryptococcus Meningitis	1	0	0	0
Others	4	2	3	0
Total	102	12	108	4

Outpatients Department (OPD)

New TB cases dropped by 8%. Reviews increased during the year. All other attendances decreased except the group of "others" which shot up by 67%.

Table 99: New and reviews seen in Out Patient Department in 2007 and 2006

DISEASES	2007			2006		
	New Cases	Review	Total	New cases	Review	Total
Tuberculosis	3 279	6 446	9 725	3 552	5 903	9 455
Dysentery	82	0	82	158	0	158
Chicken Pox	6	0	6	11	0	11
Herpes Zoster	31	0	31	44	0	44
Jaundice for investigation	0	0	0	31	33	64
Measles	37	13	50	4	0	4
Dog Bites	33	35	68	108	89	197
Others	3 568	0	3 568	2 096	0	2 096

Provider initiated testing and counselling (PITC)

It was introduced in August 2007 following training of care givers. Number of people tested is as follows:-

Individuals - 643
Couples - 50 (25 couples)
No. HIV positive - 447
Positivity rate - 65%

3. OPPORTUNISTIC INFECTIONS CLINIC (OIC) WILKINS HOSPITAL

Introduction

The overall goal of Opportunistic Infections (OI) and Anti- Retroviral Therapy (ART) clinics is to improve the quality of life of patients living with HIV. This is achieved through the provision of various forms of HIV care, treatment and support services i.e.

1. **Provision of OI drugs and ART**
2. **Counseling services**
   - **a) Psychological support**
   - **b) Adherence and treatment counseling**
   - **c) Bereavement and crisis counseling**
   - **d) Preventive and on-going supportive counseling**
   - **e) Pre and Post counseling**
3. **Health education which covers all aspects of HIV prevention, care, treatment and support.**

There are two ART initiating clinics, namely WIDH OI and BRIDH OI Clinics. Stable patients are decentralized to primary care clinics which would have passed the assessments to follow up these patients.

Sources of patients/ clients that visit the initiating clinics

1. **Harare City Health CLINICS**
2. **VCT/ New Start Centers**
3. **Harare and Parirenyatwa Central Hospitals**
4. **Self referrals**
5. **Private practitioners**
6. **PMD referrals**

Table 100: Staff establishment

POST	WIDH OIC		BRIDH OI C	
	Establishment	Filled	Establishment	Filled
OIC Doctors	2	2 (1 fulltime & 1 locum)	2	2 (1 fulltime & 1 locum)
Nursing Sisters (RGNs)	8	3	12	10
Nurse Counselors	2	2	0	0
Primary Care Counselors	2	2	2	2
Clinic Orderlies	1	1	2	2
Clinic Attendants	2	2	1	1
Filling clerks	2	0	1	0
Data Capturing Clerks	1	1	1	0
Payment Clerks	2	1	1	1

As shown above, the staff compliment is not the best that it could be, especially at WIDH OIC, in terms of nurses and this has affected the services that the clinics have been rendering to patients.

Inadequate staffing has contributed significantly towards the long waiting periods before initiation of treatment as well as the long hours that patients spend at the clinics when they come for various services. Data management system has also been lagging behind due to the fact that the only data capturing clerk at WIDH OIC has been mainly doing the filling of records and this has a bearing on the quality of data as well as defaulter follow-up, whilst at BRIDH OIC there is no data capturing nor filling clerks, which makes the data management very difficult.

Table 101: Clinic workload (consultations)

YEAR	WIDH OIC		BRIDH OIC	
	New cases	Repeat visits	New cases	Repeat visits
2007	3 038	20 210	5 995	3 021
2006	2 885	18 102	1 799	3 147
2005	2 430	9 666	N/A	N/A
2004	530	1 930	N/A	N/A

Monthly reviews were decentralised to the local clinics in the course of 2005 so the above figures only cater for those reviewed in the OI clinic domiciled at WIDH and BRIDH for one reason or another. All the same repeat visits increased by 11.6% in 2007. BRIDH OIC was only established latter in 2006.

The attendance continued to increase and was more marked in the 25+ age group which is the sexually active, reproductive and productive group of society. A lot of patients came from the private sector due to steep increases in cost of ARVs.

Table 102: Cumulative figures of patients on ART, 2004 to 2007

YEAR	WIDH OIC	BRIDH OIC
2007	5 505	1 597
2006	3 300	538
2005	1 974	N/A
2004	346	N/A

These are the cumulative figures since the inception of the respective clinic. Patients on ART continue to increase each year because clients on ART from general Practitioners or Private Hospitals have found drugs expensive on the market (pharmacies) and they have resorted to joining public clinics/programs where ARVs are given free of charge. The other reason is the general increase in the community awareness of the availability of such services in the City Health facilities.

Table 103: Counseling services

YEAR	WIDH OIC	BRIDH OIC
2007	3 038	2 668
2006	2 885	693
2005	2 430	N/A
2004	530	N/A

As more patients were enrolled into the programme, the number of patients who underwent all forms of counselling increased.

Table 104: Deaths/loss to follow-up at WIDH OIC

YEAR	DEATHS	LOSS TO FOLLOW-UP
2007	182	136
2006	113	77
2005	37	26
2004	8	8

Picking up of defaulters was a big challenge throughout the year as a result of poor data management, especially at BRIDH OIC where the information above was not captured, but suffices to say that there was a remarkable increase in both deaths and loss to follow-up, inadequate staff also contributed to this.

These patients were from areas that were not within walking distances of the clinics and where there were no Health Promoters. Clinics affected include:-

- **Marlborough with Good Hope Farm and other surrounding farms**
- **Mabvuku with Zimphos, Zimre Park, Ruwa/ Epworth**
- **Hatfield with Airport area and surrounding farms**

Table 105: Other statistics

ITEM	WIDH	BRIDH
Patients on fluconazole for Cryptococcal meningitis	77	20
Total TB patients on ART in the year 2007	420	107
ADVERSE REACTION TO ART		
Severe peripheral neuropathy	25	0
Lipodystrophy	4	0
Grade III-IV Nevirapine rashes	3	0
Lactic acidosis	2	0
Second line therapy	15	0
Health care workers on ART	70	0

For serious side effects such as Lipodystrophy, lactic acidosis, grade III-IV Nevirapine rashes as well as second line therapy patients are only managed at WIDH OIC.

Decentralization

Table 106: Shows distribution of cases decentralized to different clinic

CLINIC	PATIENTS ON ANTIRETROVIRAL THERAPY	DEATHS	PATIENTS ON COTRIMOXAZOLE	LOSS TO FOLLOW-UP
Mbare	458	6	197	40
Budiriro	256	7	256	6
Kuwadzana	366	17	280	61
Mabvuku	349	22	282	12
Rutsanana	170	9	138	14
Warren Park	267	7	93	14
Kambuzuma	122	6	63	20
Dzivaresekwa	326	6	285	26
Hatcliffe	93	0	53	8
Hatfield	169	3	53	8
Marlborough	128	0	128	5
Mufakose	236	0	120	7
Glen Norah Sat	128	6	49	1
Glen View Poly	317	16	238	33
Highfield	256	38	135	12
TOTAL	3 641	143	2 370	267

A total of 550 patients were transferred in from Harare and Parirenyatwa central hospitals. Decentralization has been going on well. We would like to acknowledge the assistance that has been coming from partners particularly JSI whose role in training of clinic staff, assessment of clinics, facilitation of stake holders meetings and overall involvement in decentralization co-ordination has been outstanding.

