

BOTSWANA - MATERNAL MORTALITY RATIO 2014

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STATISTICS BOTSWANA

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1.0 Introduction

This Stats Brief provides information on Botswana Maternal Mortality Ratio for the period 2010 – 2014. Maternal Mortality Ratio is defined as the number of maternal deaths per 100,000 live births. As part of a collaborative effort between Statistics Botswana and Ministry of Health (Department of Public Health- Sexual and Reproductive Health SRH) to enable and improve the availability and quality of maternal mortality information, the parties, ensure that data on live births and maternal deaths are provided. The data for the period 2011 to 2014 are provisional until the National Annual Health Statistics Reports are published.

We hope readers and users of this information will find this brief informative and we welcome input on how to further improve the content this publication.



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Acting Statistician General
February 2016

2.0 Access to Health Services and Birth Attendants Assistance

The 2007 Botswana Family Health Survey shows that 95 percent of Botswana's population have access to health services and live within an average of 8 kilometers radius from the nearest health facility. Hence there is a high coverage and precision on the collection of births and deaths data.

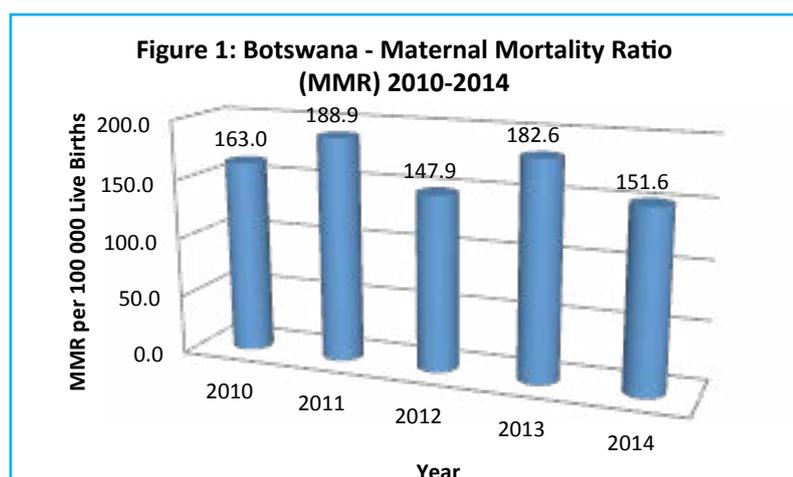
The 2007 Botswana Family Health Survey further indicated that over 99 percent of deliveries were assisted by skilled birth attendants in cities/towns. This compares with 97.2% and 90.2% for urban villages and rural areas respectively. The high level of birth attendance by skilled health personnel should lead to accurate identification and classification of maternal death cases, as well as certification of causes of maternal deaths. The survey further indicated that over 95 percent of all reported deliveries occur in health facilities.

3.0 Maternal Mortality Ratio Trend

Botswana Maternal Mortality Ratio for the period 2010 to 2014 is shown in Table 1 and Figure 1. The MMR shows dropped from 182.6 to 151.6 per 100,000 live-births between 2013 and 2014.

Table 1: Botswana Maternal Mortality Ratio 2010 – 2014

	2010	2011	2012	2013	2014
Institutional live births	49,853	44,904	49,957	49,771	47,273
Non-Institutional live-births	475	104	91	68	205
Total live-births	50,328	45,008	50,048	49,839	47,478
Maternal Deaths	82	85	74	91	72
Maternal Morality Ratio (per 100,000 live-births)	163	188.9	147.9	182.6	151.6



3.1 Causes of Maternal Mortality by Age

Table 2 and 4 show that there were 72 maternal deaths in 2014. The most common causes of maternal mortality as indicated in Table 4 was Unspecified abortion, complicated by genital tract & pelvic infection with twelve cases, HIV disease complicating pregnancy, childbirth, and the puerperium, Other immediate postpartum haemorrhage with ten cases each, Eclampsia, unspecified as to time period and Diseases of the circulatory system complicating pregnancy, childbirth and puerperium with five and four cases respectively.

Additionally, Table 4 shows that the highest maternal deaths were 25 (34.7 percent), reported among age groups 30-34, followed by ages 25-29 (23.6 percent), while ages 20-24 and 35-39 had a tie of 15.3 percent. However there was no maternal death recorded in ages 45 and above.

