REPORT

SEXUAL AND REPRODUCTIVE HEALTH COMMODITIES IN ZAMBIA: AVAILABILITY, STOCKOUTS AND AFFORDABILITY

sharp
Solutions for Supporting Healthy Adolescents

REPORT

SEXUAL AND REPRODUCTIVE HEALTH COMMODITIES IN ZAMBIA: AVAILABILITY, STOCKOUTS AND AFFORDABILITY

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1. EXECUTIVE SUMMARY

Access to medicines and medical commodities forms a crucial building block of health systems, and sexual and reproductive health (SRH) is a field of care which lies at the basis of healthy societies. Unfortunately, Zambia, with a maternal mortality rate of 252 per 100,000 live births and a low modern contraceptive use rate, experiences challenges with the adequate provision of SRH services and commodities. Therefore, this study was conducted to measure the availability, stockouts and affordability of 52 SRH commodities in 133 health facilities from the public, private and faith-based sectors across Luapula and Southern provinces. Stockouts were defined as the number of days during a 12-month period that a commodity that is normally available and stocked, was not available at the facility. Affordability was calculated using the wage of the lowest-paid unskilled government worker (LPGW) of 43.33 ZMW per day. If the treatment or cure cost more than a day's wage, it was considered unaffordable. The findings of this study can be used to develop evidence-based policies to improve the SRH of women and adolescents.

Availability

Availability of family planning (FP) commodities in the public sector was suboptimal: only male condoms were available at more than 80% of health facilities. In the private and faith-based sectors none of the FP commodities reached the 80% availability benchmark set by the World Health Organization.

Of the maternal health (MH) commodities, only folic acid had a high (>80%) availability in the public sector, while in the faith-based sector oxytocin, folic acid and dexamethasone reached an 80% or higher availability. In the private sector none of the MH commodities reached 80%. The availability of misoprostol was critically low in the public (13.8%) and private (4.3%) sectors.

Availability of sexually transmitted infection (STI) treatment commodities was especially low in the public sector. Only doxycycline had an 80% or higher availability, while six of the nine commodities had an availability of less than 50%. In the private sector, availability of STI treatment commodities was higher than those of the other services. In the faith-based sector availability was also relatively high, with four of nine commodities having an 80% or higher availability.

The availability of HIV/AIDS medications was low across the sectors. PrEP was found in 61.3% of public facilities, and only 21.1% of private facilities. Other commodities' availability in the public sector ranged from 0.0%-77.5%, and in the private sector from 0.0%-36.8%.

Of the kits, pregnancy tests had a low availability in the public (8.8%) and faith-based (14.3%) sectors, and higher in the private sector (58.7%). HIV self-tests were available at 28.6%-42.5% of facilities.

Stockouts

Across the public, private and faith-based sectors, stockouts of all types of commodities were very common. For instance, eight of 12 FP commodities in the public sector and seven of 10 FP commodities in the private sector experienced stockouts at more than one-third of facilities. Stockouts of MH commodities in the public sector were even worse: nine of 11 commodities experienced stockouts at more than 50% of facilities. Similar stockout patterns were found in the private sector. Regarding STI treatment commodities, in the public sector seven of nine commodities were stocked out at more than 80% of facilities. HIV/AIDS commodities were less commonly stocked out than other commodities across the sectors.

Affordability

In the public sector, all commodities were free to the patient. In the other sectors patients had to pay for most of the commodities. In the private sector, two FP commodities, six MH commodities, one STI treatment commodity, one HIV/AIDS medication, and all menstrual hygiene products and kits were unaffordable. In the faith-based sector, all FP commodities were affordable, while one MH commodity, one STI treatment commodity, and sanitary pads were unaffordable.

Recommendations

This study has shown that access to SRH commodities should be improved in Luapula and Southern provinces in Zambia. The following recommendations are made that can help improve access:

- The government, through the Ministry of Health, should devise policies that will enhance and promote wider private sector investment in the provision of quality and affordable health services, especially in the rural areas. This could be done through reductions and waiving of statutory fees and taxes for businesses being established in rural areas, and facilitation of reimbursements through the national health insurance management authority scheme.

- The Ministry of Health should work with stakeholders to call for a review of restrictive policies and legal frameworks to ensure commodities and adolescent sexual and reproductive health and rights are prioritised at all levels of interventions, including schools, health facilities and in communities at large.

- A more robust and responsive system should be worked out to efficiently deliver commodities to rural health facilities. The Ministry of Health should conduct an in-depth review of the Health Sector Supply Chain Strategy and Implementation Plan 2019-2021 in order to identify and address problems with the availability of essential medicines at the health facility level.

- Availability of injectables and oral contraceptives was suboptimal, even though they are the preferred family planning commodities in Zambia. The government should ensure the availability of these commodities. A tool to do that is to increase the Government's and cooperating partners' allocations towards family planning commodities.

- Availability of STI commodities was low, and stockouts were common. Commodities for the treatment of STIs are the primary responsibility of the Government and procured from the national drug fund. An increase in the national budget for commodities through creation of adequate and sustainable financing by establishment of a seed fund to Zambia Medicines and Medical Supplies Agency (ZAMMSA) will ultimately lead to increased availability of essential medicines, especially for STI treatment, and enhanced commodity security at both central and facility level.

- Antiretroviral commodities used for HIV/AIDS treatment did not reach an 80% or higher availability in the public sector. Antiretroviral commodities are largely supported by the US government agencies. The Government and cooperating partners should increase support towards HIV/AIDS treatment to help people avoid HIV infection and increase access to life-saving HIV services.

- There is a need for affirmative action to work with adolescents and youths and ensure they meaningfully participate in policy decision-making of the review of laws and policies for improved availability and access for adolescents to reproductive health care and related services.

2. BACKGROUND

Good sexual and reproductive health (SRH) is "a state of complete physical, mental and social well-being in all matters relating to the reproductive system" for both men and women, including adolescents (UNFPA, 2022). Maintaining good SRH means people need access to accurate information and to safe, effective, affordable and acceptable contraception methods of their choice. They must be informed and empowered to protect themselves from sexually transmitted infections (STIs) and, when necessary, receive timely and affordable treatment. And when they decide to have children, women must have access to services that ensure they have a fit pregnancy, safe delivery and healthy baby. Every individual has the right to make their own choices about their SRH and family planning.

Despite all efforts, worldwide, more than 800 women a day die due to complications related to pregnancy and childbirth, and annually an estimated 5.3 million children do not reach the age of five, with half of these deaths occurring in sub-Saharan Africa (WHO, 2018; UN IGME, 2019). Research has estimated that the lives of four million women, newborns and children in sub-Saharan Africa could be saved per year if coverage of interventions such as emergency obstetric care, breastfeeding counselling, and treatment for infections such as diarrhoea and pneumonia increased to 90% of families (Friberg et al., 2010). In 2016 alone, an estimated 376 million new cases of STIs occurred (WHO, 2018). For some of these STIs, such as syphilis, sub-Saharan Africa again suffers the highest burden globally.