Drug Procurement and Laboratory

ARVs and some opportunistic infection drugs are supplied through the Ministry of Health and Child Welfare on monthly basis. The ARV supplies were reliable though the supplies got

too low with instances of weekly supplies due to extremely low quantities in Natpharm. We started doing CD4 counts at the BRIDH laboratory with own machines

Table 107: Training (JSI ASSISTED)

CADRES	2006	2007
Nurses trained	126	133
Other cadres	17	0
Total	143	133

On job training

ZOU students - 6
Connect students - 10

Requirements for the OI Clinics

- **Staff**
- **Furniture**
- **Weighing scales**
- **Calculators**
- **Upgrading of the building including the toilets**

Successes

- **Decentralization went on very well. Harare and Parirenyatwa OIC patients have been incorporated into the Harare City Health ART decentralization programme**
- **Training on OI and ART management for Harare city health staff was largely a success**
- **Sustained initiation of patients on ART despite challenges in drug supply**
- **Establishment of partnerships e.g. with JSI**

Challenges

- **Security of ARV drugs at all levels – some drugs went missing in the last quarter of the year.**
- **Shortage of staff in all areas.**
- **Defaulter tracing system needs to be strengthened**
- **Data management needs to be improved on.**

Objectives for 2008

- **To provide better quality HIV prevention, care, treatment and support services.**
- **To assess remaining clinics for the purpose of decentralization.**
- **To reduce waiting period to one month**
- **To be able to follow-up all defaulters.**

Conclusion

We made good progress with the support from the Ministry of Health. We continued to work towards establishing a nurse driven and doctor supervised ARV therapy programme which is community based.

CHAPTER XI

ADMINISTRATION, FINANCE AND HUMAN RESOURCES MANAGEMENT

FINANCE SECTION

The Department, like every organization in the country, is operating in a very challenging environment characterized by hyper inflation, high unemployment, shortage of foreign currency and the shortage of basic commodities.

SOURCES OF HEALTH FINANCING

The main source of funding of health services in the City, as in previous years, remained the Rates account followed by user fees and government grant. The contribution by Central government, at 0.09% has become insignificant and this is worrying particularly since the department is, by and large, guided by government policy in its user fees. More than 95% of the patients accessing health care at the two hospitals do not pay fees and at all our clinics we do not deny access to care because of inability to pay. Expenditure on health services is a major funding burden on Harare ratepayers and funding of health services in the City therefore remains a major challenge.

INCOME ANALYSIS

More income was collected from fees than was expected due to quarterly adjustments of the fees in line with the prevailing rate of inflation. Less income was collected from Hawkers fees following the suspension of hawking during and after Operation Murambatsvina. As long as Central Government does not make a substantial contribution in the form of a Health grant, the Department will continue to face operational problems which are aggravated by Treasury's failure to assist regularly due to its own pressing commitments.

EXPENDITURE ANALYSIS

There were budget over-runs in salaries and general expenses. The over expenditure for salaries was a reflection of regular upward reviews to cushion the employees against hyper-inflation. In general expenses, notable deficits were recorded in drugs and dressings, books printing and stationery and protective measures accounts due to unprecedented rises in prices caused by the prevailing hyper-inflation.

Unfavourable Variances

The ever increasing prices of goods and services caused the department to seek for a supplementary budget and there were budget overruns in the following budget items:-

- **Salaries and Allowances**
- **Drug and dressings**
- **Sundry Materials**
- **Books, Printing, and Stationery**
- **Protective Measures:**

Favourable Variances

There was under expenditure in the following budget items. However this under expenditure is a reflection of essential expenditure not incurred but with medium to long term negative repercussions on either service delivery or capacity enhancement.

- **Travelling Many employees stopped using their own vehicles for Council duties mainly because of unavailability of fuel and exorbitant prices of the commodity on the black market where it was available. This resulted in funds set aside for locomotion not being utilized.**
- **Repairs and Maintenance Many vehicles that needed repairs were not repaired because of lack of spare parts. There was negligible expenditure on the repairs of buildings.**
- **Capital Charges No capital projects were carried out resulting in savings on interest charges and the anticipated loan repayments.**

Table 108 is the Income and Expenditure Statement for the year 2007.

Table 108: Income and Expenditure Account

EXPENDITURE	**$**
Salaries and allowances	**343 544 040 000**
Administration charges	**49 077 720 000**
General Expenses	**130 873 920 000**
Repairs and Maintenance	**18 906 160 000**
Contributions: other	**2 906 160 000**
Gross Expenditure	**545 308 000 000**
Less Recoveries	**49 077 720 000**
Net Expenditure	**496 230 280 000**
Income	
Fees: Clinics	**56 746 900 000**
Hospitals	**766 850 000**
Shop Licences	**10 735 900 000**
Sundry income	**8 435 350 000**
Total Income	**76 685 000 000**
NET SURPLUS/DEFICIT	
Net Deficit transferred to Rate Account	**(419 545 280 000)**

CAPITAL PROJECTS

No major capital projects were carried out during the year because of lack of funds. Borrowing powers were sought and approved but because of very high cost of capital no loans were secured.

As indicated in previous years, the solution to investment in capital projects lies in the City seeking smart partners and efforts will continue in 2008 to forge smart partnerships. The Department again failed to make enough progress in the completion of Kuwadzana and Budiriro poly clinics as well as the much desired completion of wards at Wilkins hospital.
Annexure 2 is a detailed list of the capital projects and items for the Department in order of priority.

TABLE 109: CAPITAL PROJECTS AND ITEMS FOR THE DEPARTMENT

PROJECT TITLE	PROJECT DESCRIPTION	ESTIMATED COST US $
Completion of Kuwadzana Phase 4 Polyclinic	**Polyclinic with maternity and curative services meant to provide primary health care to low to medium income population**	**$150 000**
Completion of Budiriro Phase 5 Polyclinic	**Polyclinic with maternity and curative services meant to provide primary health care to low to medium income population**	**$150 000**
Completion of Wilkins Hospital new wards	**New wards meant to increase bed capacity for Wilkins Hospital. Three storey building suitable for modern hospital beds located outside but close to the Central Business District. Hospital support services available.**	**$500 000**
Construction of ward toilets at Rujeko Polyclinic	**Rujeko Polyclinic is a council clinic in one of Harare's poor suburb of Dzivaresekwa. Clinic was not purpose build and the current facilities are inadequate and in a state of disrepair**	**$50 000**
Renovation of Medical Examination Centre	**This is the main TB referral centre for the centre but also serves as medical examination centre for other services for industry and commerce. Project envisages a state of the art city medical examination monitoring centre**	**$150 000**
Beatrice Road Infectious Diseases Hospital elevator	**Elevator required to link the three floors for the movement of patients, staff, public and hospital logistics**	**$150 000**
Construction of Hopley Clinic	**The project entails the construction of a new primary care clinic to service the new settlement**	**$300 000**
Tiling and Partitioning of Gershon Dental	**Project envisages resurfacing of the clinic with ceramic tiles and also creation of extra space for dental surgical procedures and offices**	**$30 000**
Refurbishment of all clinics	**All council clinics require routine maintenance that includes painting, attention to floors, cupboards, toilet systems, repairs to leaking roof and ceiling.**	**$200 000**
Standby Generators x 12 /solar system	**Electric generators for the city's polyclinics. Generators should have capacity to provide lighting and power to the essential emergency medical equipment**	**$12 000**
Standby Generator Heavy Duty 450kwh	**Electric Generator for the City's main hospital – Beatrice Road Hospital. Generator should have capacity to provide lighting to the hospital and power to hospital support services like kitchen, laundry, mortuary elevator**	**$10 000**
Autoclaves x 26	**Autoclaves to sterilize surgical instruments at most of the council clinics**	**$39 000**
Suction machine x 6	**Suction machines required at all polyclinics**	**$3 000**
VEHICLES		
One Tonne Trucks x 10	**Vehicles required for logistical support to the city clinic and hospitals**	**$200 000**
Ambulances x 4	**Ambulances required for inter hospital transfers and clinic – hospital referrals**	**$100 000**
Sedan x 10	**Required for supervision and for the use during and after work by health professionals**	**$150 000**

TRANSPORT

There was no improvement in the transport situation for the Department. There were still more vehicles off the road than there were on the road throughout the year 2007.

