STATISTICS BOTSWANA

BOTSWANA-CAUSES OF MORTALITY 2012

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Private Bag 0024, Gaborone, Botswana

Telephone: 3671300, **Fax:** 3952201
Web-site: www.cso.gov.bw
Contact Senior Statistician Health: DIEMO MOTLAPELE,
Email:dmotlapele@gov.bw

Preface

This statistical brief analyzes the causes of mortality among infants and adults over a ten year period covering the years 2003 to 2012 (Table 2). The brief states the major causes of death for Neonates, Children under five and Adults for 2011 and 2012.

Statistics Botswana's Health Statistics Unit (HSU), is seconded to provide statistical support to the Ministry of Health as an enabler of better national/public health programmes through the collection and dissemination of quality official statistics for evidence-based decision making, programme monitoring and evaluation. The Unit produces Statistical Briefs on health related issues including, infant, children under five (5) and mortality by sex and mortality trends.

For more information, contact the Directorate of Stakeholder Relations at 3671300. All Statistics Botswana outputs/publications are available on the website at www.cso.gov.bw and at the Statistics Botswana Library (Head-Office, Plot 8843, Khama Crescent, Gaborone).

We sincerely thank all stakeholders involved in the formulation of this brief, for their continued support, as we strive to better serve users of our statistical products and services.

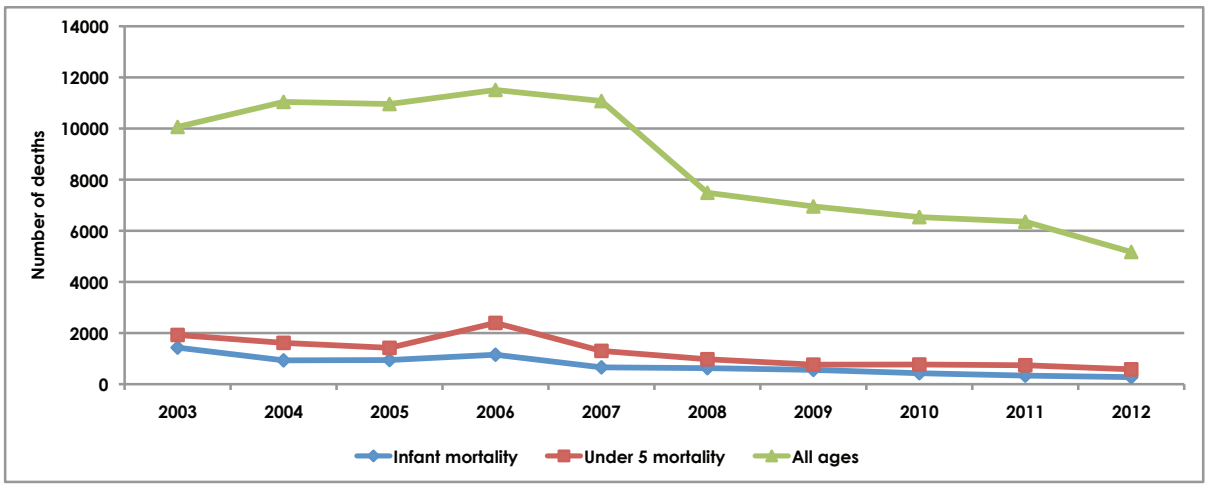
A. N. Majelantle
Statistician General
Aug 2016

1.0 Summary of Findings

1.1 Mortality of Infant, Children and All ages (excluding Neonatal deaths)

Infant mortality as indicated in Figure 1 shows the same pattern as that of children Under 5. A slight decrease was observed from 2009 to 2012 in all infant, under-five and All Ages mortality levels. Table 2, shows that overall inpatient mortality was 5,171 in 2012 which is a significant decrease of 18.6 percent compared to 6,353 deaths in 2011. According to the results there were more male deaths for the selected period compared to female deaths.