Table 2: Summary of Causes of Maternal Deaths

Major causes of Maternal Deaths	2010		2011		2012		2013		2014	
	Number	%								
HIV-related & other viral diseases	8	9.8	3	3.5	1	1.4	1	1.1	32	44.4
Top cause of Maternal Deaths (excludes HIV)	27	32.9	41	48.2	41	55.4	58	63.7	17	23.6
Other diseases	47	57.3	41	48.2	32	43.2	32	35.2	23	31.9
Total	82	100	85	100	74	100	91	100	72	100

***Note: Top – cause of Maternal Deaths refer to Table 4**

4.0 Institutional Births

There were 47,273 Institutional births registered in 2014 as indicated in Table 1. Table 3 shows that most births (66.1 percent) occurred in General Hospitals, as compared to 19.0 percent in primary hospitals and 14.5 percent in clinics respectively. It is quite evident that most mothers prefer to deliver in health facilities than at home (Table 3). The overall average length of stay in a health facility was 7 days (Table5) which is skewed towards hospitals as they often handle complicated referral cases.

Table 3: Live Births by Place of delivery 2013 - 2014

Place of Birth	2013		2014	
	Number	Percent	Number	Percent
General Hospital	31,617	63.4	31,397	66.1
Primary Hospital	10,784	21.6	9,013	19.0
Clinics	7,370	14.8	6,863	14.5
Non Institutional	68	0.1	205	0.4
Total Live Births	49,839	100	47,478	100

4.1 Born Before Arrival (BBA)

The born before arrival (BBA) refers to babies brought to the health facility after delivery. The BBA accounted for 3.6 percent of 47,273 births in 2014 as compared to 3.7 percent of 49,771 births in 2013 (Table5).

4.2 Non-Institutional Births

There were 205 recorded non-institutional Live births in 2014 indicating an increase of 0.4 percent from 0.1 percent in 2013 (Table 3). It has been realized that non-institutional births reported by Health Facilities to Ministry of Health were insignificant ever since Ministry of Labour and Home Affairs inaugurated the collection of births and deaths certificates.

Furthermore it is worth noting that Selibe-Phikwe district reported the highest non-Institutional births with 34 births, accounting for 16.6 percent, followed by South East (23) with 11.2 percent, Central Bobonong (21) with 10.2 percent, Central Tutume (20) with 9.8 percent, while Greater Gaborone and Kweneng East reported 17 births respectively (8.3%). Lastly Kgatleng and Serowe/Palapye registered a tie of 6.3 percent (13).

5.0 Technical Note

The availability of data on number of live births and maternal mortality are a collaborative effort between Ministry of Health's Sexual and Reproductive Health Unit and Statistics Botswana through its Health Statistics Unit to ensure production of quality national maternal mortality information.

6.0 Access to Health Services in Botswana

In Botswana, healthcare is delivered through a decentralized system with primary health care being the pillar of the delivery system. Botswana has an extensive network of health facilities (Hospitals, Clinics, Health posts and Mobile Stops) clustered in the 27 Health Districts.

7.0 Definition of Maternal Mortality Ratio (MMR)

As indicated earlier, Maternal Mortality Ratio is defined as the number of maternal deaths per 100,000 live births. This indicator estimates the proportion of pregnant women or mothers who die from causes related or aggravated by pregnancy or its management. The ratio is expressed as follows:

$$\frac{\text{Maternal deaths} * K}{\text{Live Births}}$$

Where K = 100,000.

World Health Organization (WHO) Maternal Death Definitions for classification and calculation of MMR

MR: key terminologies	
The following World Health Organization (WHO) maternal death definitions were used for classification and calculation of MMR. The classification of causes of maternal deaths is also according to WHO International Classification of Diseases Volume 10 (ICD 10).	
Maternal Death	A death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
Direct Maternal Death	A death resulting from complications of pregnancy, labor or delivery or their management.
Indirect Maternal Death	A death in which pregnancy exacerbated a preexisting health problem.
Non-Maternal Death	A death that occurred during pregnancy or within 42 days of termination of pregnancy, but was considered unrelated to pregnancy (e.g. due to injury, homicide, or suicide).
Maternal Mortality Ratio (Commonly abbreviated as MMR)	Number of maternal deaths during a given period per 100,000 live-births during the same time-period.
Maternal Mortality Rate (Commonly abbreviated as MM Rate)	Number of maternal deaths in a given period per 100,000 women of reproductive age during the same time period.

