

STATUS OF EMERGENCY OBSTETRIC AND NEWBORN CARE (EmONC) IN ZAMBIA: SUMMARY FINDINGS FROM A NATIONAL ASSESSMENT

INTRODUCTION

This brief policy document presents summary findings of the 2014-2015 national assessment of the status of Zambia's EmONC services.

A maternal death is a loss of life that is preventable, occurring in a woman's prime and productive years. The government of the Republic of Zambia (GRZ) is working with relevant partners, including UNFPA, to ensure no—or at least minimal—loss of women's lives during pregnancy, childbirth, or immediately postpartum.

GRZ has achieved progress in the last decade: Zambia's maternal mortality ratio (MMR) declined from 591 deaths per 100,000 live births in 2007 to 398 in 2013-2014. Newborn mortality declined from 34 deaths to 24 per 1,000 live births in the same period (Central Statistical Office, ZDHS 2013-14). The actual numbers of women who die in pregnancy or childbirth remain unacceptably high, however.

To prevent maternal and neonatal deaths, GRZ is providing Emergency Obstetric and Newborn Care (EmONC) services in its health facilities, to address complications related to pregnancy and childbirth. In 2014-2015, GRZ with support from UNFPA, assessed 384 of the country's health facilities—118 hospitals and 266 health centres—to identify gaps and the extent of EmONC implementation.



EmONC SERVICES IN ZAMBIA GEOGRAPHIC AVAILABILITY

Zambia's recommended national target is a total of five EmONC facilities—one CEmONC and four BEmONC—per district. With 74 districts at the time of the assessment, the recommended national target for equitable distribution of EmONC services was 370 fully functioning EmONC facilities—296 BEmONC and 74 CEmONC. Only 68, or 18.4% of the target, were available: a shortfall of 302 facilities (Table 1, next page).

EmONC SERVICES

are a set of health facility-based interventions that, when successfully implemented, mitigate the direct causes of maternal and neonatal deaths. EmONC services include **nine Signal Functions**:

1. Parenteral antibiotics
2. Parenteral oxytocin
3. Parenteral anti-convulsants
4. Manual removal of placenta
5. Removal of products retained after delivery
6. Assisted vaginal delivery
7. Newborn resuscitation
8. Blood transfusion, and
9. Surgery—also known as Caesarean section

Basic EmONC (BEmONC) is the provision of only seven (1-7) of the nine EmONC signal functions.

Comprehensive EmONC (CEmONC) is the provision of all nine (1-9) EmONC Signal functions.

A fully functioning EmONC facility provides all required signal functions, and a partially functioning EmONC facility is one where one or more signal functions are missing.

Table 1: Variance analysis of EmONC facilities in Zambia

	Districts at Assessment (n)	Recommended EmONC Facilities (n)	Actual EmONC Facilities (n)	Recommended Facilities Versus Actual (%)	Shortfall of EmONC Facilities (n)
National	74	370	68	18.4	302
Province					
Central	6	30	7	23.3	33
Copperbelt	10	50	8	16.0	42
Eastern	7	35	8	22.9	27
Luapula	7	35	13	37.1	22
Lusaka	4	20	6	30.0	14
Muchinga	6	30	4	13.3	26
Northern	8	40	3	7.5	37
North-Western	8	40	5	12.5	35
Southern	11	55	10	18.2	45
Western	7	35	4	11.4	31

EmONC SERVICES IN HOSPITALS AND HEALTH CENTRES

To save lives, an EmONC health facility must be fully functional, performing all required signal functions (see box, front page). Few hospitals and health centres in Zambia met the criteria for a fully functioning CEmONC facility: Of 118 hospitals assessed, less than half (48.3%, n=57) met were fully functioning CEmONC facilities, and of the 266 health centres assessed, only two (0.8%) were fully functioning BEmONC facilities. Most facilities were only partially functional, and some hospitals were classified as BEmONC, although they are supposed to be a CEmONC facility, because they only performed seven of the nine required signal functions.

Hospitals and health centres are classified as partially functioning EmONC facilities when they do not perform one or more expected signal functions. Figures 2 and 3 (on the following page) chart the number of missing signal functions in surveyed hospitals and health centres, respectively.

Figure 1: Percentage of hospitals meeting the criteria of fully functioning CEmONC by province, Zambia, 2014-2015