Figure 1: Infant, Under-Five and Total Mortality Trend, 2003-2012



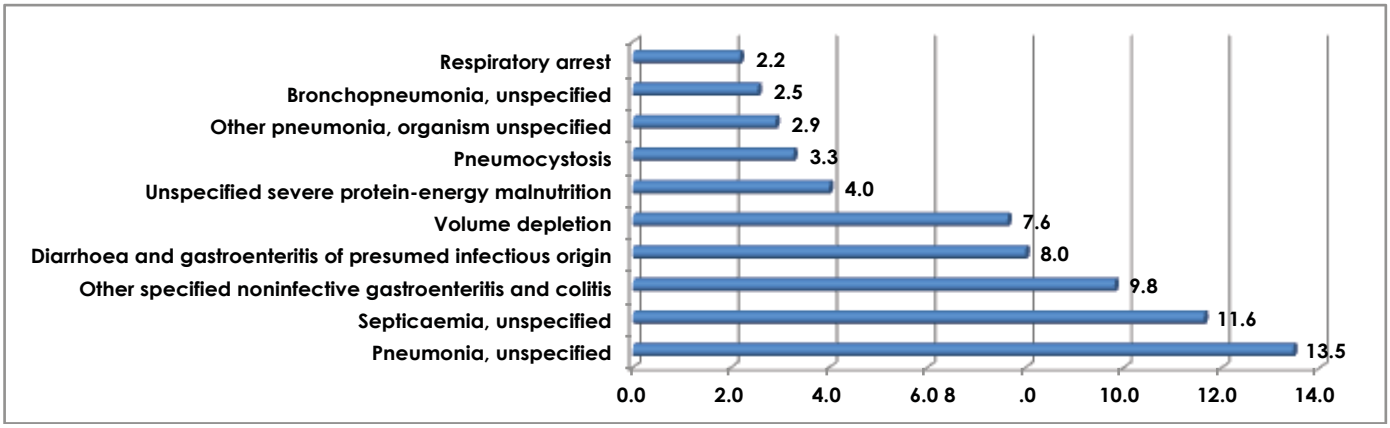
In addition, infant and under-five mortality show a decrease of 17.9 percent and 21.6 percent respectively for 2011 and 2012. The report shows that despite the decline in infant mortality over the years some infants did not survive to age 5 years. It further indicates that infant mortality is also higher among females than in males which was the case for previous years.

1.1.1 Major causes of Infant Mortality

The report shows that Pneumonia, Diarrhoea, Septicaemia, Other specified non-infective gastroenteritis and colitis and Volume Depletion are the major causes of deaths among infants. **(Table 3).**

Additionally, Figure 2 shows major causes of infant inpatient mortality in 2012. Pneumonia was the highest cause of mortality among infants with 13.5 percent followed by Septicaemia (11.6%), other specified non-infective gastroenteritis and colitis (9.8%), Diarrhoea (8.6%) and Volume Depletion (7.6%). Other major causes reported recorded less than 5 percent each. The data, however, shows a slight decrease in the percent of infant deaths associated with pneumonia from 15.2 percent in 2011 to 13.5 percent in 2012 **(Table 3).**