TABLE 110: SHOWS THE VEHICLE STATUS AS AT 31 DECEMBER 2007

VEHICLE MAKE	REG. NO	YEAR	STATUS	USER & SECTION
Mazda 323	AAE7576	1992	Non Runner	Admin-BRIDH
Nissan Sentra	AAE7604	1997	Non Runner	Admin-H.Education
Nissan Sentra	AAE7605	1997	Non Runner	Admin-RMB
Madza 323	AAE7607	1992	Non Runner	Admin-Nurse
Mitsubishi Lancer	AAE7611	1994	Runner	Admin-RMB
Nissan Sentra	AAE7614	1990	Non Runner	Admin-Research
Mitsubishi Lancer	AAE7617	1994	Runner	Admin-Fund Accountant
Mitsubishi Lancer	AAE7618	1994	Runner	Admin-BRIDH
Toyota Landcruiser	AAE7623	1993	Non Runner	Admin-RMB
Nissan Largo	AAE8336	1990	Non Runner	Admin-Clinics
Isuzu KB250	AAE8421	2000	Runner	Admin-AD Environmental
Toyota Landcruiser	AAT8815	2006	Non Runner	Deputy Director of Health
Nissan Hardbody	ABA6353	2006	Runner	Deputy Director of Health
Nissan Sentra	AAE7603	1993	Runner	DMO
Mitsubishi Lancer	AAE7609	1994	Non Runner	DMO
Mitsubishi Lancer	AAE7610	1994	Non Runner	Dentist
Isuzu KB260	AAE7619	1997	Runner	TB Leprosy
Mitsubishi L200	AAE7578	1994	Non Runner	Environmental
Mitsubishi L200	AAE7601	1995	Runner	Environmental
Mitsubishi L200	AAE7616	1994	Non Runner	Environmental
Mitsubishi L200	AAE7622	1995	Non Runner	Environmental
Mitsubishi L200	AAE7624	1995	Non Runner	Environmental
Mitsubishi L200	AAE7606	1995	Non Runner	Environmental
Mitsubishi Lancer	AAE8340	1994	Non Runner	Environmental
Mitsubishi Lancer	595-172A	1994	Non Runner	Environmental
Toyota Landcruiser	AAE7612	1989	Runner	H.Education
Nissan Sentra	AAE5001	1997	Non Runner	Nutrition
Mitsubishi L200	AAE5559	2006	Runner	Pest Control
Mitsubishi L200	AAE5560	2006	Runner	Pest Control
Mazda B2500	AAE7613	1997	Runner	Pest Control
Renault B110	AAE8339	1996	Non Runner	Pest Control
Mitsubishi L200	AAE7602	2001	Runner	Transport
Mitsubishi L200	AAE7615	1995	Non Runner	Transport
Mitsubishi L200	AAE7621	2001	Runner	Transport
Mitsubishi L200	AAE7577	1995	Non Runner	Transport
Mitsubishi L200	595-302R	1994	Non Runner	Transport
Mitsubishi L200	AAE8341	1994	Non Runner	Transport
Mitsubishi L200	620-101X	1994	Non Runner	Transport
Nissan PG720	AAE7625	1992	Non Runner	Transport
Mazda B1600	AAE8334	1988	Non Runner	Transport
Mazda T3500	AAE8402	2006	Runner	Transport
Renault B110	AAE8335	1994	Non Runner	Transport
Renault B110	AAE8337	1994	Non Runner	Transport
Renault B110	AAE8338	1994	Non Runner	Transport
Toyota Hilux	204TCE12	2000	Runner	EPI
MOTORBIKES				
Yamaha YB100	AAU9008	1994	Non Runner	Environmental
Yamaha YB100	AAU9009	1994	Non Runner	Environmental
Yamaha YB100	AAU9010	1994	Non Runner	Environmental
Yamaha YB100	AAU9011	1994	Non Runner	Laboratory
Yamaha YB100	AAU9012	1994	Non Runner	Laboratory
Yamaha YB100	AAY8051	1994	Non Runner	Carpenters
Yamaha YB100	AAE8052	1994	Non Runner	Environmental
Yamaha YB100	596-878E	1994	Non Runner	Environmental

Ideally the department will benefit from a decentralized transport management system where vehicles are allocated to districts, but the critical shortage has left the department with no option except to centralize.

REPAIRS AND MAINTENANCE

The Department continues to face major challenges in the repair and maintenance of the major buildings and equipment. Scheduled maintenance of building was non existent in 2007, as in previous years and cumulatively this has resulted in major deterioration of the state of buildings and infrastructure at the clinics and hospitals.

LAUNDRY AND LINEN SERVICES

The Department did not manage to install all the new laundry machines and we are hopeful that these will be fully commissioned in 2008.

In the medium to long term it will be desirable to decentralize laundry where smaller laundry machines will be provided to the poly clinics while maintaining a central laundry service at Beatrice Road Infectious Diseases hospital.

There was almost no new replacement of linen for the clinics and hospitals and all our clinics and hospital face a critical shortage of all linen items.

Table 111: Sources of funds

SOURCE	APPROXIMATE 2007	%	APPROXIMATE 2006	%
Clinic/hospital and other fees	83 289 616 558	17.77	893 779 309	33.75
Government Grant	775 000 000	0.17	1 080 000	0.04
Rates Account	384 558 383 442	82.06	1 753 496 977	66.21
Total	468 623 000 000	100	2 648 356 286	100

HUMAN RESOURCES MANAGEMENT

The department's staff establishment decreased by (4.33%) from 1 685 to 1 638 due to the turn around strategy. The vacancy rate of professional staff continues to be high especially for nursing staff due to the relatively low remuneration packages the city offers compared to regional and international salaries. It is also important to note that the City's remuneration packages compared to local employers was competitive. There was a slight improvement in the vacancy rate for doctors.

Table 112: Epitome of Human Resources Statistics

Type	2007	2006	% Change
Maternity leave days consumed	2156	1 552	38.92
Days lost through sickness	7152	9 205	(22.30)
Attendance at staff conference/seminars/workshops	97	54	79.63
Post basic studies	0	1	(100)
Appointments	91	195	(53.33)
Resignations	76	35	117.14
Retirements	26	13	100
Injury on duty	14	28	(50)
Dismissals	10	4	150
Medical Board attendances	34	25	36
Deaths	15	14	7.14

There was an increased number of staff who attended conferences / seminars / workshops in 2007 due to the availability of training funds.