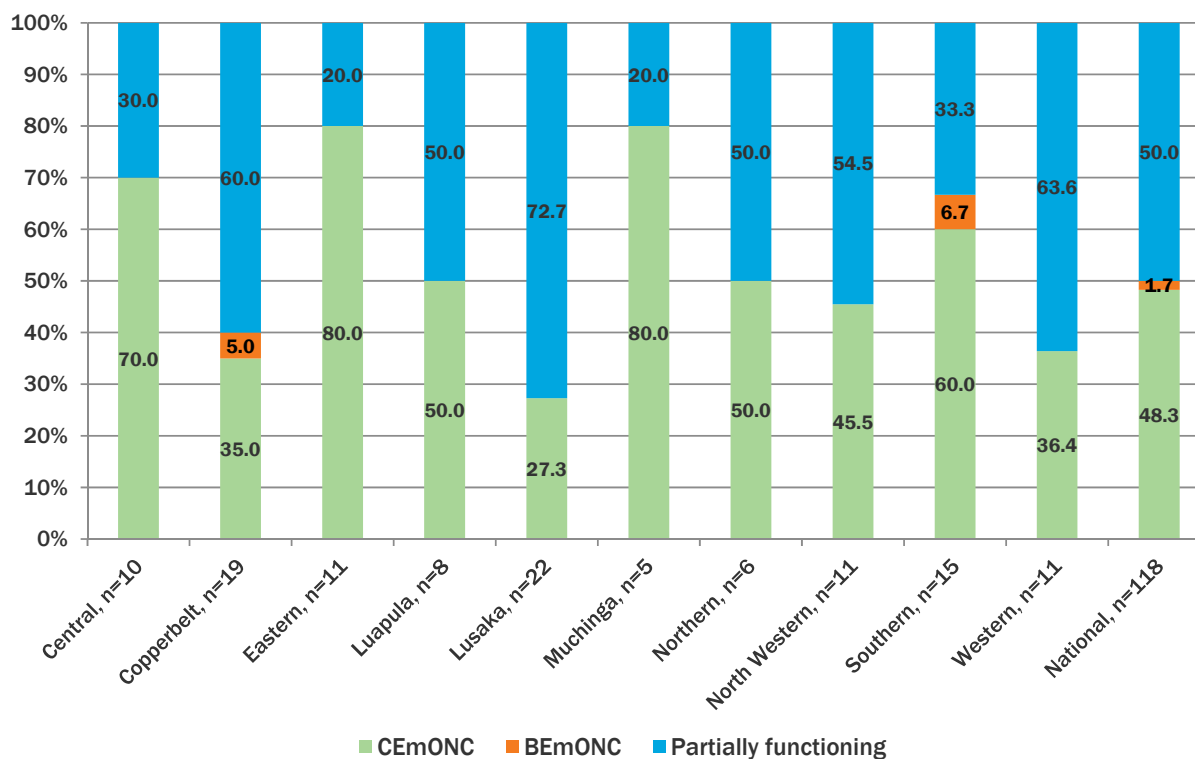


Figure 3: Number of missing signal functions in hospitals, by province, Zambia 2014-2015

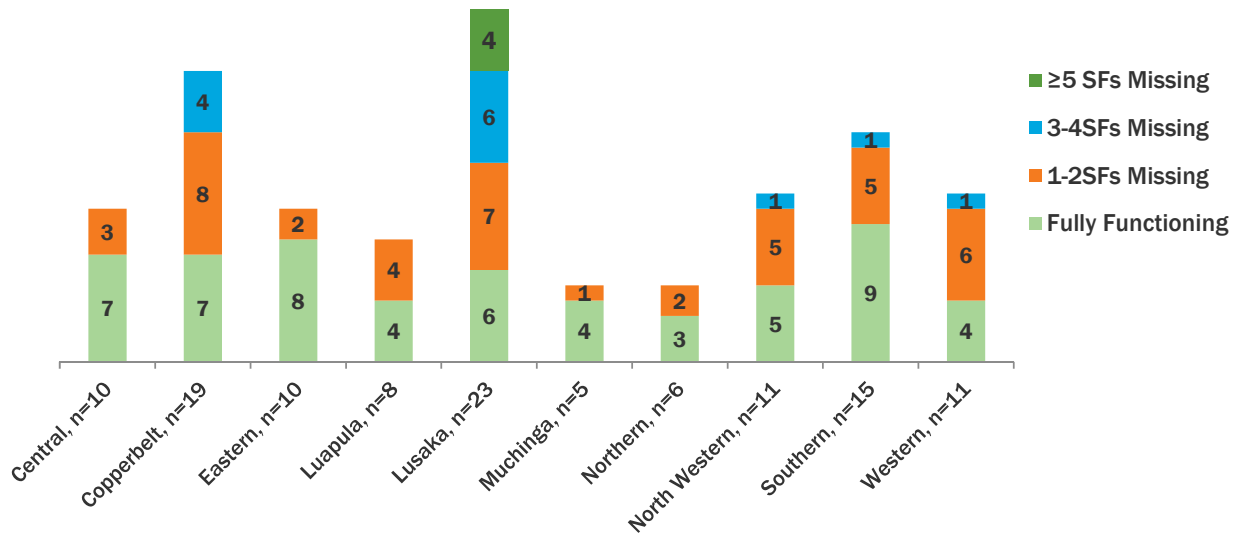
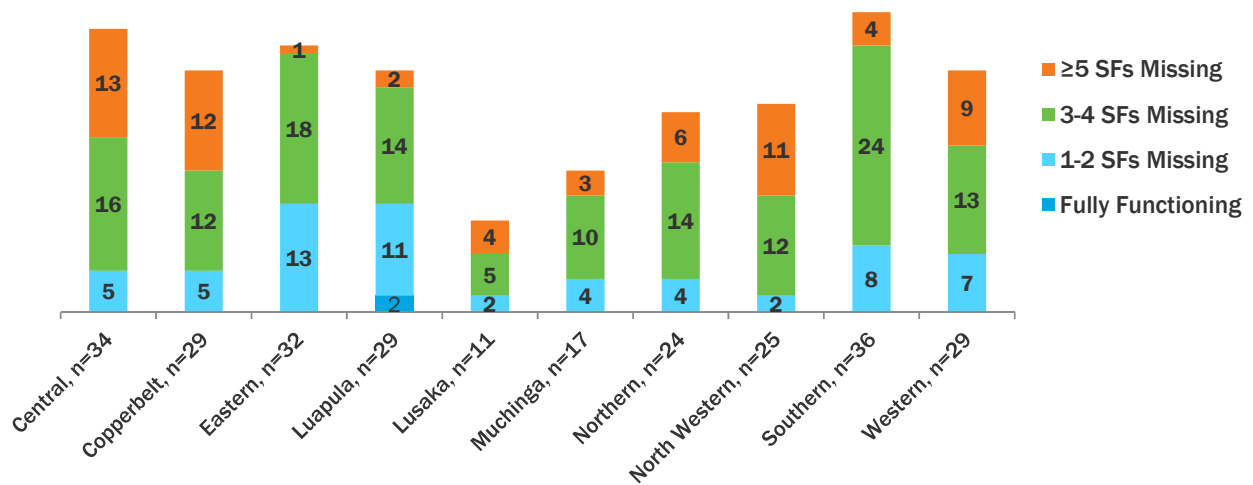