Figure 2: Percentage Distribution of Major Causes of Infant Mortality, 2012

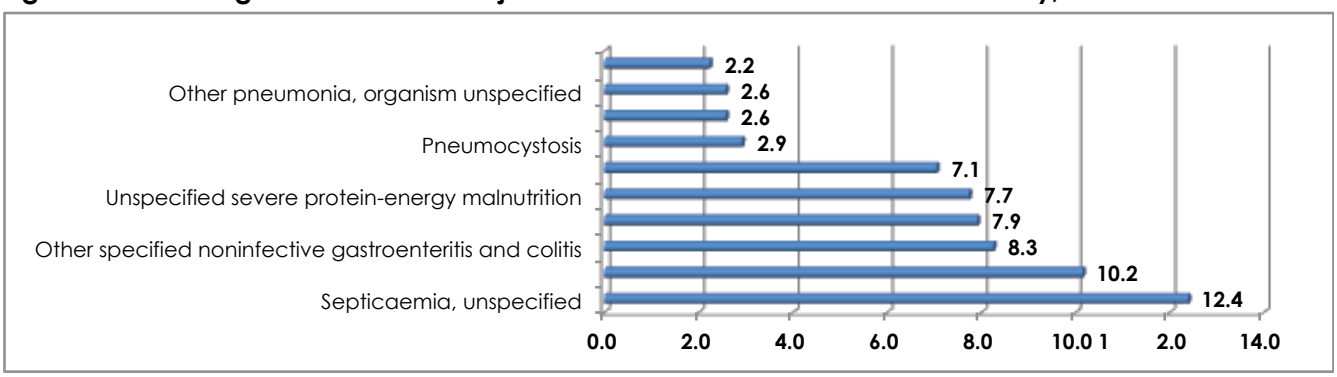


1.1.2 Major causes of Children Under-Five Mortality

Just as the case of infants, septicaemia, pneumonia and other specified non infective gastroenteritis and colitis were found to be the leading causes of under-five mortality. Figure 3 shows that in 2012 the above conditions were responsible for 12.4 percent, 10.2 percent and 8.3 percent of under-five deaths respectively. These were followed by volume depletion at 7.9 percent. It is worth noting that the same conditions were still among the leading causes in 2011 as shown in (Table 4).

The Botswana Government has embarked on a number of programs to promote the health and survival of the mother and the child. These include the 'Accelerated Child Survival and Development Programme', a robust immunization programme and periodic prevention campaigns. These have resulted in declining infant and child mortality and improved health of mothers between 2008 and 2012. This is in line with the Millennium Development Goals which call for reduction in child mortality and improvement in maternal health.

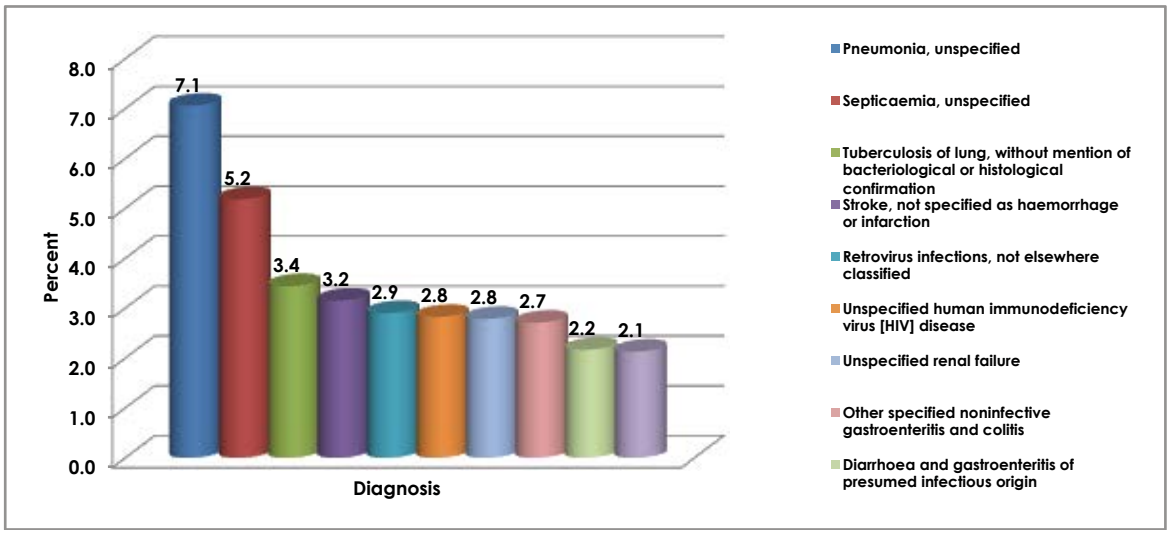
Figure 3: Percentage Distribution of Major causes for Children Under-Five Mortality, 2012