Table 4 Causes of Maternal Mortality by Age Group of Mother 2014

Code	Age Group of Mother (years) Diagnosis	Age Group of Mother (years)									Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45+	N/S	
O98.7	HIV disease complicating pregnancy, childbirth, and the puerperium.	0	1	1	9	10	8	2	0	1	32
O99.6	Diseases of the digestive system complicating pregnancy, childbirth and puerperium	0	0	0	0	1	0	0	0	0	1
O72.1	Other immediate postpartum hemorrhage	0	0	1	1	5	0	0	0	0	7
O15.9	Eclampsia, unspecified as to time period	0	0	1	0	2	2	0	0	0	5
O99.8	Other specified diseases and conditions complicating pregnancy, childbirth & puerperium	0	0		2	0	0	0	0	0	2
O99.4	Diseases of the circulatory system complicating pregnancy, childbirth and puerperium	0	0	1	1	0	0	0	0	0	2
O06.5	Unspecified abortion, complicated by genital tract & pelvic infection	0	0	1	1	0	2	1	0	0	5
O99.2	Endocrine, nutritional & metabolic diseases complicating. Pregnancy. Childbirth & Puerperium.	0	0	1	1	0	0	0	0	0	2
O45.9	Placenta Abruptio	0	0	0	0	1	0	0	0	0	1
O21.0	Hyperemesis Gravidarum mild or unspecified	0	0	1	1	0	0	0	0	0	2
O98.5	Other viral diseases complicating pregnancy, Childbirth. & Puerperium.	0	0	1	0	0	0	0	0	0	1
O29.8	Other complications of Anaesthesia during pregnancy	0	1	0	0	0	0	0	0	0	1
O95	Obstetric death of unspecified cause	0	0	1	0	1	0	1	0	0	3
O08.0	Genital tract and Pelvic infection following Abortion, Ectopic & Molar pregnancy.	0	0	0	0	0	0	1	0	0	1
O99.3	Mental disorders & disease of nervous system complicating pregnancy, Childbirth & Puerperium	0	1	0	0	1	0	0	0	0	2
O21.1	Hyperemesis gravidarum with metabolic disturbances	0	0	1	0	0	0	0	0	0	1
O98.8	Other maternal infections & Parasitic diseases complicating pregnancy. Childbirth & Puerperium.	0	0	0	0	1	0	0	0	0	1
O85	Puerperal Sepsis	0	0	0	0	1	0	0	0	0	1
O90.3	Cardiomyopathy in the Puerperium	0	0	1	0	0	0	0	0	0	1
O99.0	Anaemia complicating pregnancy, Childbirth and Puerperium	0	0	0	0	1	0	0	0	0	1
GRAND TOTAL		0	3	11	16	24	12	5	0	1	72

Table 5 Health Facilities by Patients Care Services - 2014

District Health Facility	N e w b o r n s												Total Live-births
	D i s c h a r g e d									D i s c h a r g e d			
	Beds	Patient admissions	Alive	Dead	Patient days	Occu-pancy Rate(%)	Average Length of Stay (Days)	Turnover Rate	Number	BBA	Alive	Dead	
General Hospitals													
Letsholathebe Memorial	314	9,362	8,979	1072	90,130	79	9	32	3,311	157	3,376	61	3,468
Sekgoma Memorial	448	12,799	17,304	470	95,565	58	5	40	2,193	28	2,231	16	2,221
Scottish Livingstone	338	10,802	10,213	738	82,163	67	8	32	2,983	86	2,959	8	3,069
Bokamoso Private Hospital	128	4,521	4,418	58	13,604	29	3	35	720	0	688	0	720
Jwaneng Mine Hospital	55	2,711	2,593	104	10,868	54	4	49	900	13	890	19	913
Kanye Seventh Day Adven	167	5,014	4,733	206	19,911	33	4	30	1,290	23	1,016	297	1,313
Mahalapye Hospital	320	8,893	8,697	1,724	114,139	98	11	33	2,411	66	2,436	13	2,477
Deborah Relief Memorial	181	2,807	2,735	164	31,720	48	11	16	1,738	26	1,721	15	1,764
Orapa Hospital	106	1,416	1,235	9	4,123	11	3	12	343	5	348	2	348
Princes Marina Ref.	582	23,824	22,293	938	298,429	140	13	40	6,232	39	5,826	226	6,271
Gaborone Private Hospital	89	1,632	1,716	66	5,818	18	3	20	244	1	142	104	245
Nyangabgwe Ref. Hospital	561	20,592	19,622	2,204	143,950	70	7	39	4,925	37	4,981	136	4,962
Riverside Private Hospital	29	235	253	0	681	6	3	9	79	0	78	0	79
Bamalete Luthern Hospital	140	2,537	2,454	58	9,371	18	4	18	744	5	736	1	749
Athlone Hospital	172	4,650	4,450	886	24,105	38	5	31	1,117	20	1,171	5	1,137
Sbrana Mental Ref. Hosp	300	112	88	0	5,811	5	66	0	0	0	0	0	0
BCL Hospital	15	119	118	3	489	9	4	8	0	0	0	0	0
Selibe - Phikwe Gov.	64	5,691	5,475	165	20,644	88	4	88	1,644	17	1,647	19	1,661
Total	4,009	117,717	117,376	8,865	971,521	66	8	31	30,874	523	30,246	922	31,397
Primary Hospitals													
Masunga Primary Hospital	50	2,547	1,583	58	6,183	34	4	33	367	14	372	5	381
Palapye Primary Hospital	75	4,085	3,711	189	14,416	53	4	52	1,333	38	1,383	3	1,371
Bobonong Primary Hospital	38	2,632	2,555	84	9,698	70	4	69	517	11	524	7	528
Mmadinare Primary Hospital	48	1,861	1,797	171	7,398	42	4	41	424	11	432	2	435