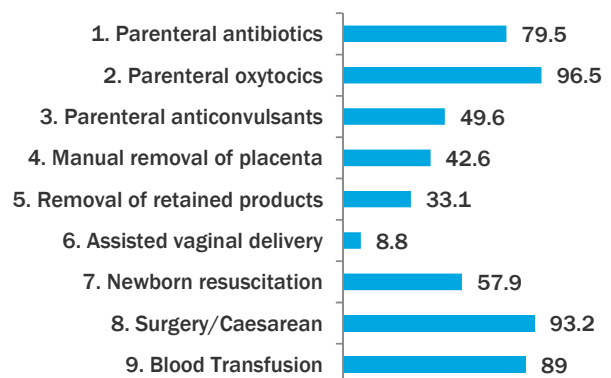
Figure 2: Number of missing signal functions in health centres, by province, Zambia 2014-2015



The signal functions performed most often in all facilities were parenteral oxytocics (96.5%) and parenteral antibiotics (79.5%). Less than half of all health facilities performed signal functions 3 through 6. The signal function performed least often was assisted vaginal delivery, in only 8.8% of facilities.

Of the 118 hospitals assessed nationwide, nearly all (93.2%) offered blood transfusions, and 89% performed Caesarean sections—signal functions 8 and 9 (Figure 4).

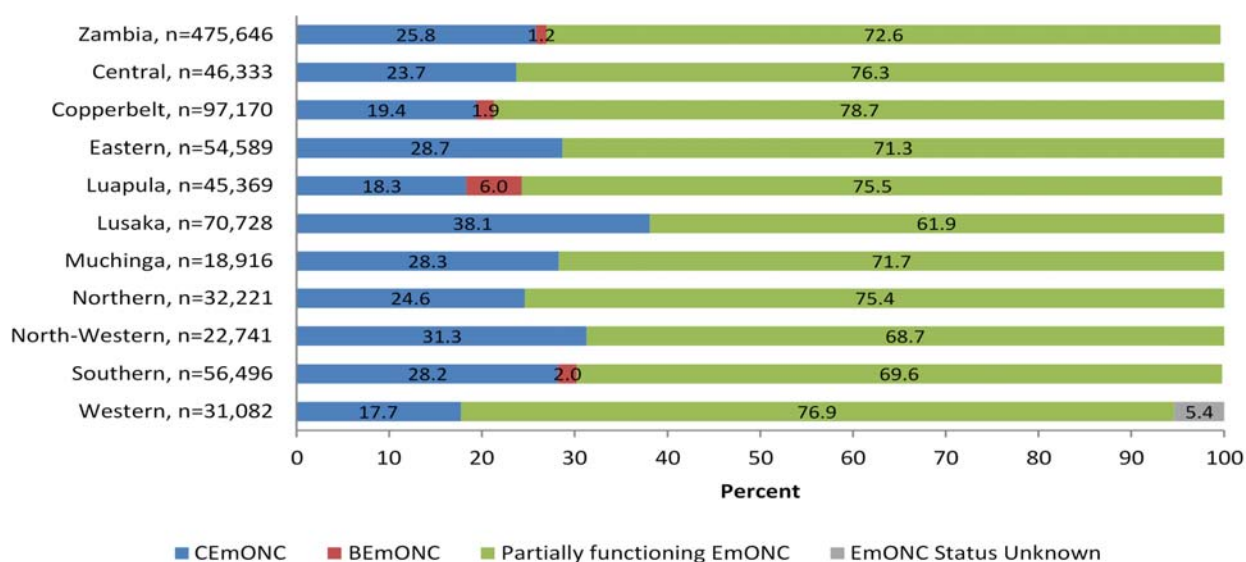
Figure 4: Percent of health facilities (n=384) offering signal functions 1 through 7, and of hospitals (n=118) offering 8, 9



FACILITY-BASED DELIVERIES

Few women deliver in EmONC facilities. To reduce maternal deaths, all births should ideally be in an EmONC facility, because they are equipped for life-saving services. Although almost three quarters (73.8%) of births in Zambia are in a health facility, only 25.8% of those were in a fully functioning CEmONC facility—and only 1.2% in a fully functioning BEmONC facility. A significant majority of EmONC facility births (72.6%) were in partially functioning facilities (Figure 5), that pose risks to mothers and unborn or newborn infants.