Table 113: Post Graduate Studies and In-Service Training

Type of Training/Course	Number of Participants	
	2007	2006
Diploma in Midwifery	3	4
Diploma in Community Nursing	5	3
Certificates in Meat inspection	0	36
Diploma in Water Supply and Sanitation Management	0	4
Certificate is Systemic Counselling	0	1
Diploma in General Nursing	0	7
Total	8	55

Table 114: Appointments

Designation	2007	2006
District Medical Officer	4	3
Clinical Medical Officer	-	3
State Registered Nurses	50	75
Environmental Health Technician	-	3
Deputy Chief Health Education Officer	1	-
Laboratory Scientist	4	3
Domestic Attendant	-	22
Dental Attendant	1	0
Dental Therapist	1	0
Assistant Catering Supervisor	-	0
Senior Operator CSSD	1	1
Sister-in-charge	-	4
Senior Clerical Officer	8	8
Laundry Machine Operator	3	0
Clerical Officer (Personnel)	1	0
Medico Social Worker	-	1
General Labourers	-	14
Stores Hands	1	0
Stores Assistant	2	1
Pharmacist	1	0
Journeyman (Electrical)	1	0
Heavy Vehicle Driver	2	0
Clinic Orderly	6	0
Nutritionist	2	0
Admin and Finance Officer	0	0
Senior Typist	0	2
District Nursing Officer	0	0
Dental Officer	0	1
Stores Assistant Pharmacy	0	1
Clinic Orderly	0	15
Senior Medico Social Worker	0	1
Pharmacy Technician	0	3
Radiographer	0	1
State Registered Nurse/State Certified Nurse (Locum)	210	308
Primary Care Counselors	0	10
Skilled Worker (Class 2) Plumber	0	1
Skilled Worker (Class 4) Plumber	0	2
Skilled Worker (Class 4) Electrical	2	2
Clerical Officer (Licensing)	0	1
Chief Clerical Officer (Pharmacy)	0	1
Chief Health Education Officer	0	1
Administrative Assistant (Audit)	0	1
Senior Environmental Health Technician	0	5
Chief Clerical Officer (General Stores)	0	2
Darkroom Attendant	0	2
Total	301	503

The appointment rate decreased by forty (40%) in 2007 because most of the positions were filled in 2006. The significant decrease was also caused by the unattractive remuneration package the City was offering to qualified medical personnel who did not accept offer of appointment. For example the Executive Committee Minutes of 16 July 2007 Item 14 authorized the department to appoint 101 nurses but only 50 nurses accepted the offer.

Table 115: Resignations

Designation	2007	2006
Departmental Medical Officer	1	2
Clinical Medical Officer	1	1
State Registered Nurse/State Certified Nurse	42	15
Domestic Attendant	4	2
Senior Medico Social Worker	1	0
Medico Social Worker	1	0
Medical Laboratory Scientist	2	3
Dental Officer	1	0
Assistant Catering Supervisor	1	0
Senior Environmental Health Officer	2	0
Clinic Orderly	2	1
General Labourer	3	1
Sister-in-charge	4	2
Environmental Health Officer	4	1
Pest Control Attendant	1	0
Chief Clerical Officer (Pharmacy)	1	0
Nutritionist	1	1
Environmental Health Technician	1	0
Dental Therapist	2	1
Stores Assistant	1	0
Total	76	30

There was an increase of 153% in resignations in the year 2007 due to the uncompetitive salaries the City of Harare was offering when compared to private health institutions. The highest number of resignations was that of State Registered Nurses. Forty two (42) resigned in 2007 as compared to fifteen (15) in 2006.

Table 116: Work Related Injuries and Illnesses

Nature of Injury/Illness	No. of Cases	
	2007	2006
Needle and other objects pricks	4	4
Cuts, abrasions, fractures, lacerations to arms, knees, feet, legs, hands, head injuries	5	6
Sprained arms, ankles, legs, painful elbows	3	8
Back Injuries	3	2
Face, neck, eye, shoulder and chest injuries	0	3
Road Traffic Accident	2	1
Eye splashes/Foreign body	0	0
Dog bites	0	0
Rat bites	0	0
Scorpion bite	0	0
Assault by patients	0	1
Tuberculosis	0	0
Inhaled gas	0	0
Bee bite	0	1
Blood splash	2	1
Total	19	27

There was a notable decrease in the number of work related injuries/illness. The reduction was due to safety education campaigns by the occupational health and safety committees operating at various work stations and human resources section.

Days lost through sickness decreased remarkably by twenty two percent (22%) due to continued strict monitoring and supervision.

STAFF ESTABLISHMENT AS AT 31 DECEMBER 2007

EXECUTIVE	ESTABLISHMENT	IN POST	VACANCIES
Director of Health Services	1	0	1
Deputy Director of Health Services Dr S Mungofa (Hospitals & Communicable Diseases) Deputy Director of Health Services Dr P C Chonzi (Clinics)	2	2	0
Medical/Dental Personnel			
District/Departmental/Clinical Medical Officers	19	10	9
Senior Dental Officer, Dr J A Van Bel	1	1	0
Dental Officers	2	1	1
Environmental Health Personnel			
Assistant Director of Health Services (Environmental)	1	0	1
Assistant Chief Environmental Health Officers: Mr J J Kandwe Mrs E F Sikwila	2	2	0
Pest Control Manager: Mr M Zimba	1	1	0
Operations Manager Pest Control	1	0	1
Divisional Environmental Health Officers	5	5	0
Senior Environmental Health Officers	17	12	5
Environmental Health Officers	20	15	5
Health Technologist	1	0	1
Atmospheric Pollution Technicians	2	2	0
Senior Environmental Heath Technicians	11	10	1
Environmental Health Technician	32	24	8
Hygiene Assistant	1	1	0
Pest Control Attendants	20	24	-4
Nursing Personnel			
Assistant Director of Health Services (Nursing) Mrs P Munyaradzi	1	1	0
Deputy Principal Nursing Officers: Mrs S S Mwamuka Mrs A M R Mangwiro	2	2	0

DESIGNATION	ESTABLISHMENT	IN POST	VACANCIES
Matrons			
Beatrice Road Infectious Diseases Hospital:			
Mr K Kadi (Matron II)			
Mrs P Matimbe (Matron III)	**2**	**2**	**0**
Wilkins Infectious Diseases Hospital:			
Mrs D Nyoni	**1**	**1**	**0**
Medical Examination Centre:			
Mr S Chinyanga	**1**	**1**	**0**
District Nursing Officers	**8**	**8**	**0**
Sisters-In-Charge	**80**	**67**	**13**
State Registered/Certified Nurses	**616**	**501**	**115**
Primary Care Counsellors	**35**	**10**	**25**
Clinic Orderlies	**171**	**150**	**21**
Domestic Attendant	**186**	**149**	**37**
General Labourers	**59**	**44**	**15**
Administration, Finance & Human Resources Personnel			
Assistant Director of Health Services			
(Admin & Finance) (Mr R Chigerwe)	**1**	**1**	**0**
Assistant Personnel Manager (Mrs Muchena)	**1**	**1**	**0**
Fund Accountant (Mr Chinho)	**1**	**1**	**0**
Senior Administrative Officer (Hospitals):			
(Ms D Nyaguse)	**1**	**1**	**0**
Revenue & Budget Officer	**2**	**1**	**1**
Administrative Officers			
(Personnel, Clinics & G/Administration)	**3**	**1**	**2**
Internal control & Licensing Officer	**2**	**1**	**1**
Administrative Assistants: Personnel/Districts			
/Stores/Hospitals/Registry Supervisor/			
Transport Supervisor	**11**	**10**	**1**
Secretaries to Head and Deputy Head			
Mrs G Mahiya			
Ms C Bvakacha	**3**	**2**	**1**
Clerical/Registry/Typing Pool/Finance	**114**	**102**	**12**
SPECIALIST SECTIONS			
Pharmacy Personnel			
Chief Pharmacist -	**1**	**0**	**1**
Pharmacist	**1**	**1**	**0**
Pharmacy Technicians	**5**	**3**	**2**
Pharmacy Stores Assistant/Hand/Domestic	**7**	**6**	**1**
General Stores			
Journeyman Electrical	**1**	**1**	**0**
Skilled Worker (Class 2) Electrical	**3**	**2**	**1**
Skilled Worker (Class 2) Plumber	**1**	**1**	**0**
Skilled Worker (Class 2) Carpenter	**1**	**0**	**1**
Skilled Worker (Class 2) Welder	**1**	**0**	**1**
Skilled Worker (Class 3) Electrical	**1**	**1**	**0**
Skilled Worker (Class 4) Electrical	**2**	**2**	**0**