1.1.3 Major causes of mortality in All ages

Figure 4 and Table 5 show that Pneumonia was the leading cause of deaths among the general population and accounted for 7.1 percent of all deaths in all ages, followed by Septicaemia and Tuberculosis of lung without mention of bacteriological or histological confirmation at 5.4 percent and 3.4 percent respectively. Other conditions which accounted for a significant proportion of deaths included stroke at 3.2 percent, unspecified Human Immunodeficiency Virus (HIV) disease at 2.9 percent and Retroviral infections, not elsewhere classified at 2.8 percent. The same conditions also were realized as major causes of deaths in 2011.

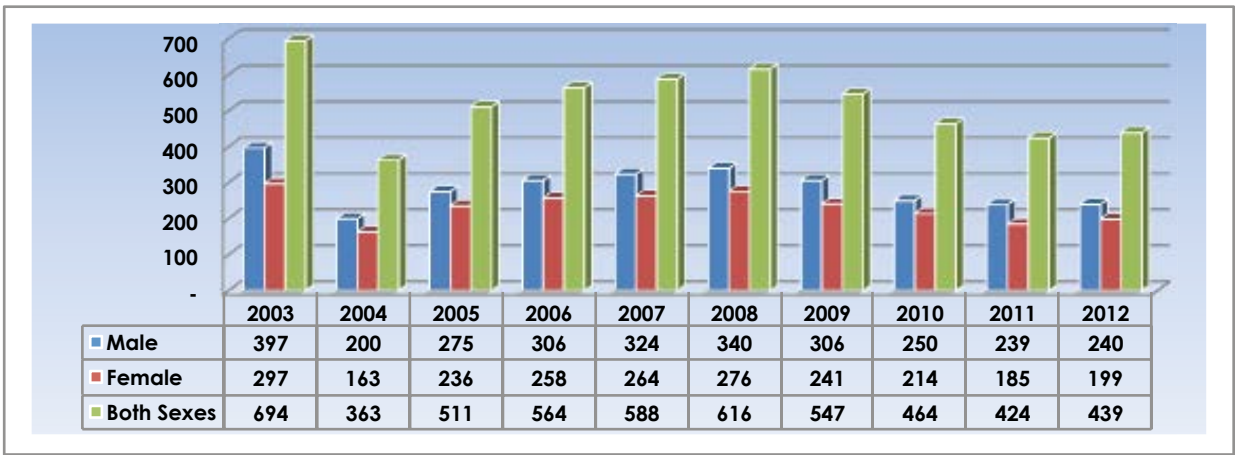
Figure 4: Percentage Distribution of Major causes for All Ages Mortality, 2012



1.14 Neonatal Mortality

Neonatal mortality refers to deaths among live births which occurred during the first 28 completed days of life. In 2012, there were 439 in-patient neonatal deaths in Botswana. Males accounted for 240 (54.7%) of this number while females accounted for 199(45.3%)**(Figure 5)**. The results further show that from 2008 to 2012 neonatal deaths decreased by 28.7 percent from 616 to 439. In-patient neonatal mortality was mostly caused by Disorders related to short gestation and low birth weight (27.4%) follwed by Bacterial sepsis of newborn, unspecified (15.7%), Respiratory distress syndrome of newborn (7.5%) and Respiratory failure of newborn (4.6%) **(Figure 6).**