Figure 5: Percentage of deliveries in facilities, by EmONC status and province, Zambia 2014-2015



MATERNAL DEATHS

Women are still dying in childbirth, with most deaths in health facilities or at home (Figure 6). Maternal deaths among women admitted to a hospital with major direct obstetric complications, or who developed such complications after admission, were three times higher than the internationally accepted standard (Table 2). According to WHO, the acceptable international standard for direct obstetric case fatality rate (DOCFR, the number of women who die from obstetric complication while in hospital) is less than 1% (WHO et al 2009). In this assessment, 3.6% of women admitted to EmONC facilities with direct obstetric complications died, while 0.7% of those with direct complications admitted to partially functioning EmONC facilities died.

Figure 6: Maternal deaths, by place of death

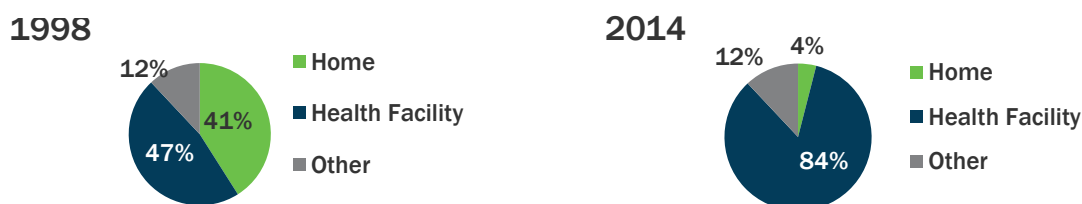


Table 2: Direct obstetric case fatality rate (DOCFR) in fully and partially functioning EmONC facilities, by province, 2014-2015

Province	EmONC Facilities			Partially Functioning EmONC facilities		
	Women (n) with direct complications	Maternal deaths by direct cause (n)	DOCFR (%)	Women (n) with direct complications	Maternal deaths by direct cause (n)	DOCFR (%)
National	9,761	355	3.6	13,853	99	0.7
Central	1,128	20	1.8	3,016	9	0.3
Copperbelt	1,307	39	3.0	3,428	33	1.0
Eastern	1,743	29	1.7	1,632	5	0.3
Luapula	780	52	6.7	829	6	0.8
Lusaka	1,376	94	6.8	2,164	94	4.3
Muchinga	820	11	1.3	403	11	2.7
Northern	423	14	3.3	666	14	2.1
North Western	549	9	1.6	506	9	1.8
Southern	1,292	84	6.5	521	84	16.1
Western	343	3	0.9	688	8	1.2

WHAT ARE THE LEADING CAUSES OF MATERNAL DEATHS IN ZAMBIA?

Maternal deaths result from both direct and indirect causes, and of the 759 maternal deaths recorded in Zambia in 2014-2015, direct complications were responsible for 65.9% (n=500), while indirect causes accounted for 30.3% (n=230); the remainder (3.7%, n=29) were of unknown cause.

Among direct causes, postpartum haemorrhage led to the highest proportion of maternal deaths, 21.8%, followed by pre-eclampsia/eclampsia (17.6%) and severe abortion complications (13.4%) (Figure 7). HIV was the highest indirect cause of maternal mortality (49.8%), followed by other indirect causes (30.3%) and severe anaemia (14.3%).

Figure 9: Percent distribution of direct maternal deaths, by cause (n=number of deaths out of 500)

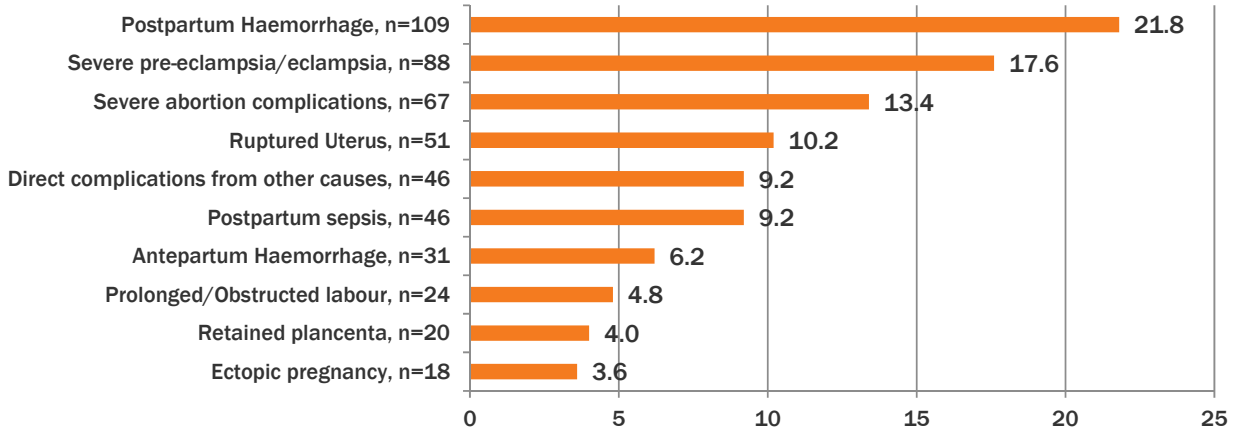
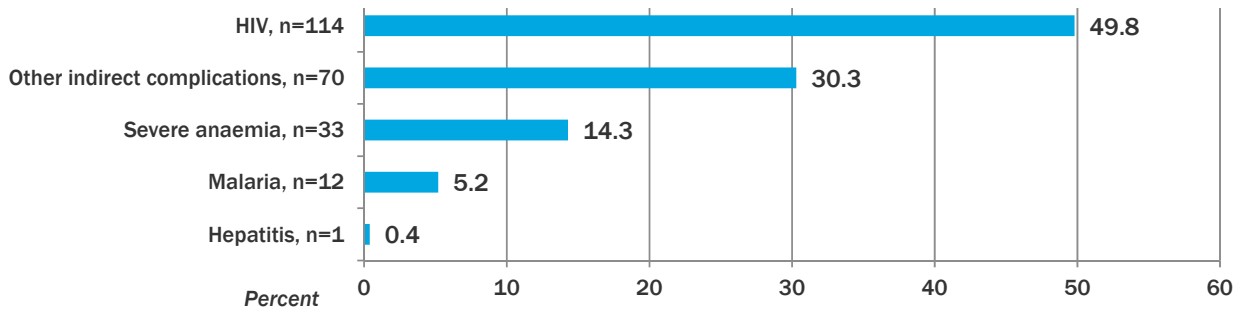