Access to medicines and medical commodities forms a crucial building block of health systems. Without proper access to quality-assured and safe medicines, people are not able to live in optimal health. SRH is a field of care which lies at the basis of healthy societies. The World Health Organization (WHO) Model List of Essential Medicines lists medicines and commodities which are essential to the provision of quality SRH care (WHO, 2021).

The global population of adolescents stands at 1.2 billion, representing 17% of the world population. Eighty-five percent of these are in low- and middle-income countries (WHO, 2014). In Zambia, adolescents (10-19 years) represent more than 25% of the population (Zambia Statistics Agency, 2020). Unfortunately, Zambia still experiences challenges with the adequate provision of SRH services and commodities, especially to adolescents. The maternal mortality rate is estimated to be 252 per 100,000 live births, while the prevalence of modern contraceptive use continues to be low, with about 50% and 44% of married and unmarried women aged 15-49 years, respectively, using a modern contraceptive (Zambia Statistics Agency, 2020). Among unmarried adolescents aged 15-19 years, there is an unmet need for family planning of 59% (Zambia Statistics Agency, 2020). In the last Zambia Demographic and Health Survey, despite universal knowledge of HIV/AIDS, only 33%-39% of young women aged 15-24 years, and 41%-49% of young men, reported having used a condom at last sexual intercourse, putting themselves at risk of not only HIV, but also unplanned pregnancy (Zambia Statistics Agency, 2020). To increase adolescents' access to and use of health services, the Ministry of Health developed National Standards and Guidelines for Provision of Adolescent-Friendly Health Services (AFHS) in 2009.

Underlying causes for poor SRH status vary. However, it is clear that stronger health systems, including adequate numbers of qualified health workers and access to essential sexual and reproductive health commodities (SRHC), are urgently needed to address the unmet needs. It is well-documented that availability and adequate access to proven low-cost SRHC have the potential to save many lives and contribute to the fundamental human right of access to healthcare without adverse economic effects on the individual, family, and society (Pronyk et al, 2016).

This research was therefore conducted to study the availability, affordability and stockouts of 52 SRH commodities which are used for family planning, maternal healthcare, treatment of STIs, treatment of HIV/AIDS, in addition to several test kits and menstrual products, in Luapula and Southern provinces in Zambia. This research is essential as it creates a clear overview of the availability and affordability of a comprehensive package of essential SRH commodities in Zambia, which will contribute to the development of evidence-based policies to improve the SRH of women and adolescents.

3. RESEARCH METHODOLOGY

This study was conducted by Medicines Research and Access Platform (MedRAP) and Health Action International (HAI) as part of the Solutions for Supporting Healthy Adolescents and Rights Protection (SHARP) programme, funded by the European Union. The research was approved by ERES IRB and the National Health Research Authority (reference number NHRA0000007/19/10/2022) and was supported by the Zambia Ministry of Health.

This study used an adapted version of the HAI/WHO Methodology (WHO & HAI, 2008). Teams of data collectors visited 133 health facilities from the public, private and faith-based sectors to survey the availability, stockouts and patient prices of 52 medicines, test kits, and menstrual hygiene products. An overview of all surveyed commodities can be found in Annex 1.

Public Sector: Facilities that are run and funded by the national government. Medicines in this sector are often low cost or free of charge.

Private Sector: Licensed retail pharmacies, private healthcare centres and private hospitals. The private sector does not include unlicensed drug stores, drug sellers in the informal sector, or health facilities operated by private companies, such as mining companies.

Faith-based Sector: Facilities that are run by religious organisations, such as church missions.

The study sample included health facilities from urban as well as rural areas, ranging from pharmacies to teaching hospitals. Availability of most commodities was measured from health post/clinic level and up in the public sector, and from pharmacy level and up in the private and faith-based sector. In addition, stock cards or stock databases were reviewed to record information on stockouts of the surveyed products over a 12-month period prior to data collection. Finally, price information, in combination with the wage of a lowest-paid unskilled government worker (LPGW) of 43.33 ZMW per day (Government of the Republic of Zambia, 2022), was used to calculate affordability of commodities. If a commodity cost more than a day's wage for an LPGW per month, it was considered unaffordable. Table 1 provides an overview of the study sample.

Table 1. Study sample.

	Public	Private	Faith-based	Total
Urban	25	37	2	**64**
Rural	55	9	5	**69**
Total	**80**	**46**	**7**	**133**

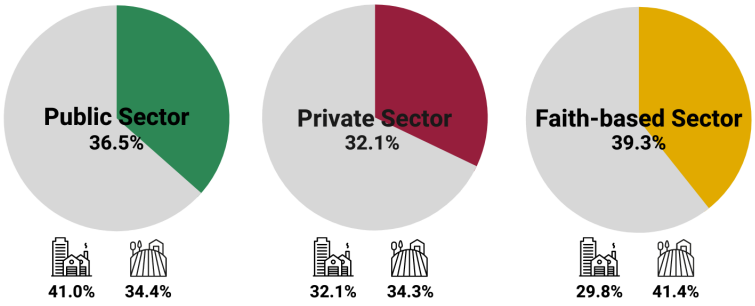
4. FINDINGS

Page 8 of the report presents the findings on the availability of all 52 surveyed commodities combined and compares the different sectors. Pages 8-22 provide the availability and affordability for individual commodities, per commodity group. A detailed overview of average availability, stockouts, and affordability of all surveyed commodities, across sector and location, can be found in Annex 2.

SRH COMMODITY AVAILABILITY AT A GLANCE

In Zambia, the overall availability across the sectors was 36.4%. The faith-based sector had an overall availability of 39.3% (see Figure 1). However, the sample only included seven faith-based health facilities, so this finding should be interpreted with caution. The public sector had a better availability than the private sector (36.5% vs 32.1%). Availability was generally better in public, urban health facilities than in public, rural health facilities (41.0% vs 34.4%). In the private sector the availability in urban vs rural facilities was more or less the same.

Figure 1. Overall availability comparing the public, private and faith-based sectors.