DESIGNATION	ESTABLISHMENT	IN POST	VACANCIES
Skilled Worker (Class 4) Plumber	2	2	0
Skilled Worker (Class 4) Carpenter	2	0	2
Stores Assistant/Hand/Domestic	5	2	3
Laboratory Personnel			
Laboratory Manager	1	0	1
Laboratory Scientists	11	9	2
State Certified Laboratory Technicians	5	4	1
Laboratory Hand/Domestic	3	3	0
Health Education Personnel			
Chief Health Education Officer: Mrs S Andifasi	1	1	0
Deputy Chief Health Education Officer	1	1	0
Health Education Officers	7	6	1
Graphic Artists	2	2	0
Health Promoters (Part Time)	218		
Nutrition Personnel			
Nutritionist Specialist: Ms C D D Zunguza	1	1	0
Nutritionists	2	1	1
Research and Development Personnel			
Leader Medico Social Worker	1	0	1
Senior Medico Social Workers	2	2	0
Medico Social Workers	4	3	1
Dental Services Personnel			
Dental Therapists	7	5	2
Dental Attendants	7	7	0
Domestic Attendant	2	2	0
Radiography Personnel			
Senior Radiographer	1	1	0
Radiographer	1	1	0
Others			
Messengers/Senior Operators/Operators Waiters/X-ray Positioner/ Dark Room Attendants/Catering Staff	55	40	16
General			
Driver/Mortuary staff/Laundry staff	56	53	3
Total	1 638	1 324	314

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TYPE SETTING AND DESIGN BY G MAHIYA (MRS)

APPENDIX: MORTALITY PATTERN TABLES BY AGEGROUP

APPENDIX 1: MORTALITY PATTERNS: UNDER ONE WEEK AGEGROUP

	SUBURB																				
CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
ASPHYXIA	0	11	0	7	11	0	7	4	6	3	9	5	8	1	9	1	1	1	1	1	86
ASPIRATION	0	1	2	4	2	1	1	2	6	1	4	3	1	0	0	0	0	1	0	2	31
CONGENITAL ANOMALY	1	0	0	2	1	1	0	0	2	1	2	1	7	0	3	0	0	0	2	0	23
GASTROENTERITIS	0	0	0	0	2	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	6
HIV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MALNUTRITION	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
MENINGITIS	0	1	0	0	0	0	1	0	0	0	1	1	0	1	0	0	0	0	0	0	5
MISADVENTURE	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
OTHER	0	2	3	1	0	0	0	2	3	3	1	0	4	0	4	0	1	0	0	2	26
PNEUMONIA	0	8	0	3	5	0	1	1	5	0	1	1	1	0	4	2	0	0	0	3	35
PREM	2	14	18	4	12	8	7	10	20	16	13	8	37	1	16	4	6	0	1	11	208
RESPIRATORY DISTRESS	0	13	3	8	18	0	12	2	6	1	10	3	7	0	7	2	0	0	0	2	94
SEPSIS	0	9	1	5	11	1	8	1	5	1	4	1	5	0	7	1	0	0	1	1	62
Total	3	59	27	35	62	11	37	22	54	26	46	24	71	3	51	10	9	2	6	22	580

Key: (to all Appendix Tables)

A	**- Avenues**	**MB**	**- Mbare**
BD	**- Budiriro**	**MUF**	**- Mufakose**
DZ	**- Dzivarasekwa**	**N**	**- Northern Suburbs**
GN	**- Glen Norah**	**RG**	**- Rugare**
GV	**- Glen View**	**S**	**- Southern Suburbs**
HAT	**- Hatcliffe**	**SN**	**- Sunningdale**
HG	**- Highfield**	**TAF**	**- Tafara**
KAM	**- Kambuzuma**	**UK**	**- Unknown**
KUW	**- Kuwadzana**	**W**	**- Western Suburbs**
MA	**- Mabvuku**	**WP**	**- Warren Park**

NB Note that some high density suburbs fall under Northern and Southern suburbs but have been singled out, e.g. Mbare falls under Southern Suburbs**

APPENDIX 2: MORTALITY PATTERNS: ONE WEEK TO ONE MONTH AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
ASPHYXIA	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	3
ASPIRATION	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4
CONGENITAL ANOMALY	0	0	0	1	1	0	1	0	2	1	2	0	1	0	2	0	0	0	0	1	12
GASTROENTERITIS	0	0	0	2	0	0	0	0	2	0	0	0	1	0	2	1	0	0	0	0	8
HIV	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3
MALNUTRITION	0	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	5
MENINGITIS	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
OTHER	0	1	1	0	1	1	0	0	4	0	1	0	3	0	0	0	1	1	0	1	15
PNEUMONIA	1	4	0	9	5	1	4	0	5	1	8	3	5	0	9	2	1	2	1	2	63
PREM	1	1	2	1	2	0	1	0	2	0	2	1	7	0	1	1	2	0	1	1	26
RESPIRATORY DISTRESS	0	0	0	1	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	5
RTA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SEPSIS	0	6	9	1	9	0	6	1	7	2	4	1	5	1	4	2	0	0	1	1	60
Total	2	14	12	16	20	4	14	1	24	4	20	8	22	1	21	6	5	3	4	7	208