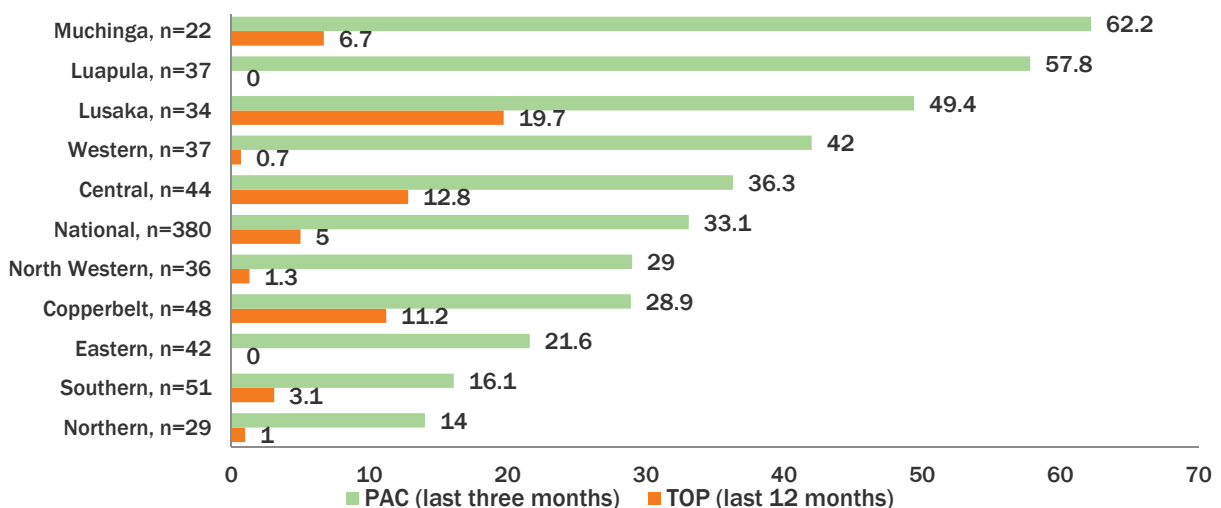
Figure 8: Percent distribution of indirect maternal deaths, by cause (n=230)



COMPREHENSIVE ABORTION CARE

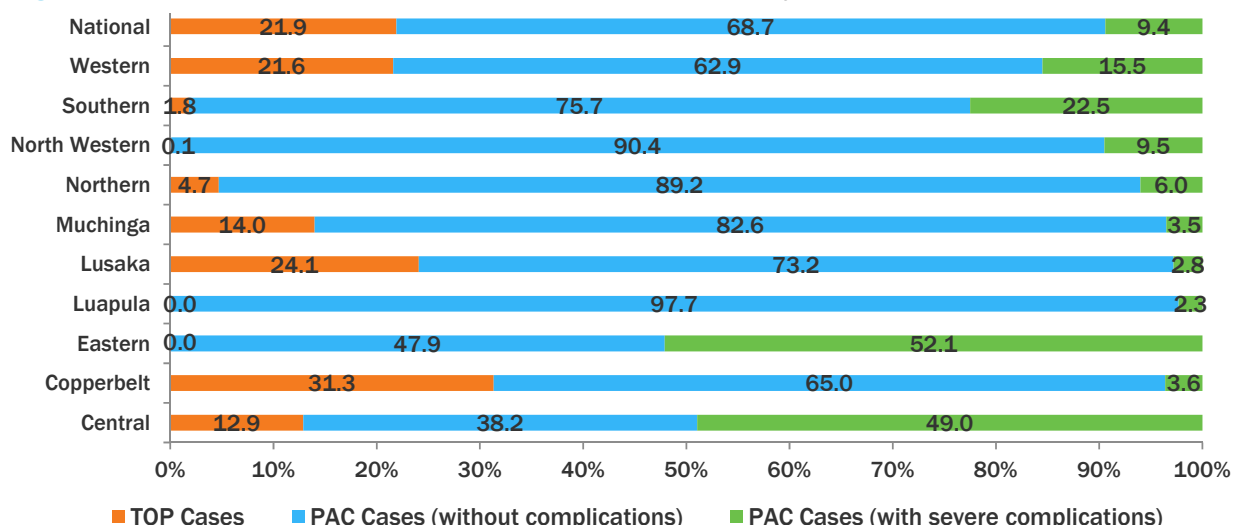
Although safe abortion is legal in Zambia under the Termination of Pregnancy Act of 1972, the findings show more women were seeking post-abortion care (PAC) than termination of pregnancy. Nationally, one third (33.1%) of health facilities have provided PAC services, while only 5% provide termination of pregnancy (Figure 9), suggesting that a great number of women are unsafely terminating pregnancy and requiring PAC.