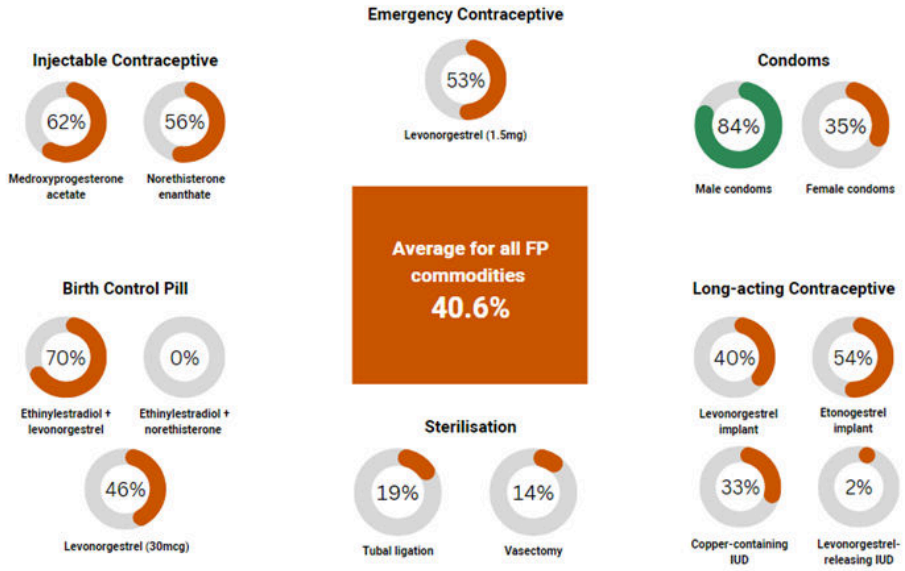
FAMILY PLANNING

Family planning (FP) commodities are products which allow individuals to plan their pregnancy. To have the choice and freedom to decide on pregnancy promotes several human rights and advances health outcomes (Cook, 1983; WHO, 2014). FP commodities have varying regimens and lengths of effectiveness: e.g., the birth control pill needs to be taken daily, injectables need one injection every two or three months, while implants and intra uterine devices (IUDs) are effective for a long time and can stay in for about five years. Condoms are the only contraceptives which protect against both pregnancy and STIs at the same time (WHO, 2020). Vasectomy and tubal ligation are services that allow people the decision to not have any (more) children.

Availability

When looking at availability of FP commodities taken together, only male condoms had an availability of 80% or higher in Zambia (see Figure 2). Highest availability of the other FP commodities was found for ethinylestradiol + levonorgestrel, and the two injectable contraceptives. Eight of the 14 FP commodities had an availability of less than 50%.

Figure 2. Availability of FP commodities



In the public sector, only male condoms had an 80% or higher availability (see Table 2). Four of 14 family planning commodities in the public sector were available at 75% or more of the facilities. Namely, ethinylestradiol + levenorgestrel, medroxyprogesterone acetate, norethisterone acetate, and male condoms. None of the health facilities had ethinylestradiol + norethisterone available, while levonorgestrel-releasing IUDs, copper-containing IUDs, and vasectomy or tubal ligation services also had a very low availability.

None of the commodities had an 80% or higher availability in the private sector. Highest availability was found for male condoms, followed by ethinylestradiol + levenorgestrel, vasectomy services, and the emergency contraceptive levonorgestrel 1.5mg. Ten of 14 family planning commodities had an availability of less than 50%, with seven even having an availability of less than 25%. In the faith-based sector availability was low for all family planning commodities.

Table 2. Availability of family planning commodities, per sector.

	Public (%)	Private (%)	Faith-based* (%)
Ethinylestradiol + levonorgestrel	77.5	63.0	28.6
Ethinylestradiol + norethisterone	0.0	0.0	0.0
Levonorgestrel (30 mcg)	57.5	30.4	14.3
Levonorgestrel (1.5 mg)	56.3	52.2	14.3
Medroxyprogesterone acetate	75.0	47.8	14.3
Norethisterone enanthate	75.0	23.9	42.9
Implants: levonorgestrel	48.8	10.5	16.7
Implants: etonogestrel	62.5	26.3	33.3
Copper-containing IUD	38.8	21.1	0.0
Levonorgestrel-releasing IUD	2.5	0.0	0.0
Male condoms	91.3	78.3	42.9
Female condoms	50.0	10.9	14.3
Vasectomy services[a]	25.0	63.0	28.6
Tubal ligation services[a]	41.7	0.0	0.0

[a]Available from clinics and Level 1 facilities and higher.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Stockouts

A stockout is defined as the number of days during a 12-month period that a commodity that is normally available and stocked, was not available at the facility. Stock information was recorded in 78.2% of all surveyed facilities. Broken down into the surveyed sectors, the percentages are 98.8% for public, 39.1% for private, and 100.0% for faith-based facilities. Stockouts of family planning commodities were very common (see Table 3). In the public sector, all FP commodities experienced stockouts, and these occurred often. Ethinylestradiol + norethisterone (birth control pill) was stocked out at all health facilities, and these stockouts lasted on average 51 days. Levenorgestrel (1.5mg), levonorgestrel-releasing IUD, medroxyprogesterone acetate and ethinylestradiol + levonorgestrel were also very often stocked out. Stockouts lasted on average more than two or three months, sometimes even four months, in the public sector. In the private sector, the copper-containing IUD, medroxyprogesterone acetate, male condoms and ethinylestradiol + levonorgestrel were stocked out at 43%-60% of facilities. Even female condoms, levonorgestrel implants and levonorgestrel (1.5mg) were stocked out at one-third of the health facilities. Again, stockouts lasted at times for months on average: levonorgestrel (1.5mg) was stocked out for three months on average, and levonorgestrel implants for four months on average. In the faith-based sector, stockouts were very lengthy, with medroxyprogesterone stocked out for the entire twelve months at one of the facilities.

Table 3. Stockouts of family planning commodities at health facilities, and average number of stockout days per stockout, per sector.

	Public			Private			Faith-based		
	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days
Ethinylestradiol + levonorgestrel	*63*	49.2	68	*7*	42.9	50	*3*	100.0	218
Ethinylestradiol + norethisterone	*4*	100.0	51	*0*	ND	ND	*1*	100.0	132
Levonorgestrel (30 mcg)	*52*	28.8	76	*9*	11.1	63	*2*	50.0	135
Levonorgestrel (1.5 mg)	*45*	68.9	99	*3*	33.3	89	*1*	0.0	-
Medroxyprogesterone acetate	*64*	59.4	105	*11*	45.5	77	*2*	50.0	365
Norethisterone enanthate	*61*	32.8	66	*7*	28.6	22	*3*	33.3	10
Implants: levonorgestrel	*56*	42.9	119	*3*	33.3	123	*1*	0.0	-
Implants: etonogestrel	*53*	35.8	69	*6*	16.7	25	*2*	0.0	-
Copper-containing IUD	*38*	36.8	56	*5*	60.0	79	*0*	ND	ND
Levonorgestrel-releasing IUD	*5*	60.0	125	*0*	ND	ND	*0*	ND	ND
Male condoms	*74*	21.6	70	*7*	42.9	28	*3*	0.0	-
Female condoms	*40*	15.0	89	*3*	33.3	12	*1*	0.0	218

HFs: Health facilities. ND: No data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Affordability

All FP commodities were free to the patients in health facilities from the public and faith-based sectors (see Table 4). In the private sector, all short-acting FP commodities, such as the birth control pills, emergency contraceptive (levonorgestrel 1.5mg), and male and female condoms cost less than a day's wage for an LPGW. Medroxyprogesterone and norethisterone enanthate, both injectable contraceptives, were also affordable to an LPGW, as were etonogestrel implants. Only levonorgestrel implants and copper-containing IUDs cost more than a day's wage.

Table 4. Affordability of FP commodities.