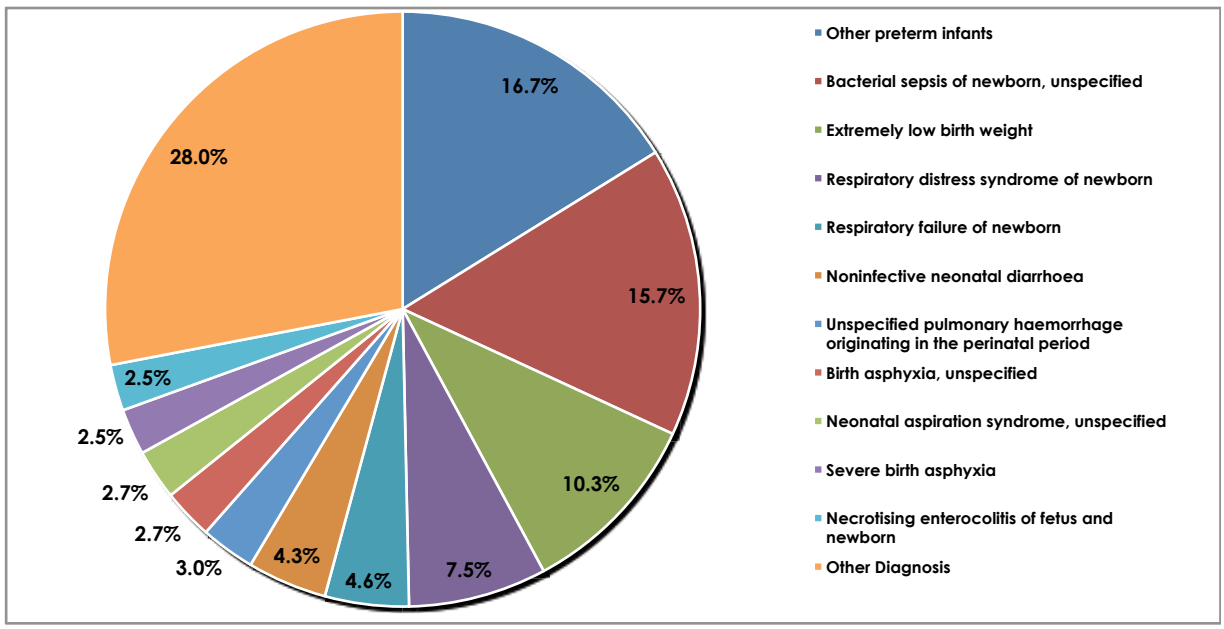
Figure 5: Neonatal Mortality Trend, 2002-2012



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Male	397	200	275	306	324	340	306	250	239	240
Female	297	163	236	258	264	276	241	214	185	199
Both Sexes	694	363	511	564	588	616	547	464	424	439

Source: 2003-2012 Health Statistics Reports: Statistics Botswana

Figure 6: Percentage Distribution of Major Causes for Neonatal Mortality, 2012



1.2 Midnight Census

The Midnight Census is the counting of patients present in the ward at midnight. At this time of the day, a nurse in charge of each ward counts patients and fills out the ward census slip.

The midnight census trend indicates that for the past five years there was a decline in the institutional deaths recorded for all ages. From 2008 to 2012 a decrease of 21.0 percent was realized from 7,1714 to 6,091 deaths.

However, neonatal mortality level fluctuates as indicated in **(Table 6).** The neonatal deaths increased from 578 in 2009 to 659 in 2010 (14 .0%) and increased further to 979 cases in 2011 then decreased to 931cases in 2012. The highest numbers of neonatal deaths in general hospitals were recorded at Princess Marina Hospital (228) and Nyangabgwe Hospital (195). In primary hospitals, Tutume recorded the highest neonatal deaths at (52) followed by Palapye with 22 deaths.