Figure 7: Percentage of health facilities providing pregnancy termination and PAC services, by province, 2014-2015



The assessment also looked at abortions with severe complications. Figure 10 shows that 68.7% of all abortion care nationally involved PAC without severe complications, while 9.4% comprised PAC with severe complications. The remaining 21.9% of abortion care services were for termination of pregnancy at health facilities.

Figure 10: Proportion of abortion care with and without severe complications, by province



HUMAN RESOURCES CHALLENGES

Zambia has a shortage of EmONC providers, and trained EmONC providers—doctors (obstetricians/gynaecologists and general practitioners), associate clinicians (clinical officers and medical licentiates), anaesthetists, midwives, and nurses—are necessary for high quality EmONC services. Tables 4 and 5, respectively, show the shortfalls for doctors, clinicians, and anaesthetists, and for midwives and nurses. Nationally, of the 1,082 doctors needed, only 886 were available: a shortfall of 196 (-18.1%). Similarly, of 4,358 midwives needed, 3,857 were employed, a shortfall of 502 (-11.5%). Of 8,675 nurses required, only 7,748 were employed, a shortfall of 927 (-10.7%).

Table 4: Number of doctors, associate clinicians and anaesthetists in health facilities, by province, Zambia 2015-2015

	Doctors (Obstetricians, Gynaecologists General Practitioners)					Associate Clinicians (Clinical Officers, Medical Licentiates)				Anaesthetists			
	Facilities (n)	Needed (n)	Actual (n)	Gap (-) or Excess	Gap (%)	Needed (n)	Actual (n)	Gap (-) or Excess	Gap (%)	Needed (n)	Actual (n)	Gap (-) or Excess	Gap (%)
National Province	384	1,082	886	-196	-18.1	1,612	1,145	-467	-29.0	238	209	-29	-12.2
Central	44	81	51	-30	-37.0	189	132	-57	-30.2	14	19	5	35.7
Copperbelt	48	255	208	-47	-18.4	284	247	-37	-13.0	83	49	-34	-41.0
Eastern	42	57	39	-18	-31.6	157	96	-60	-38.2	31	14	-17	-54.8
Luapula	37	32	17	-15	-46.9	78	50	-28	-35.9	8	14	6	75.0
Lusaka	34	409	407	-2	-0.5	251	209	-43	-17.1	51	53	2	3.9
Muchinga	22	22	14	-8	-36.4	58	35	-23	-39.7	10	12	2	20.0
Northern	29	42	36	-6	-14.3	114	84	-30	-26.3	2	4	2	100.0
North-Western	36	64	39	-25	-39.1	83	39	-43	-51.8	9	7	-2	-22.2
Southern	51	87	57	-30	-34.5	235	166	-68	-28.9	24	29	5	20.8
Western	41	33	18	-15	-45.5	164	86	-77	-47.0	6	9	3	50.0

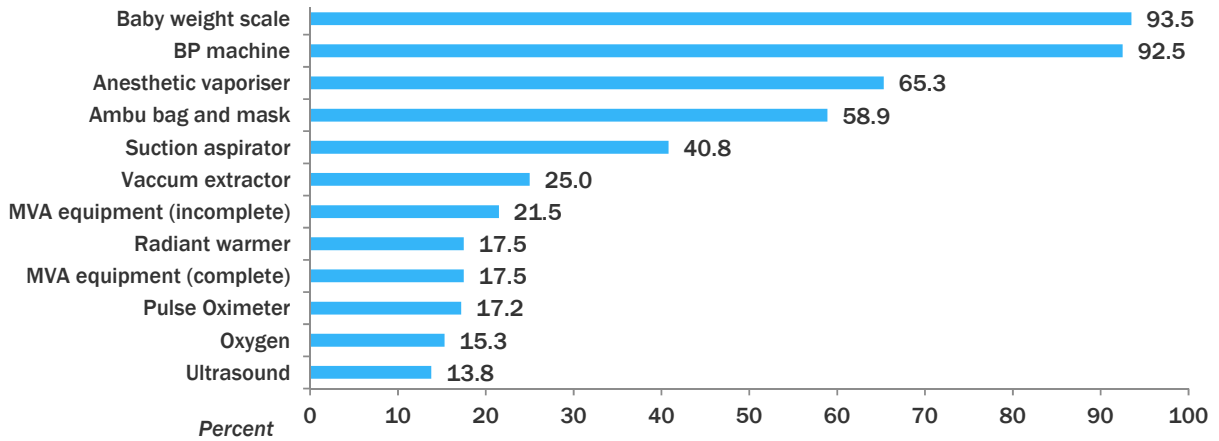
Table 3: Number of nurses and midwives in health facilities, by province, Zambia 2014-15