APPENDIX 3: MORTALITY PATTERNS: ONE MONTH TO 11 MONTHS AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
ASPHYXIA	0	1	0	0	0	0	1	1	2	0	0	1	0	0	0	1	0	0	0	0	7
ASPIRATION	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
BURNS	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	5
CA LEUKAEMIA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
CA OTHER	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
CARDIOVASCULAR	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
CONGENITAL ANOMALY	0	1	0	1	1	0	1	0	2	0	1	0	2	0	0	0	0	0	0	0	9
CONGENITAL SYPHILIS	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
DIARRHOEA	0	1	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	5
DYSENTERY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
GASTROENTERITIS	0	18	10	7	15	5	13	4	21	7	14	15	9	2	17	2	5	0	2	7	173
HEPATITIS	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
HIV	1	3	4	6	5	1	6	2	13	1	4	8	8	1	9	1	4	0	2	4	83
INFLUENZA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
LIVER CIRRHOSIS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
LIVER FAILURE	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
LUNG OTHER	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MALARIA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
MALNUTRITION	0	2	1	0	2	1	1	0	3	0	3	3	0	0	2	0	1	0	0	1	20
MENINGITIS	1	4	1	3	10	0	1	2	6	1	1	4	2	0	3	1	0	0	0	3	43
MISADVENTURE	0	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4
OTHER	0	2	1	5	9	1	3	1	4	3	3	1	6	0	3	1	0	0	1	3	47
PNEUMONIA	5	74	29	50	60	9	68	25	74	33	76	41	68	11	60	12	15	2	9	26	747
PREM	0	0	0	0	1	1	0	0	0	2	1	1	1	0	0	0	0	0	0	0	7
RENAL FAILURE	0	1	0	0	2	0	3	0	1	2	2	0	0	0	1	0	0	0	0	1	13
RTA	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
SEPSIS	0	1	1	5	1	0	7	1	3	0	2	3	1	0	2	0	0	0	0	1	28
TB	0	1	2	1	1	0	2	1	0	0	1	1	1	0	0	0	0	0	0	0	11
TRAUMA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	9	112	50	80	111	18	109	39	132	50	110	81	102	14	100	19	25	2	14	46	1223

APPENDIX 4: MORTALITY PATTERNS: 1-4 YEARS AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	1	1	1	1	0	0	0	1	0	1	1	0	1	2	0	0	0	0	0	10
CA KAPOSI SARCOMA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
CA LIVER	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CA OTHER	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	4
CARDIOVASCULAR	0	2	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	6
CHICKEN POX	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
CVA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
DIARRHOEA	0	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
GASTROENTERITIS	0	14	17	10	20	4	13	1	20	6	15	14	10	1	9	1	7	0	1	5	168
HEPATITIS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
HIV	0	3	6	4	3	4	9	0	9	2	3	6	3	1	3	0	3	0	1	3	63
INFLUENZA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
LIVER FAILURE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
LUNG OTHER	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	3
MALARIA	0	1	0	2	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	6
MALNUTRITION	1	8	11	4	8	2	3	1	6	6	14	7	4	0	7	0	4	0	1	2	89
MENINGITIS	0	3	4	3	1	0	3	1	4	0	1	0	3	0	4	1	0	0	0	0	28
MISADVENTURE	0	1	0	1	0	1	0	0	1	0	0	1	7	0	3	1	0	0	1	0	17
OTHER	1	4	1	3	5	0	3	1	2	2	5	2	8	0	0	0	0	1	1	2	41
PNEUMONIA	0	22	20	10	27	8	12	2	19	14	20	17	19	1	18	7	8	2	2	10	238
RENAL FAILURE	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	4
RTA	0	2	3	0	1	0	0	0	2	0	0	0	3	0	1	0	0	1	0	2	15
TB	0	2	2	1	3	0	1	0	1	1	4	2	0	0	3	0	0	0	1	1	22
TRAUMA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	66	66	43	74	19	46	6	66	31	66	51	60	4	55	10	23	4	9	28	729

APPENDIX 5: MORTALITY PATTERNS: 5 - 14 YEARS AGEGROUP

	SUBURB																				
CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5
CA KAPOSI SARCOMA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
CA LEUKAEMIA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CA LIVER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
CA LUNG	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
CA LYMPHOMA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
CA OTHER	1	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	1	6
CARDIOVASCULAR	0	0	1	1	1	1	1	0	0	1	1	0	0	0	2	0	0	0	0	0	9
CHICKEN POX	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	5
CVA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
DIABETES	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
DIARRHOEA	0	0	0	1	0	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	6
DYSENTERY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
GASTROENTERITIS	1	5	6	3	7	0	5	2	4	4	3	2	3	0	7	1	2	0	0	2	57
HEPATITIS	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
HIV	0	3	3	3	2	0	14	2	7	7	5	5	8	2	7	1	1	0	2	3	75
HYPERTENSION	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
LIVER FAILURE	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
LUNG OTHER	0	0	0	0	1	0	2	0	0	0	1	1	1	0	1	0	0	0	0	0	7
MALARIA	0	0	0	0	0	0	1	0	1	0	3	1	0	0	0	0	0	1	0	0	7
MALNUTRITION	0	0	0	2	2	0	2	1	4	1	1	0	2	1	0	0	0	0	0	0	16
MENINGITIS	0	1	0	2	2	2	3	0	2	2	3	1	4	2	2	0	1	0	1	1	29
MISADVENTURE	0	0	1	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	5
OTHER	0	1	3	2	3	2	2	1	2	1	4	3	1	1	5	3	2	0	2	5	43
PNEUMONIA	3	11	16	10	10	1	15	3	5	8	15	9	7	2	8	2	1	0	2	7	135
PREGNANCY RELATED	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
RENAL FAILURE	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2	1	1	0	1	0	8
RHD	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	4
RTA	0	0	3	1	2	0	0	1	0	1	0	1	6	0	2	1	0	0	1	1	20
SUICIDE	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
TB	1	5	6	6	6	0	8	1	3	6	3	7	5	0	4	1	5	0	0	3	70
TRAUMA	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
Total	6	27	41	33	42	7	54	14	36	38	41	30	44	8	47	10	13	1	10	25	527

APPENDIX 6: MORTALITY PATTERNS: 15-24 YEARS AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
CA KAPOSI SARCOMA	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	3
CA LEUKAEMIA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CA LIVER	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
CA LYMPHOMA	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	4
CA OTHER	0	1	0	0	1	0	0	0	1	1	2	1	3	0	3	0	0	0	0	1	14
CARDIOVASCULAR	0	1	1	2	1	0	4	1	2	2	2	0	3	0	6	0	1	0	2	2	30
CEREBRAL MALARIA	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
CHICKEN POX	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CHOLERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
CVA	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
DIABETES	0	0	0	0	1	0	0	0	1	0	0	2	1	0	2	0	1	0	0	1	9
DIARRHOEA	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
DU	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3
DYSENTERY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
GASTROENTERITIS	0	3	3	4	1	1	2	3	7	3	8	3	17	1	5	0	1	0	0	2	64
HEPATITIS	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	4
HIV	0	2	7	5	7	1	8	4	7	5	19	7	7	3	7	0	0	0	0	6	95
HYPERTENSION	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
LIVER CIRRHOSIS	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
LIVER DISEASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
LIVER FAILURE	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	7
LUNG OTHER	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	4
MALARIA	0	0	0	0	0	0	0	0	2	0	2	0	2	0	0	0	1	0	0	0	7
MALNUTRITION	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
MENINGITIS	1	3	4	3	7	1	9	2	3	1	7	5	3	0	2	0	3	0	2	2	58
MISADVENTURE	0	1	0	0	2	0	0	0	0	0	1	1	2	0	2	0	0	0	1	0	10
OTHER	2	0	4	3	8	2	8	0	7	4	9	2	9	0	4	1	1	0	3	6	73
PNEUMONIA	2	8	15	5	8	3	14	1	11	13	14	10	20	3	7	0	5	2	4	6	151
PREGNANCY RELATED	1	3	0	0	1	1	1	0	0	1	1	0	1	0	3	1	1	0	1	0	16
RENAL FAILURE	0	2	1	1	3	0	1	1	1	2	0	2	1	0	1	0	0	0	0	0	16
RHD	0	2	0	0	0	0	0	0	1	0	1	2	1	0	1	0	0	0	0	0	8
RTA	0	4	3	1	1	2	2	0	4	1	4	2	7	1	5	0	0	0	2	1	40
SUICIDE	0	5	1	0	5	1	0	0	2	1	3	2	4	0	3	0	0	0	2	1	30
TB	0	8	9	3	11	5	8	1	12	7	15	5	13	2	12	2	2	1	1	6	123
TRAUMA	0	0	0	0	0	0	0	0	1	1	2	1	5	0	2	1	2	0	0	0	15
Total	7	49	49	28	59	18	61	15	67	43	92	45	104	11	72	5	18	3	18	39	803