	Public	Private	Faith-based*
Ethinylestradiol + levonorgestrel	0 days	0.27 days	0 days
Levonorgestrel (30 mcg)	0 days	0.25 days	0 days
Levonorgestrel (1.5 mg)	0 days	0.55 days	-
Medroxyprogesterone acetate	0 days	0.96 days	0 days
Norethisterone enanthate	0 days	0.50 days	0 days
Implants: levonorgestrel	0 days	2.31 days	0 days
Implants: etonogestrel	0 days	0.97 days	0 days
Copper-containing IUD	0 days	2.88 days	-
Levonorgestrel-releasing IUD	0 days	-	-
Male condoms	0 days	0.03 days	0 days
Female condoms	0 days	0 days	0 days

NB: Pricing information for ethinylestradiol + norethisterone was unavailable in all three sectors and is therefore not shown.

-: No pricing data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

MATERNAL HEALTH

Maternal health commodities represent a diverse group of products used to treat health conditions that affect women during pregnancy, childbearing, and postnatally. In many contexts, during this period women are at an increased risk of negative health outcomes that can be avoided with the right treatment and care (WHO, 2023). Under maternal health commodities fall diverse medicines with different uses; examples are supplements which are used to prevent iron and folic acid deficiencies, conditions associated with adverse pregnancy outcomes to the mother and foetus (WHO, 2012); medicines such as oxytocin and misoprostol, used to prevent post-partum haemorrhage, the leading cause of maternal deaths in the Sub-Saharan Africa region (Say, 2014); and medicines to treat pregnancy-related hypertension, also called (pre)-eclampsia, including methyldopa and magnesium sulphate.

Availability

The average availability of maternal health commodities was 34.1% (see Figure 3). Only folic acid had an 80% or higher availability. Ergometrine and carbetocin were unavailable at all surveyed health facilities.

When looking at the availability per sector, some differences in availability are apparent (see Table 5). Availability of maternal health commodities was especially low in the private sector: only folic acid tablets and ferrous salt tablets had a relatively high availability. Oxytocin had a high availability in faith-based (83.3%) and public (71.3%) facilities, but a much lower availability in private facilities (15.8%). Misoprostol, an alternative for post-partum haemorrhage treatment, was available in only 4.3% of private facilities, in 13.8% of public facilities, and available in 66.7% of faith-based facilities. Magnesium sulphate had a comparable availability in the public and faith-based sectors (around 67%), but again a low availability in the private sector.

Figure 3. Availability of maternal health commodities.

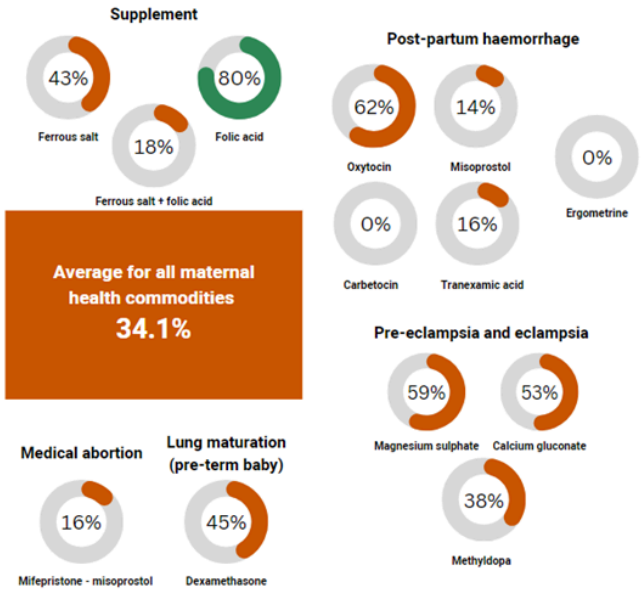


Table 5. Availability of maternal health commodities, per sector.

	Public (%)	Private (%)	Faith-based* (%)
Oxytocin	71.3	15.8	83.3
Misoprostol	13.8	4.3	66.7
Carbetocin	0.0	0.0	0.0
Tranexamic acid	8.8	21.7	57.1
(methyl)ergometrine[a]	0.0	-	0.0
Mifepristone - misoprostol	15.0	17.4	14.3
Magnesium sulphate	67.5	21.1	66.7
Calcium gluconate[b]	58.3	0.0	60.0
Ferrous salt	25.0	71.7	57.1
Folic acid tablet	80.0	78.3	85.7
Ferrous salt and folic acid	15.0	26.1	0.0
Dexamethasone	47.5	34.8	85.7
Methyldopa	32.5	41.3	71.4

-: No data available. No health facilities were surveyed that ought to supply this commodity.

[a]Available from Level 2 facilities and higher.

[b]Available from Level 1 facilities and higher.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Stockouts

Stockouts were very common in the public sector. Only oxytocin and magnesium sulphate were stocked out at less than 50% of health facilities, but stockouts still occurred at 28.3% and 31.4% of health facilities, respectively. Misoprostol, tranexamic acid and methyldopa experienced stockouts at about 75% of health facilities, with stockouts lasting on average 82 to 168 days. Mifepristone-misoprostol, ferrous salt and ferrous salt + folic acid had stockouts at almost 90% of health facilities. Stockouts again lasted for a long time, ranging from 71 days to 146 days.

In the private sector, stockouts were also common. Oxytocin, tranexamic acid, and calcium gluconate experienced 100% stockouts. These stockouts did not last as long as in the public sector, ranging from 12 days for calcium gluconate, to 33 days for tranexamic acid. The faith-based sector experienced stockouts commonly for ferrous salt + folic acid, mifepristone – misoprostol, calcium gluconate, methyldopa and ferrous salt.

Table 6. Stockouts of maternal health commodities at health facilities, and average number of stockout days per stockout, per sector.

	Public			Private			Faith-based		
	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days
Oxytocin	*53*	28.3	37	*2*	100.0	17	*5*	0.0	-
Misoprostol	*23*	73.9	111	*0*	ND	ND	*4*	0.0	-
Tranexamic acid	*11*	72.7	82	*1*	100.0	33	*5*	40.0	177
Mifepristone - misoprostol	*9*	88.9	71	*1*	0.0	-	*3*	66.7	81
Magnesium sulphate	*51*	31.4	70	*5*	40.0	34	*6*	33.3	83
Calcium gluconate	*15*	60.0	61	*1*	100.0	12	*5*	60.0	132
Ferrous salt	*49*	89.8	146	*12*	41.7	48	*6*	50.0	60
Folic acid tablet	*71*	60.6	77	*12*	33.3	44	*7*	28.6	63
Ferrous salt and folic acid	*29*	89.7	127	*8*	50.0	40	*1*	100.0	31
Dexamethasone	*54*	57.4	101	*10*	60.0	18	*6*	16.7	14
Methyldopa	*39*	71.8	168	*8*	50.0	45	*5*	60.0	53

NB: Stock information for carbetocin and (methyl)ergometrine was unavailable in all three sectors and is therefore not shown.