1.3 Non-institutional Deaths

Non-institutional death refers to death that did not occur in a health facility. The data on non-institutional deaths show a downward trend over the period 2002 to 2011. There was a decrease of 26.6 percent on non-institutional deaths between 2010 and 2011 from 84 to 62. More non-institutional deaths were recorded for males as compared to their female counterparts from 2004 to 2009, however in 2010 and 2011; more female non institutional deaths were reported as illustrated in **Table 1.5**

Table 1: Non-Institutional Deaths, 2002-2011

Sex	2003	2004	2005	2006	2007	2008	2009	2010	2011	*2012
Male	989	496	225	205	169	131	59	38	24	2,695
Female	989	461	183	179	156	110	45	46	38	2,574
All deaths	1,978	947	408	384	325	241	104	84	62	5,269

Source: 2002-2011 Health Statistics Reports: Statistics Botswana
Figure is from 2012 Vital Statistics Report, Statistics Botswana

Table 2: Mortality Trend for Infants, Under 5 and All Ages by Sex (excluding neonates), 2003-2012

Mortality	Sex	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Infant Mortality	**Male**	787	494	535	587	353	308	295	187	158	130
	Female	643	438	409	565	305	319	264	181	177	145
	Both Sexes	1,430	932	944	1,152	658	627	559	429	335	275
Under 5 Mortality	**Male**	1,045	832	762	1,219	692	493	419	400	382	286
	Female	880	783	659	1,177	610	482	345	369	359	295
	Both Sexes	1,925	1,615	1,421	2,396	1,302	975	764	769	741	581
All Ages	**Male**	5,336	5,766	5,811	6,180	5,972	4,036	3,827	3,482	3,419	2782
	Female	4726	5275	5147	5,329	5,103	3,451	3,125	3,053	2,937	2389
	Both Sexes	10,062	11,041	10,958	11,509	11,075	7,487	6,952	6,535	6,356	5171

Source: 2002-2011 Health Statistics Reports: Statistics Botswana

Table 3: Major Causes of Infant Mortality (Excluding Neonatal Deaths) Below One Year, 2010 and 2011

	2011					2012			
Diagnosis/cause	**Male**	**Female**	**Both Sexes**	**Percent**	**Diagnosis/cause**	**Male**	**Female**	**Both Sexes**	**Percent**
Pneumonia, unspecified	22	29	51	15.2	Pneumonia, unspecified	19	18	37	13.5
Diarrhoea and gastroenteritis of presumed infectious origin	23	20	43	12.8	Septicaemia, unspecified	13	19	32	11.6
Septicaemia, unspecified	11	14	25	7.5	Other specified non-infective gastroenteritis and colitis	14	13	27	9.8
Volume depletion	9	15	24	7.2	Diarrhoea and gastroenteritis of presumed infectious origin	8	14	22	8.0
Other specified non-infective gastroenteritis and colitis	13	11	24	7.2	Volume depletion	8	13	21	7.6
Other pneumonia, organism unspecified	8	8	16	4.8	Unspecified protein-energy malnutrition	4	7	11	4.0
Bronchopneumonia, unspecified	6	7	13	3.9	Pneumocystosis	5	4	9	3.3
Meningitis,unspecified	4	2	6	1.8	Other pneumonia, organism unspecified	6	2	8	2.9
Adult respiratory distress syndrome	3	3	6	1.8	Bronchopneumonia, unspecified	4	3	7	2.5
Unspecified severe protein-energy malnutrition	2	3	5	1.5	Respiratory arrest	1	5	6	2.2
Causes Specified Above	**101**	**112**	**213**	**63.6**	**Causes specified above**	**82**	**98**	**180**	**65.5**
Other Diagnosis	**57**	**65**	**122**	**36.4**	**Other Diagnosis**	**48**	**47**	**95**	**34.5**
All diseases and Conditions	**158**	**177**	**335**	**100.0**	**All diseases and conditions**	**130**	**145**	**275**	**100.0**

Table 4: Major Causes of Children Under-Five Mortality (Excluding Neonatal Deaths), 2010 and 2011