APPENDIX 7: MORTALITY PATTERNS: 25-44 YEARS AGEGROUP SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	5
CA BREAST	1	3	0	0	2	0	0	0	1	0	1	1	4	0	1	0	0	0	0	0	14
CA CERVIX	0	3	1	2	0	1	2	0	1	1	0	1	4	0	1	0	0	0	2	0	19
CA KAPOSI SARCOMA	0	5	2	1	1	2	2	3	8	6	5	3	7	0	6	0	2	0	1	3	57
CA LEUKAEMIA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
CA LIVER	0	0	0	1	0	2	1	0	2	0	1	0	6	1	1	0	0	0	1	1	17
CA LUNG	1	1	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	1	0	1	8
CA LYMPHOMA	0	0	2	0	0	0	0	1	3	1	1	0	4	0	0	0	0	0	0	1	13
CA OESOPHAGUS	0	1	0	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	6
CA OTHER	1	3	2	2	6	0	2	1	2	1	1	6	2	0	0	2	0	0	2	4	37
CA STOMACH	0	2	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	6
CARDIOVASCULAR	0	1	4	2	2	1	11	3	5	2	8	5	17	1	5	0	4	0	2	2	75
CEREBRAL MALARIA	1	1	1	0	2	1	1	0	4	0	1	3	3	0	1	1	0	0	0	0	20
CHICKEN POX	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	4
CVA	1	2	1	2	3	1	3	1	5	1	2	2	5	0	5	1	0	0	1	2	38
DIABETES	1	2	1	2	4	0	3	0	1	1	0	5	3	0	4	0	0	1	0	2	30
DIARRHOEA	0	0	0	2	2	0	0	0	0	0	0	1	4	0	2	0	0	0	0	1	12
DU	0	0	1	1	1	0	1	0	1	0	0	3	0	0	2	0	2	0	2	0	14
DYSENTERY	0	0	0	0	2	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	5
GASTROENTERITIS	1	35	34	18	41	13	33	2	22	32	48	33	89	2	30	4	17	2	3	9	468
HEPATITIS	0	0	1	1	2	0	1	0	2	2	0	0	5	0	1	0	1	0	1	0	17
HIV	16	69	62	84	74	17	103	27	97	39	93	85	141	16	125	8	20	4	25	38	1143
HYPERTENSION	0	3	4	3	4	0	2	1	1	1	2	3	2	1	6	1	2	0	2	2	40
LIVER CIRRHOSIS	0	0	1	2	0	0	1	0	0	0	0	0	2	0	0	0	1	0	0	0	7
LIVER DISEASE	0	0	0	1	3	0	2	1	0	0	1	3	1	0	1	0	0	0	0	1	14
LIVER FAILURE	1	0	4	2	2	0	1	0	4	1	1	1	2	1	4	0	0	0	0	0	24
LUNG OTHER	0	1	2	3	0	0	2	0	1	2	3	3	1	1	0	0	1	0	0	0	20
MALARIA	1	4	1	5	3	1	5	1	3	1	4	2	8	1	4	1	0	0	0	1	46
MALNUTRITION	0	0	0	0	0	0	1	0	0	1	0	0	26	1	0	0	0	0	0	1	30
MENINGITIS	3	40	23	27	43	6	55	6	44	32	57	31	44	5	34	7	13	6	5	24	505
MISADVENTURE	1	1	0	1	0	0	2	0	1	0	4	1	3	0	2	0	0	0	0	1	17
MYOCARDIAL INFARCTION	0	0	0	0	0	0	2	0	0	0	1	2	4	0	1	0	0	0	0	0	10
OTHER	2	21	21	19	22	2	30	6	23	18	13	12	37	2	18	1	7	1	7	17	279
PNEUMONIA	7	68	88	79	89	15	109	24	96	59	101	79	150	11	94	12	56	25	15	49	1226
PREGNANCY RELATED	0	5	1	4	4	1	6	1	1	3	2	3	8	2	6	0	0	0	2	1	50
RENAL FAILURE	0	9	4	11	7	2	8	3	4	8	12	7	15	2	10	3	4	1	3	1	114
RHD	0	1	2	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	7
RTA	0	8	11	6	10	0	5	1	5	1	4	6	26	0	14	3	1	8	1	3	113
SUICIDE	2	2	1	5	3	0	2	1	3	1	5	0	7	1	4	0	0	0	1	0	38
TB	4	77	100	60	108	25	128	19	107	71	150	99	159	17	86	19	50	8	15	52	1354
TRAUMA	0	1	3	6	5	0	8	0	3	1	4	2	7	1	5	1	0	6	1	2	56
Total	44	370	378	354	445	90	534	103	452	290	529	402	806	66	475	64	181	64	92	221	5960

APPENDIX 8: MORTALITY PATTERNS: 45-64 YEARS AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3
CA BLADDER	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	1	4
CA BREAST	1	2	2	0	3	0	1	1	3	1	2	3	9	0	2	1	1	0	0	0	32
CA BRONCHUS	0	0	0	1	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	4
CA CERVIX	0	2	3	3	3	0	4	0	1	2	3	2	3	0	7	0	1	0	0	0	34
CA KAPOSI SARCOMA	0	2	1	2	0	0	1	0	2	0	0	2	2	0	1	0	1	0	0	2	16
CA LEUKAEMIA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
CA LIVER	1	2	0	2	3	0	0	1	2	0	0	1	2	0	3	1	1	0	0	3	22
CA LUNG	0	1	1	0	0	0	0	1	0	1	0	0	5	0	3	0	0	0	0	1	13
CA LYMPHOMA	0	2	0	1	0	0	0	0	0	0	0	0	1	0	2	1	0	0	1	2	10
CA OESOPHAGUS	0	2	1	3	1	0	3	0	0	0	0	1	4	0	2	0	0	0	0	0	17
CA OTHER	1	2	3	3	7	0	4	1	4	2	4	4	17	0	6	0	4	0	0	5	67
CA PROSTATE	0	0	0	1	2	0	0	0	0	1	1	0	2	1	0	1	0	0	0	1	10
CA STOMACH	0	3	0	2	0	0	2	0	1	0	1	1	4	1	2	0	0	0	1	1	19
CARDIOVASCULAR	2	12	6	9	5	2	12	3	9	8	13	5	16	1	15	2	6	1	2	8	137
CEREBRAL MALARIA	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
CHICKEN POX	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
CVA	1	3	5	10	15	3	8	1	9	5	3	6	12	0	6	1	3	0	2	6	99
DIABETES	1	7	3	8	8	1	8	1	7	2	5	11	8	0	12	4	0	1	1	6	94
DU	0	0	0	0	1	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	5
DYSENTERY	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
GASTROENTERITIS	1	10	13	8	21	5	18	0	14	5	24	15	42	4	22	5	4	6	2	6	225
HEPATITIS	0	0	1	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	6
HIV	5	29	21	29	29	5	33	6	29	11	30	20	67	3	41	6	9	1	8	19	401
HYPERTENSION	1	13	5	7	14	3	15	4	16	10	16	10	23	0	8	4	3	0	5	4	161
LIVER CIRRHOSIS	1	0	0	0	0	0	1	0	1	1	1	0	2	0	2	0	1	1	0	0	11
LIVER DISEASE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
LIVER FAILURE	0	2	0	1	3	0	1	0	2	1	6	3	3	0	4	0	1	0	1	2	30
LUNG OTHER	0	1	2	2	1	1	2	0	1	1	3	3	8	0	6	1	0	1	0	1	34
MALARIA	0	0	2	1	4	0	1	0	1	2	3	1	4	0	3	0	1	0	0	0	23
MALNUTRITION	0	0	2	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	8
MENINGITIS	1	10	4	11	16	1	15	5	15	12	14	9	19	1	17	2	4	4	1	4	165
MISADVENTURE	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	0	4
MYOCARDIAL INFA	0	1	0	0	0	0	1	0	0	0	2	0	15	0	1	0	2	0	1	1	24
OTHER	2	7	8	9	13	6	13	7	11	9	13	8	37	2	18	3	7	3	6	12	194
PNEUMONIA	7	27	42	24	47	10	54	10	43	31	47	33	62	5	50	7	16	13	8	20	556
PREGNANCY RELATED	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
RENAL FAILURE	1	4	4	4	7	2	7	1	6	2	5	7	16	1	18	5	2	0	0	7	99
RHD	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
RTA	0	2	4	1	2	1	1	0	3	3	3	3	12	0	3	0	2	1	1	1	43
SUICIDE	0	1	0	0	1	0	1	0	0	0	0	0	4	0	1	0	0	0	0	0	8
TB	4	34	24	20	47	10	57	12	39	17	61	31	48	3	23	8	13	6	4	21	482
TRAUMA	0	0	0	1	1	0	0	0	0	0	2	0	2	0	3	0	0	0	1	0	10
Total	31	181	158	163	255	50	267	54	221	129	266	183	463	22	285	52	83	39	45	135	3082