HFs: health facilities; ND: No data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Affordability

In the public sector all maternal health commodities were free to the patient. In the faith-based sector six of the commodities were for free, two were affordable, while methyldopa cost 2.49 days of wages.
In the private sector, none of the commodities were free to the patient. Five of eleven maternal health commodities were affordable: oxytocin, calcium gluconate, and the supplements. Mifepristone – misoprostol cost more than seven days of wages, a month's treatment of methyldopa more than eight, while magnesium sulphate cost 31.16 days of wages for an LPGW.

Table 7. Affordability of maternal health commodities.

	Public	Private	Faith-based*
Oxytocin (10 IU in 1ml)	0 days	0.12 days	0 days
Misoprostol (200mcg)	0 days	1.44 days	0 days
Tranexamic acid (100mg/ml in 10ml)	0 days	1.21 days	0 days
Mifepristone - misoprostol (200mg + 200mcg)	0 days	7.07 days	-
Magnesium sulphate (0.5mg/ml)	0 days	31.16 days	0 days
Calcium gluconate (100mg/ml in 10ml)	0 days	0.69 days	0 days
Ferrous salt (200mg)	0 days	0.58 days	0.14 days
Folic acid (5mg)	0 days	0.33 days	0.03 days
Ferrous salt and folic acid (60mg + 400mcg)	0 days	0.46 days	-
Dexamethasone (4mg/ml)	0 days	1.98 days	0 days
Methyldopa (250mg)	0 days	8.33 days	2.49 days

NB: Pricing information for carbetocin and (methyl)ergometrine was unavailable in all three sectors and is therefore not shown.
-: No pricing data available.
*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

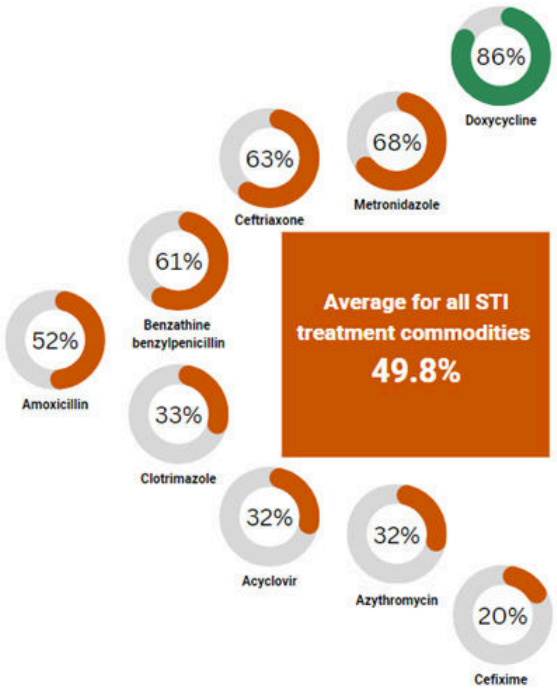
STI TREATMENT

Commodities for the treatment of STIs represent a basket of medicines to treat common STIs, such as chlamydia, gonorrhoea and syphilis. Since many STIs are caused by bacteria, the majority of surveyed medicines are antibiotics (WHO, 2022). Often, multiple types of antibiotics can be used to treat a certain STI. In addition, one antiviral and one antifungal medicine were surveyed, which can be used to treat genital herpes and *Candida albicans* (yeast infection), respectively.

Availability

In Zambia in general, only one of the nine surveyed STI treatment commodities, doxycycline, had an 80% or higher availability (see Figure 4). Four of the STI treatment commodities were available at less than one-third of the facilities.

Figure 4. Availability of STI treatment commodities.



Availability of STI treatment commodities was especially low in the public sector (see Table 8). Only doxycycline had an 80% or higher availability, while six of the nine commodities had an availability of less than 50% (see Table 8). Clotrimazole, acyclovir, azithromycin and cefixime had an availability of around 10% or less.
In the private sector, availability of the STI treatment commodities was much higher. Metronidazole, benzathine benzylpenicillin and doxycycline had an availability of 80% or higher, with amoxicillin having an availability of 78.3%. The other commodities ranged in availability from 56.5% (cefixime) to 65.2% (clotrimazole, acyclovir and azithromycin).

In the faith-based sector availability was also relatively high: four of nine commodities had an availability of 80% or higher, with three additional commodities having an availability of more than 50%.

Table 8. Availability of STI treatment commodities, per sector.

	Public (%)	Private (%)	Faith-based* (%)
Metronidazole	60.0	80.4	85.7
Clotrimazole	12.5	65.2	57.1
Benzathine benzylpenicillin	47.5	80.4	85.7
Amoxicillin	33.8	78.3	85.7
Acyclovir	12.5	65.2	42.9
Azithromycin	10.0	65.2	71.4
Ceftriaxone	65.0	60.9	57.1
Doxycycline	82.5	89.1	100.0
Cefixime	1.3	56.5	0.0

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Stockouts

Stockouts of the STI treatment commodities were very common in the public sector (see Table 9). Six of the nine commodities experienced stockouts at 90% or more of the facilities, with these stockouts lasting on average 116 days to as much as 196 days. The other three commodities were also commonly stocked out, with benzathine benzylpenicillin stocked out at 82.8% of facilities, doxycycline at 64.7% of facilities, and ceftriaxone at 43.1% of facilities.

In the private sector stockouts occurred less often than in the public sector. However, acyclovir was stocked out at 60% of health facilities, and azithromycin at 50% of health facilities. In the faith-based sector cefixime was stocked out at 100% of health facilities, with azithromycin, amoxicillin, metronidazole and ceftriaxone also stocked out at 50% or more of the facilities.

Table 9. Stockouts of STI treatment commodities at health facilities, and average number of stockout days per stockout, per sector.

	Public			Private			Faith-based		
	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stock-out (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days
Metronidazole	*69*	88.4	121	*14*	21.4	46	*6*	50.0	68
Clotrimazole	*31*	90.3	196	*9*	11.1	147	*3*	33.3	64
Benzathine benzylpenicillin	*64*	82.8	122	*10*	30.0	30	*6*	33.3	27
Amoxicillin	*61*	95.1	131	*11*	9.1	82	*7*	57.1	63
Acyclovir	*26*	92.3	133	*10*	60.0	29	*2*	0.0	-
Azithromycin	*19*	89.5	163	*12*	50.0	22	*6*	66.7	79
Ceftriaxone	*58*	43.1	84	*13*	23.1	61	*6*	50.0	16
Doxycycline	*68*	64.7	144	*11*	18.2	71	*7*	42.9	39
Cefixime	*5*	100.0	116	*6*	33.3	13	*1*	100.0	60

NB: Stock information for carbetocin and (methyl)ergometrine was unavailable in all three sectors and is therefore not shown.

HFs: health facilities; ND: No data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Affordability

In the public sector, again all STI treatment commodities were free to the patient (see Table 10). In the private and faith-based sectors all STI treatments were affordable to an LPGW, with the exception of a treatment of acyclovir, which cost an LPGW 3.93 days in the private sector and 1.56 days in the faith-based sector.

Table 10. Affordability of STI treatment commodities.