	Midwives					Nurses			
	Facilities (n)	Needed (n)	Actual (n)	Gap (-) or Excess	Gap (%)	Needed (n)	Actual (n)	Gap (-) or Excess	Gap (%)
National Province	384	4,358	3,857	-501	-11.5	8,675	7,748	-927	-10.7
Central	44	405	370	-35	-8.6	868	725	-143	-16.5
Copperbelt	48	1,067	1,203	136	12.7	1,936	1,927	-9	-0.5
Eastern	42	286	247	-39	-13.6	660	589	-71	-10.8
Luapula	37	154	145	-9	-5.8	629	426	-203	-32.3
Lusaka	34	901	720	-181	-20.1	1,580	1,490	-90	-5.7
Muchinga	22	190	112	-78	-41.1	292	205	-87	-29.8
Northern	29	206	152	-54	-26.2	384	370	-14	-3.6
North-Western	36	182	124	-58	-31.9	550	622	72	13.1
Southern	51	447	558	111	24.8	1,258	1,003	-255	-20.3
Western	41	194	226	32	16.5	517	391	-126	-24.4

AVAILABILITY OF SELECTED EQUIPMENT FOR EmONC SERVICES

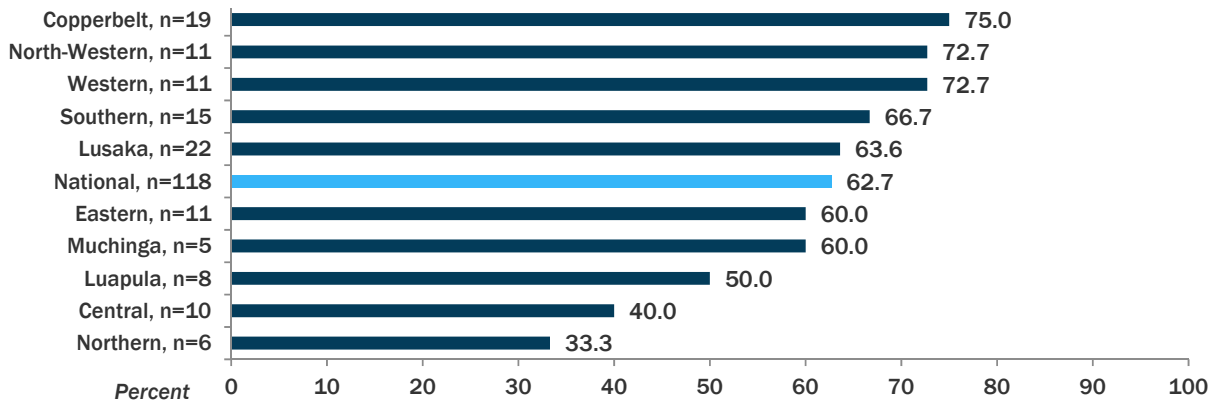
There is limited availability of critical equipment in EmONC facilities in Zambia. Less than half (40.8%) of facilities reported a suction aspirator among their equipment, while 58.9% had an Ambu bag and mask for neonates. Radiant warmers were less common, available in only 17.5% of facilities. Ultrasound equipment (13.8% of facilities) were least available, while oxygen was only available in 15.3% of facilities nationwide (Figure 11).

Figure 13: Percentage of facilities in Zambia reporting availability of selected equipment (n=384 facilities), 2014-2015



There was a similar lack of full Caesarean section (c-section) sets. For readiness for a c-section, a hospital must have at least one complete c-section set prepared at all times. Among hospitals that perform c-sections, only 62.7% had at least one complete c-section set at the time of the assessment (Figure 12).

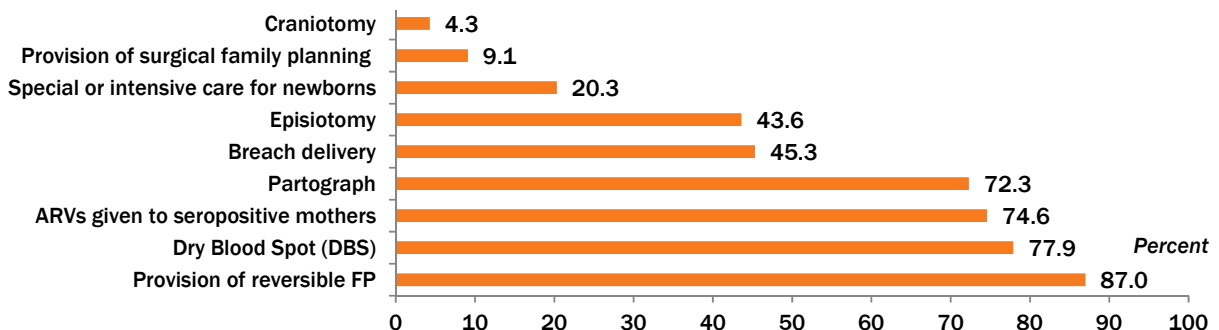
Figure 12: Percentage of hospitals with at least one complete caesarean section set, nationally and by province



PROVISION OF OTHER ESSENTIAL EmONC SERVICES

The assessment also evaluated facilities' maternal and child health (MCH) services, with facilities surveyed on specific essential EmONC services including breech delivery, pregnancy and labour monitoring using a partograph, HIV services to prevent mother-to-child transmission, special or intensive care for newborns, family planning (FP) options, and abortion care services. Figure 13 shows the distribution of these maternal and neonatal services, in all facilities nationwide. Almost three quarters (72.3%) of health facilities conducting deliveries reported using a partograph to monitor women in labour. Based on medical indication or demand, 45.3% of health facilities indicated breech deliveries, and 43.6% performed episiotomies in the three months preceding the assessment.