Table 5 Continued: Health Facilities by Patients Care Services - 2014

District Health Facility	N e w b o r n s												
	D i s c h a r g e d							D i s c h a r g e d					
	Beds	Patient admissions	Alive	Dead	Patient days	Occu-pancy Rate(%)	Average Length of Stay (Days)	Turnover Rate	Number	BBA	Alive	Dead	Total Live-births
Thamaga Primary Hospital	39	1,980	1,907	77	5,653	40	3	51	501	18	489	0	519
Good-Hope Primary Hospital	35	1,527	1,430	61	5,511	43	4	43	621	22	648	8	643
Ghanzi Primary Hospital	96	2,171	2,059	76	9,805	28	5	22	690	95	813	25	785
Sefhare Primary Hospital	50	1,524	529	17	2,018	11	4	11	148	12	157	4	160
Kasane Primary Hospital	33	1,579	1,570	34	6,109	51	4	49	402	10	409	5	412
Tsabong Primary Hospital	57	1,887	1,267	56	5,776	28	4	23	454	8	461	1	462
Tutume Primary Hospital	37	2,056	1,976	87	7,976	59	4	56	882	68	936	13	950
Rakops Primary Hospital	42	1,042	1,000	30	3,655	24	4	25	298	15	305	3	313
Lefihakane Primary Hospital	25	2,278	2,100	72	8,774	96	4	87	735	95	824	13	830
Gumare Primary Hospital	34	1,089	1,034	63	5,945	48	5	32	423	29	445	10	452
Thebe-Phatshwa Primary	42	150	147	1	334	2	2	4	36	3	38	2	39
Hukuntsi Primary Hospital	57	1,407	1,352	51	7,583	36	5	25	391	10	401	0	401
Gweta Primary Hospital	50	1,168	1,119	43	5,013	27	4	23	308	24	331	2	332
Total	808	30,983	27,136	1,170	111,847	38	4	35	8,530	483	8,968	103	9,013
All Clinics	760	14,424	13,970	38	13,936	5	1	18	6,165	698	6,801	99	6,863
Grand Total	5,577	163,124	158,482	10,073		54	7	30	45,569	1,704	46,015	1,124	47,273

Table 6: Non-Institutional Live births - 2014

District	Home Deliveries	Percentage
Gaborone	17	8.3
Francistown	4	2.0
Lobatse	0	0.0
Selibe - Phikwe	34	16.6
Orapa	0	0.0
Jwaneng	1	0.5
Sowa Town	0	0.0
Southern	6	2.9
Borolong	2	1.0
Ngwaketse West	0	0.0
South East	23	11.2
Kweneng East	17	8.3
Kweneng West	0	0.0
Kgatleng	13	6.3
Serowe/Palapye	13	6.3
Central Mahalapye	3	1.5
Central Bobonong	21	10.2
Central Boteti	3	1.5
Central Tutume	20	9.8
North East	4	2.0
Ngamiland South	10	4.9
Ngamiland West	0	0.0
Chobe	1	0.5
Ngamiland Delta	0	0.0
Ghanzi	1	0.5
Kgalagadi South	1	0.5
Kgalagadi North	8	3.9
Other Countries	3	1.5
Total	205	100