	Public	Private	Faith-based*
Metronidazole (250mg)	0 days	0.65 days	0.16 days
Clotrimazole (500mg)	0 days	0.27 days	0 days
Benzathine benzylpenicillin (2.4 mil IU)	0 days	0.54 days	0.27 days
Amoxicillin (250mg)	0 days	0.17 days	0 days
Acyclovir (200mg)	-	3.93 days	1.56 days
Azithromycin (500mg)	0 days	0.82 days	0.25 days
Ceftriaxone (1g in vial)	0 days	0.65 days	0 days
Doxycycline (100mg)	0 days	0.51 days	0.21 days

NB: Pricing information for cefixime was unavailable in all three sectors and is therefore not shown.

-: No pricing data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

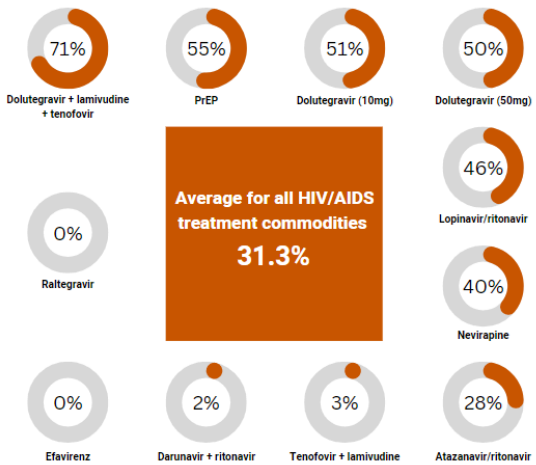
HIV/AIDS

Unfortunately, Sub-Saharan Africa still faces the highest burden of HIV/AIDS globally. The condition, which is caused by a virus, is incurable to date. Luckily, highly effective antiretroviral therapies are on the market, which can minimise symptoms for an extensive time period, and can prevent pregnant women living with HIV from transmitting the disease to their children. With proper disease management and treatment, people living with HIV/AIDS are able to live a normal life.

Availability

None of the commodities for the treatment of HIV/AIDS had an availability of 80% or higher in Zambia (see Figure 5). Raltegravir and efavirenz were unavailable at all health facilities, while darunavir + ritonavir and tenofovir + lamivudine were available at only 2% and 3% of health facilities, respectively.

Figure 5. Availability of HIV/AIDS treatment commodities.



None of the HIV/AIDS treatment commodities had an availability of 80% or higher in the public sector (see Table 11). Highest availability was found for dolutegravir + lamivudine + tenofovir (77.5%). Four of the surveyed commodities were unavailable at all, or almost all public health facilities. These were tenofovir + lamivudine, darunavir/ritonavir, raltegravir and efavirenz.

In the private sector none of the HIV/AIDS treatment commodities had an availability of 50% or higher. Highest availability was found for dolutegravir + lamivudine + tenofovir (36.8%). In the faith-based sector dolutegravir + lamivudine + tenofovir and dolutegravir (50mg) were available at all health facilities, while PrEP was available at 83%.

Table 11. Availability of HIV/AIDS treatment commodities, per sector.

	Public (%)	Private (%)	Faith-based* (%)
PrEP (emtricitabine + tenofovir)	61.3	21.1	83.3
Dolutegravir + lamivudine + tenofovir	77.5	36.8	100.0
Tenofovir + lamivudine	0.0	0.0	50.0
Atazanavir/ritonavir	30.0	15.8	33.3
Darunavir/ritonavir	2.5	0.0	0.0
Lopinavir/ritonavir	51.3	21.1	50.0
Raltegravir	0.0	0.0	0.0
Dolutegravir (50mg)	53.8	15.8	100.0
pediatric dolutegravir (10mg)	60.0	5.3	66.7
Efavirenz	0.0	0.0	0.0
Nevirapine	45.0	15.8	50.0

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Stockouts

In the public sector, efavirenz and tenofovir + lamivudine were most commonly stocked out (100.0% and 75.0%, respectively) (see Table 12). These stockouts lasted 360 days for efavirenz, and 264 days for tenofovir + lamivudine. PrEP experienced stockouts at a quarter of the public health facilities, with both formulations of dolutegravir experiencing stockouts at about 20% of facilities. In the private sector only tenofovir + lamivudine was stocked out at health facilities, while in the faith-based sector the two dolutegravir formulations experienced stockouts.

Table 12. Stockouts of HIV/AIDS treatment commodities at health facilities, and average number of stockout days per stockout, per sector.

	Public			Private			Faith-based		
	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days
PrEP (emtricitabine + tenofovir)	*49*	24.5	41	*3*	0.0	-	*4*	0.0	-
Dolutegravir + lamivudine + tenofovir	*61*	16.4	46	*6*	0.0	-	*5*	0.0	-
Tenofovir + lamivudine	*4*	75.0	264	*1*	100.0	30	*3*	0.0	-
Atazanavir/ritonavir	*23*	4.3	5	*2*	0.0	-	*2*	0.0	-
Darunavir/ritonavir	*2*	0.0	-	*0*	ND	ND	*0*	ND	ND
Lopinavir/ritonavir	*39*	5.1	4	*4*	0.0	-	*3*	0.0	-
Dolutegravir (50mg)	*42*	19.0	79	*3*	0.0	-	*6*	16.7	7
Pediatric dolutegravir (10mg)	*47*	21.3	43	*1*	0.0	-	*4*	25.0	5
Efavirenz	*1*	100.0	360	*0*	ND	ND	*0*	ND	ND
Nevirapine	*30*	16.7	113	*2*	0.0	-	*2*	0.0	-

NB: Stock information for raltegravir was unavailable in all three sectors and is therefore not shown.

ND: No data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Affordability

In the public and faith-based sectors all HIV/AIDS treatment commodities were free to the patient. In the private sector, patients had to pay for lopinavir/ritonavir and for dolutegravir + lamivudine + tenofovir. A month's treatment of dolutegravir + lamivudine + tenofovir was unaffordable; it cost 1.99 days' wages.

Table 13. Affordability of HIV/AIDS treatment commodities.

	Public	Private	Faith-based*
PrEP (emtricitabine + tenofovir) (200mg + 300mg)	0 days	0 days	0 days
Dolutegravir + lamivudine + tenofovir (50mg + 300mg + 300mg)	0 days	1.99 days	0 days
Tenofovir + lamivudine (300mg + 300mg)	-	-	0 days
Atazanavir/ritonavir (300mg + 100mg)	0 days	0 days	0 days
Darunavir/ritonavir (800mg + 100mg)	0 days	-	-
Lopinavir/ritonavir (200mg + 50mg)	0 days	0.27 days	0 days
Dolutegravir (50mg)	0 days	0 days	0 days
pediatric dolutegravir (10mg)	0 days	0 days	0 days

NB: Pricing information for raltegravir, efavirenz and nevirapine was unavailable in all three sectors and are therefore not shown.

-: No pricing data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

PERSONAL HYGIENE PRODUCTS AND KITS

Access to appropriate menstrual hygiene commodities enables women and girls to continue their daily life activities undisturbed during their menstruation, for example to go to work and school, and therefore might contribute to higher school attendance or participation in class (McMahon et al. 2011; Miiro et al. 2018;). Pregnancy tests and HIV self-tests enable people to know about their health status and in line with that, receive the appropriate care or treatment for their condition.