Figure 11: Percent of facilities (n=380) that provided essential maternal and newborn functions in the last 3 months, 2014-2015



CONCLUSION AND RECOMMENDATIONS

While GRZ has made significant efforts to implement EmONC services, significant challenges remain, as this 2014-2015 EmONC assessment reveals a severe shortage of EmONC facilities in the country. Basic and comprehensive EmONC services—BEmONC and CEmONC—were only partially available, and in every province, the recommended numbers of health facilities per district were met. GRZ's health facilities are not providing sufficient EmONC services to improve the country's maternal health outcomes. Many hospitals and health centres do not provide EmONC signal functions—either one or several—with limited capacities for other maternal health services such as partograph use for monitoring pregnancy and labour, or assisted vaginal delivery and newborn resuscitation. Many women are still dying in childbirth from preventable causes of deaths, which indicates low quality of service delivery.

Health facilities are not fully functioning as EmONC facilities primarily due to human resource constraints, such as lack of skilled personnel and poor training, in addition to insufficient drugs and equipment as well as lack of functioning theatres for Caesarean sections.

Although Zambia's 1972 Termination of Pregnancy Act permits safe abortion, few health facilities provide services for termination of pregnancy. This dearth of services is likely due to various reasons that include a lack of trained health care workers, particularly for termination of pregnancy, along with a lack of information among women that safe abortion is legal in Zambia, in addition to strong religious and traditional beliefs against abortion. High numbers of health facilities provide PAC services, suggesting that numerous women and girls terminate pregnancy in an unsafe manner and require PAC. Severe abortion complications account for 13.3% of direct causes of maternal deaths in Zambia. There is a need to ensure the prevention of unsafe abortion is part of Zambia's comprehensive maternal health program.

In general, women with obstetric complications remain at risk of dying during pregnancy, childbirth, and postpartum due to the shortcomings in Zambia's health care system. There is need to strengthen EmONC services as part of efforts to achieve the country's health goals, including reducing its maternal mortality ratio to less than 100 deaths per 100,000 live births.

Additional measures to reduce maternal and neonatal deaths through comprehensive EmONC include:

Suggested citation

Zambia Ministry of Health, UNFPA, Population Council. 2018. *National Emergency Obstetric and Newborn Care (EmONC) Needs Assessment 2014-2015 Policy Brief: Status of EmONC Services in Zambia*. Lusaka, Zambia

- **Invest in improving quality of care** throughout the country, in all EmONC facilities.
- **Ensure equitable geographic distribution of EmONC facilities:** The number of districts has increased from 74 in 2011 to 105 in 2018 and Zambia's population has increased to an estimated 15.5 million in 2015 (CSO 2015). GRZ should therefore re-calculate its EmONC facility targets for each district and ensure that the target number of EmONC facilities in each district is met. GRZ should mandate annual reporting by each district on the number of fully functional EmONC facilities and ensure EmONC facilities are key planning elements during annual planning meetings.
- **Build and strengthen EmONC health facilities' capacities for all required EmONC signal functions:** Many EmONC facilities—BEmONC and CEmONC—are only partially functioning, largely because they lack staffing and basic equipment for all required signal functions. Efforts must ensure that all necessary equipment and tools are procured, and that sufficient and qualified staff are employed to provide required signal functions. GRZ should comprehensively audit staffing at all EmONC facilities to establish knowledge and skills gaps, and design pre-and-in service training for trained and skilled EmONC providers. GRZ should also develop and disseminate EmONC service standards—which all EmONC providers should follow, and should be used for regular monitoring and evaluation. To ensure effective monitoring, GRZ should integrate signal functions within Zambia's Health Management Information System (HMIS), for regular reporting. Regular tracking of facilities' EmONC services will further strengthen facilities' abilities to provide quality EmONC services to all.
- **Strengthen referral systems among BEmONC and CEmONC facilities for prompt quality care:** More women die in CEmONC facilities (i.e. hospitals) than in BEmONC facilities (primarily health centres), which suggests that BEmONC facilities are referring more complicated cases to hospitals. To save lives, it is imperative that there are no delays in care for women presenting with obstetric complications, both at BEmONC and CEmONC facilities. Referral systems must be strengthened so timely referrals reduce lags between referring and receiving health facilities. Staff must be trained to identify, in a timely manner, complications they cannot handle, with transportation systems for referrals, in addition to effective communications among referring and receiving facilities prior to referrals so receiving facilities are prepared for new patients. Prompt access to good quality care should be available to pregnant women who are referred, or those presenting directly to these facilities, for urgent care.