	2011					2012			
Diagnosis	**Male**	**Female**	**Total**	**Percent**	**Diagnosis**	**Male**	**Female**	**Total**	**Percent**
Pneumonia, unspecified	43	42	85	14.6	Septicaemia, unspecified	31	41	72	12.4
Diarrhoea and gastroenteritis of presumed infectious origin	40	37	77	13.3	Pneumonia, unspecified	25	34	59	10.2
Septicaemia, unspecified	28	32	60	10.3	Other specified noninfective gastroenteritis and colitis	27	21	48	8.3
Volume depletion	25	33	58	10.0	Volume depletion	21	25	46	7.9
Other specified noninfective gastroenteritis and colitis	31	26	57	9.8	Unspecified severe protein-energy malnutrition	23	22	45	7.7
Unspecified severe protein-energy malnutrition	16	21	37	6.4	Diarrhoea and gastroenteritis of presumed infectious origin	21	20	41	7.1
Unspecified protein-energy malnutrition	18	12	30	5.2	Pneumocystosis	10	7	17	2.9
Bronchopneumonia, unspecified	17	12	29	5.0	Unspecified protein-energy malnutrition	6	9	15	2.6
Other pneumonia, organism unspecified	13	13	26	4.5	Other pneumonia, organism unspecified	9	6	15	2.6
Meningitis, unspecified	10	6	16	2.8	Bronchopneumonia, unspecified	7	6	13	2.2
Causes specified above	**241**	**234**	**475**	**81.8**	**Causes Specified Above**	**180**	**191**	**371**	**63.9**
Other Diagnosis	**141**	**125**	**266**	**45.8**	**Other Diagnosis**	**106**	**104**	**210**	**36.1**
All diseases and conditions	**382**	**359**	**741**	**128.0**	**All Diseases and Conditions**	**286**	**295**	**581**	

Source: 2002-2012 Health Statistics Reports: Statistics Botswana

Table 5: Major Causes of All Ages Mortality (Excluding Neonatal Deaths), 2010 and 2011

	2011					2012			
Diagnosis/cause	**Male**	**Female**	**Both Sexes**	**Percent**	**Diagnosis/cause**	**Male**	**Female**	**Both Sexes**	**Percent**
Pneumonia, unspecified	224	189	413	6.5	Pneumonia, unspecified	198	167	365	7.1
Septicaemia, unspecified	110	149	259	4.1	Septicaemia, unspecified	127	141	268	5.2
Unspecified human immunodeficiency virus [HIV] disease	122	90	212	3.3	Tuberculosis of lung, without mention of bacteriological or histological confirmation	109	69	178	3.4
Retrovirus infections, not elsewhere classified	114	98	212	3.3	Stroke, not specified as haemorrhage or infarction	68	95	163	3.2
Stroke, not specified as haemorrhage or infarction	70	133	203	3.2	Retrovirus infections, not elsewhere classified	91	59	150	2.9
Tuberculosis of lung, without mention of bacteriological or histological confirmation	123	72	195	3.1	Unspecified human immunodeficiency virus [HIV] disease	82	64	146	2.8
Diarrhoea and gastroenteritis of presumed infectious origin	87	90	177	2.8	Unspecified renal failure	80	64	144	2.8
Congestive heart failure	96	80	176	2.8	Other specified noninfective gastroenteritis and colitis	85	55	140	2.7
Other specified noninfective gastroenteritis and colitis	83	71	154	2.4	Diarrhoea and gastroenteritis of presumed infectious origin	61	51	112	2.2
Unspecified renal failure	75	74	149	2.3	Congestive heart failure	59	51	110	2.1
Causes specified above	**1,104**	**1,046**	**2,150**	**33.8**	**Causes Specified Above**	**960**	**816**	**1,776**	**34.3**
Other Diagnosis	**2,315**	**1,891**	**4,206**	**66.2**	**Other Diagnosis**		**1,574**	**3,396**	**65.7**
All diseases and conditions	**3,419**	**2,937**	**6,356**	**100.0**	**All Diseases and Conditions**		**2,390**	**5,172**	**100.0**