Availability and Stockouts

Overall, availability of pregnancy test kits was 26.3% in surveyed facilities, and availability of HIV self-test kits was 37.6%. In the public and faith-based sectors availability of pregnancy tests was low (8.8% and 14.3%, respectively), but higher in the private sector (58.7%) (see Table 14). Similarly, availability of sanitary pads and tampons was low or non-existent in the public and faith-based sectors, and higher, if still low, in the private sector. Table 15 shows stock information.

Table 14. Availability of personal hygiene products and kits, per sector. .

	Public (%)	Private (%)	Faith-based* (%)
Sanitary pads	2.5	47.8	14.3
Tampons	0.0	21.7	0.0
Pregnancy test kit	8.8	58.7	14.3
HIV self-test kit	42.5	30.4	28.6
HPV DNA test kit	1.3	0.0	0.0

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Table 15. Stockouts of personal hygiene products and kits at health facilities, and average number of stockout days per stockout, per sector.

	Public			Private			Faith-based		
	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days	HFs with stock card (#)	HFs with stockout (%)	Average # of stockout days
Sanitary pads	*2*	100.0	122	*1*	0.0	ND	*1*	0.0	ND
Pregnancy test kit	*26*	96.2	101	*6*	33.3	33	*1*	0.0	ND
HIV self-test kit	*1*	54.1	100	*0*	100.0	12	*1*	0.0	ND
HPV DNA test kit	*1*	100.0	64	*0*	-	-	*0*	-	-

NB: Stock information for tampons was unavailable in all three sectors and is therefore not shown.

HFs: health facilities; ND: No data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

Affordability

In the public sector, all personal hygiene products and kits were free to the patient (see Table 15). In the private sector a month's supply of sanitary pads or tampons was unaffordable (1.39 days and 1.60 days, respectively), while a pregnancy test or HIV self-test kit was also unaffordable (1.31 days and 1.14 days, respectively). In the faith-based sector sanitary pads were also unaffordable (1.52 days), but a pregnancy test or HIV self-test kit was affordable.

Table 15. Affordability of menstrual hygiene products and kits.

	Public	Private	Faith-based*
Sanitary pads	0 days	1.39 days	1.52 days
Tampons	-	1.60 days	-
Pregnancy test kit	0 days	1.31 days	0.23 days
HIV self-test kit	0 days	1.14 days	0.58 days
HPV DNA test kit	0 days	-	-

-: No pricing data available.

*Only 7 health facilities were surveyed in the faith-based sector due to the low number of these type of facilities in the surveyed provinces. Results from the faith-based sector should be interpreted with caution.

5. DISCUSSION AND RECOMMENDATIONS

The aim of the study was to create a clear picture of the current situation regarding availability and affordability of SRH commodities in Luapula and Southern provinces, and to identify the best way to improve access to these commodities. The results of this study showed that overall, availability of SRHC was low at 36.4 % across the public, faith-based and private sectors. Furthermore, more than half of the 52 commodities researched were available at less than 25% of the facilities, and only 13 commodities were, on average, available at more than 50% of facilities, representing an overall availability challenge in the two provinces. This study also showed that while availability was low in all sectors, the private sector had the lowest availability. This implies that even when these commodities may be affordable or covered by National Health Insurance, the private sector does not constitute a reliable alternative source of SRH commodities for patients in these two provinces. We recommend that the government, through the Ministry of Health devises policies that will enhance and promote wider private sector investment in the provision of quality and affordable health services, especially in the rural areas. This could be through reductions and waiving of statutory fees and taxes for businesses being established in rural areas, and facilitation of reimbursements through the national health insurance management authority (NHIMA) scheme.

The Ministry of Health should work with partners and all stakeholders to call for a review of restrictive policies and legal frameworks to ensure commodities and ASRHR are prioritised at all levels of interventions, including schools, health facilities and in communities at large. There is a need for affirmative action to work with adolescents and youths and ensure they meaningfully participate in policy decision-making of the review of laws and policies for improved availability and access for adolescents to reproductive health care and related services.
The poor availability of commodities also validates calls on Government and Parliament to enhance budget allocation towards SRH commodities.

Urban versus Rural

Availability was slightly better in public, urban health facilities than in public, rural health facilities (41.0% vs 34.4%). This while all public health facilities, irrespective of urban or rural location, are supplied by the Zambia Medicines and Medical Supplies Agency (ZAMMSA). These results therefore may suggest that the last mile distribution of commodities by ZAMMSA may be less efficient for health facilities located in rural locations compared to urban locations. Hence, a more robust and responsive system should be worked out to efficiently deliver commodities to

rural health facilities. The Ministry of Health should conduct an in-depth review of the components of the Health Sector Supply Chain Strategy and Implementation Plan 2019-2021[1] in order to identify and address problems with the availability of essential medicines at the health facility level.

Family Planning Commodities

The results also indicate that nine of the 14 family planning commodities in the public sector had an availability of less than 60%. The results also show that the public sector had higher availabilities of most of the family planning methods compared to the other sectors. This implies that public sector is the dominant source of family planning commodities in Zambia. However, the levels of availability found in this study fall far below the WHO target of 80%, implying that access to quality health services is still limited. This suggests that women, and adolescent girls in particular, face increased health risks, ranging from teenage pregnancies, unplanned pregnancies, to increased risk of HIV and STI infections. For example, the emergency contraceptive pill (levonorgestrel 1.5mg), used to prevent pregnancy when women and girls have unprotected sex or the condom breaks, had an availability of 56% in the public sector, 52% in the private sector, and 14% in the faith-based sector.

Poor availability, coupled with high stockout levels, constitutes a remarkable hinderance, especially for women and adolescents. Notwithstanding the fact that family planning commodities are mostly supported by the donors and cooperating partners, availability of these commodities is still poor. There is thus a need for both the Government, through the national budget, and cooperating partners to increase their allocations towards family planning commodities, and to ensure a well-functioning supply chain.

Data from the 2018 Demographic Health Survey indicate that injectables and oral contraceptives, both combined estrogen-progestin and progestin-only, account for 67% of modern methods used among Zambian women. However, none of these had an 80% or higher availability in the surveyed facilities, and stockouts of these commodities ranged from 33% to 100% at the surveyed facilities. This shows that there is need for the Government to increase the availability of these family commodities in particular for sustained use of modern contraception methods among women and adolescent girls that fit their needs and wants.