APPENDIX 9: MORTALITY PATTERNS: 65+ YEARS AGEGROUP

SUBURB

CAUSEDEATH	A	BD	DZ	GN	GV	HAT	HG	KAM	KUW	MA	MB	MUF	N	RG	S	SN	TAF	UK	W	WP	Total
BURNS	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
CA BLADDER	0	0	0	2	0	1	0	1	0	0	0	1	3	1	1	0	0	0	1	1	12
CA BREAST	0	0	0	0	0	0	0	0	0	2	0	0	6	0	3	0	0	0	1	0	12
CA BRONCHUS	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	5
CA CERVIX	0	1	1	2	1	1	2	1	0	1	3	0	2	0	4	0	0	0	1	1	21
CA KAPOSI SARCOMA	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
CA LEUKAEMIA	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	3
CA LIVER	0	2	0	0	1	1	2	1	0	2	4	1	9	0	2	0	0	0	0	1	26
CA LUNG	0	0	1	1	0	0	0	0	1	0	1	1	6	0	1	0	0	0	0	0	12
CA LYMPHOMA	1	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	5
CA OESOPHAGUS	1	2	0	2	0	0	4	0	0	0	3	1	7	0	5	0	1	0	0	0	26
CA OTHER	4	1	0	2	2	1	4	1	2	1	6	4	22	0	12	0	1	0	2	0	65
CA PROSTATE	1	0	1	4	1	0	4	1	1	1	1	2	10	0	7	1	1	0	1	1	38
CA STOMACH	1	0	0	1	1	0	1	1	1	1	2	1	7	1	0	0	1	0	2	0	21
CARDIOVASCULAR	1	3	10	8	6	4	16	7	9	10	11	13	31	2	28	1	3	0	3	5	171
CEREBRAL MALARIA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
CVA	2	2	5	7	4	2	20	3	4	6	9	13	31	1	20	1	7	0	4	4	145
DIABETES	0	3	3	3	9	0	9	1	5	6	9	6	17	0	7	1	2	0	4	4	89
DIARRHOEA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
DU	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	4
DYSENTERY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
GASTROENTERITIS	1	3	7	5	5	2	8	2	1	2	13	16	9	1	10	0	4	1	2	5	97
HEPATITIS	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3
HIV	0	1	1	3	1	0	4	1	3	1	3	1	6	0	4	1	1	0	1	2	34
HYPERTENSION	3	12	12	14	14	1	24	12	17	10	19	29	44	2	26	2	10	1	5	6	263
INFLUENZA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
LIVER CIRRHOSIS	0	0	0	0	0	0	1	1	0	0	3	2	2	1	1	0	0	0	1	1	13
LIVER DISEASE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
LIVER FAILURE	1	0	0	3	0	0	1	1	2	0	0	1	10	0	3	0	0	0	2	1	25
LUNG OTHER	0	0	2	2	2	0	3	1	3	1	3	3	8	0	3	1	2	0	2	2	38
MALARIA	0	0	0	0	3	0	0	0	1	2	0	1	0	0	0	1	1	0	0	0	9
MALNUTRITION	0	0	0	2	0	0	2	0	0	0	1	0	7	0	0	0	0	0	0	1	13
MENINGITIS	0	0	2	3	0	1	6	2	1	2	3	3	2	0	2	0	2	1	1	0	31
MISADVENTURE	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	3
MYOCARDIAL INFARCTION	3	0	0	0	0	0	0	0	0	2	0	0	26	0	13	0	0	0	5	0	49
OTHER	6	6	10	11	4	3	19	4	5	13	14	12	45	0	21	0	4	0	7	3	187
PNEUMONIA	2	12	19	13	19	2	25	12	10	20	17	23	68	3	55	5	14	5	9	11	344
RENAL FAILURE	0	1	5	3	4	0	5	4	0	3	1	2	31	0	19	1	2	0	4	2	87
RTA	0	0	1	2	1	0	0	0	0	1	3	1	3	0	0	0	1	0	1	0	14
SENILITY	0	0	1	0	0	0	0	0	0	1	0	0	5	0	2	0	0	0	1	1	11
SUICIDE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
TB	2	4	5	5	4	1	14	4	4	1	6	9	9	4	8	1	3	2	2	3	91
TRAUMA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	29	53	87	99	82	20	177	62	71	91	136	150	438	16	263	17	60	10	64	57	1 982

APPENDIX 10 : MORTALITY PATTERNS: AGE UNKNOWN

SUBURB

CAUSEDEATH	BD	DZ	GV	MB	MUF	N	UK	W	Total
BURNS	0	0	0	0	0	0	1	0	1
CA PROSTATE	0	0	1	0	0	0	0	0	1
CARDIOVASCULAR	0	0	0	1	0	0	0	0	1
GASTROENTERITIS	0	1	0	1	0	1	6	0	9
HYPERTENSION	0	0	0	0	0	0	1	0	1
MALNUTRITION	0	0	0	0	0	1	0	0	1
MENINGITIS	0	0	0	0	0	0	1	0	1
OTHER	1	0	0	0	0	1	11	0	13
PNEUMONIA	0	0	0	0	1	0	27	0	28
RTA	0	0	0	0	0	0	2	0	2
SUICIDE	0	0	0	0	0	0	3	0	3
TB	1	0	0	1	0	0	2	1	5
TRAUMA	0	0	0	0	0	0	4	0	4
Total	2	1	1	3	1	3	58	1	70