Source: 2002-2012 Health Statistics Reports: Statistics Botswana

Table 6: Midnight Census Deaths, 2008-2012

	2008		2009		2010		2011		2012	
	All Ages	New-borns	All Ages	New-borns	All Ages	New-borns	All Ages	New-borns	All Ages	New-borns
Facility	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**	**Dead**
General Hospitals										
Maun Hospital	378	14	245	19	310	29	163	8	138	20
delta medical centre	3	1	4	2	0	1	0	0	0	0
Sekgoma Hospital	369	23	377	25	385	34	365	30	316	10
Scottish Livingstone Hospital	425	52	510	44	426	46	319	8	408	38
Bokamoso Private	0	0	0	0	68	5	99	5	123	0
Jwaneng Mine Hospital	135	9	126	10	138	15	90	13	94	10
Seventh Day Adventist Hospital	292	20	249	22	198	27	288	23	259	30
Mahalapye Hospital	356	44	382	27	405	47	402	0	366	32
Deborah Retief Mem. Hospital	286	16	228	11	178	19	233	12	161	19
Orapa (De-beers) Hospital	53	13	26	5	17	6	22	1	0	0
Princess Marina Hospital	1,159	202	1,226	1	931	1	886	300	1201	228
Gaborone Private Hospital	104	1	114	4	72	28	91	5	81	9
Nyangabgwe Hospital	1,459	187	1,645	0	1,440	0	1,361	2	1,207	195
Bamalete Lutheran Hospital	208	127	206	13	252	11	205	141	154	6
Athlone Hospital	264	16	220	30	255	28	151	9	158	14
Sbrana Mental Hospital	12	0	6	0	7	0	1	0	6	0
BCL Hospital	11	0	3	0	11	0	5	0	1	0
Selibe-Phikwe Hospital	257	34	197	46	206	40	153	40	136	38
Total	**5,771**	**759**	**5,764**	**259**	**5,299**	**337**	**4,834**	**597**	**4,809**	**649**
Primary Hospitals										
Masunga Primary Hospital	107	6	128	9	134	8	121	11	100	6
Palapye Primary Hospital	252	21	211	16	227	20	238	20	174	22
Bobonong Primary Hospital	172	18	138	21	120	28	144	27	119	19
Mmadinare Primary Hosp.	49	2	50	4	45	6	45	10	53	5
Thamaga Primary Hospital	84	6	120	6	96	6	103	8	52	3
Gantsi Primary Hospital	205	17	153	22	165	24	108	62	103	14
Sefhare Primary Hospital	124	13	114	12	112	14	141	22	110	20
Kasane Primary Hospital	49	6	26	17	43	9	140	15	117	11
Tsabong Primary Hospital	98	5	89	19	83	2	46	66	29	1
Tutume Primary Hospital	175	12	158	19	146	14	94	5	78	56
Gweta Primary Hospital	59	6	58	8	78	2	189	18	119	8
Rakops Primary Hospital	74	3	65	5	54	2	31	28	64	2
Letlhakane Primary Hospital	91	12	81	7	129	18	113	16	60	11
Gumare Primary Hospital	173	24	175	30	142	28	32	4	24	1
Thebe-Phatshwa Primary	1	0	7	0	0	0	1	0	2	0
Goodhope Primary	130	13	115	13	110	17	47	3	24	6
Hukuntsi Primary hospital	92	8	31	7	74	9	68	4	47	9
Total	**1,935**	**172**	**1,719**	**215**	**1,758**	**207**	**1,661**	**319**	**1,298**	**191**
All Clinics	**8**	**129**	**8**	**104**	**7**	**115**	**42**	**63**	**7**	**88**
Grand Total:	**7,714**	**1,060**	**7,491**	**578**	**7,064**	**659**	**6,537**	**979**	**6,091**	**931**

Source: 2008-2012 Maternal mortality Ratio Reports: Statistics Botswana