Maternal Health Commodities

Availability of maternal health commodities was especially low in the private sector, where about half of the commodities were also unaffordable. Stockouts were common across all three sectors. In the public and faith-based sectors, only oxytocin and magnesium sulphate had a relatively high availability. In the private sector availability was especially low for these commodities. The overall low level of availability and high level of stockouts increase risk of adverse pregnancy outcomes to the mother and foetus, such as post-partum haemorrhage, which is the leading cause of maternal deaths in Sub-Saharan Africa, and (pre)-eclampsia (pregnancy-related hypertension) (Say, 2014), contributing to Zambia's high estimated maternal mortality rate of 252 per 100,000 live births. Misoprostol, used for induction of labour and treatment of postpartum haemorrhage which, unlike oxytocin, requires no cold chain and hence suitable for use in rural settings, had a low availability, especially in the public and private sectors sector for example. This scenario may further be compounded by the low availability and high stockouts of maternal health commodities found in this study. In Zambia, maternal health commodities, similar to family planning commodities, are by and large supplied by the donor community. Therefore, cooperating partners should consider increasing their support to the Ministry of Health for these commodities, with extra attention paid to oxytocin, misoprostol and magnesium sulphate to ensure their availability reaches at least 80%.

1. Zambia Ministry of Health. Health Sector Supply Chain Strategy and Implementation Plan 2019-2021. (2019). Ministry of Health: Lusaka.

STI Commodities

This study found that in the public sector, only doxycycline had an availability of 80% or higher, while stockouts of the commodities were again very common. For instance, six of the nine commodities experienced stockouts at 90% or more of the facilities, with these stockouts lasting on average 116 days to as much as 196 days. This represents a significant challenge in the treatment of common STIs, such as chlamydia, gonorrhoea and syphilis, especially among adolescents. Commodities for the treatment of STIs are the primary responsibility of the Government and procured from the national drug fund. The stockouts and low availability of these medicines might be attributable, next to a weak supply chain, to the consistent failure to reach targets set by the Abuja Declaration, which requires that the health budget should constitute 15% of the total national budget. Even though the national health budget was increased from 8.3% in 2022 to 10.3% in 2023, it is still not sufficient to meet that national demand for these commodities.

Availability of STI commodities was higher in the private and faith-based sectors, which might pose a reliable alternative source, especially when facilities are NHIMA accredited. However, stockouts were common even in these sectors. Although the private sector has a relatively higher availability of STI commodities, there is still a greater need for the country to continue expanding access to quality and affordable commodities in both the public and the private sectors, while also rebuilding trust in and sustaining private sector provision. This will help increase the private sector contribution to improving equity of access and sustainability of market, and help the Government meet its set targets in the provision of commodities. An increase in the national budget for commodities through creation of adequate and sustainable financing by establishment of a seed fund to ZAMMSA will ultimately lead to increased availability of essential medicines, especially for STI treatment, and enhanced commodity security at both central and facility level.

HIV/AIDS Commodities

Antiretroviral commodities used for HIV/AIDS treatment did not reach an 80% or higher availability in the public sector. Antiretroviral commodities are largely supported by the US government agencies, but again availability was suboptimal, and stockouts were common. The Government and cooperating partners should increase support towards HIV/AIDS treatment in order to help people avoid HIV infection and increase access to life-saving HIV services.

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ANNEX 1

#	Commodity	Use
	FAMILY PLANNING	
1	Ethinylestradiol + levonorgestrel	Birth control pill; contraceptive
2	Ethinylestradiol + norethisterone	Birth control pill; contraceptive
3	Levonorgestrel (30 mcg)	Birth control pill; contraceptive
4	Levonorgestrel (1.5 mg)	Emergency contraceptive
5	Medroxyprogesterone acetate	Injectable contraceptive
6	Norethisterone enanthate	Injectable contraceptive
7	Implants: levonorgestrel	Long-acting contraceptive
8	Implants: etonogestrel	Long-acting contraceptive
9	Copper-containing IUD	Long-acting contraceptive
10	Levonorgestrel-releasing IUD	Long-acting contraceptive
11	Male condoms	Contraceptive; STI protection
12	Female condoms	Contraceptive; STI protection
	MATERNAL HEALTH	
13	Oxytocin	Prevention of post-partum haemorrhage
14	Misoprostol	Prevention of post-partum haemorrhage; induce labour; induce medical abortion
15	Carbetocin	Prevention of post-partum haemorrhage; induce labour
16	Tranexamic acid	Prevention of post-partum haemorrhage
17	(methyl)ergometrine	Prevention of post-partum haemorrhage
18	Mifepristone - misoprostol	Medical abortion
19	Magnesium sulphate	Treatment of pre-eclampsia and eclampsia
20	Calcium gluconate	Antidote for magnesium toxicity (used in combination with magnesium sulphate)
21	Ferrous salt	Supplement, prevent iron deficiency
22	Folic acid tablet	Supplement, prevent folic acid deficiency
23	Ferrous salt and folic acid	Supplement, prevent iron and folic acid deficiency
24	Dexamethasone	Accelerating lung maturation in preterm babies
25	Methyldopa	Management of pregnancy-induced hypertension
	SEXUALLY TRANSMITTED INFECTIONS	
26	Metronidazole	Antibiotic, STI treatment
27	Clotrimazole	Antifungal, STI treatment
28	Benzathine benzylpenicillin	Antibiotic, STI treatment
29	Amoxicillin	Antibiotic, STI treatment
30	Acyclovir	Antiviral, STI treatment
31	Azithromycin	Antibiotic, STI treatment
32	Ceftriaxone	Antibiotic, STI treatment
33	Doxycycline	Antibiotic, STI treatment
34	Cefixime	Antibiotic, STI treatment
	HIV/AIDS	
35	Pre-Exposure Prophylaxis (PrEP): (emtricitabine (FTC) + tenofovir (TDF))	Prevention of HIV acquisition

36	Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF)	Antiretroviral, management of HIV/AIDS
37	Tenofovir + lamivudine (TDF + 3TC)	Antiretroviral, management of HIV/AIDS
38	Atazanavir/ritonavir (ATV/r)	Antiretroviral, management of HIV/AIDS
39	Darunavir/ritonavir (DRV/r)	Antiretroviral, management of HIV/AIDS
40	Lopinavir/ritonavir (LPV/r)	Antiretroviral, management of HIV/AIDS
41	Raltegravir (RAL)	Antiretroviral, management of HIV/AIDS
42	Dolutegravir (DTG)	Antiretroviral, management of HIV/AIDS
43	Paediatric dolutegravir (DTG)	Antiretroviral, management of HIV/AIDS
44	Efavirenz (EFV)	Antiretroviral, management of HIV/AIDS
45	Nevirapine	Antiretroviral, management of HIV/AIDS
PERSONAL HYGIENE & KITS		
46	Tampons	Management of menstruation
47	Vasectomy kit	Male sterilisation
48	Tubal ligation kit	Female sterilisation
49	Pregnancy test kit	-
50	HIV self-test kit	-
51	HPV DNA test kit	-

ANNEX 2

Table 1. Availability per sector and location.

	PUBLIC SECTOR			PRIVATE SECTOR			FAITH-BASED SECTOR		
	Overall (%)	Urban (%)	Rural (%)	Overall (%)	Urban (%)	Rural (%)	Overall (%)	Urban (%)	Rural (%)
Ethinylestradiol + levonorgestrel	77.5	72.0	80.0	63.0	62.2	66.7	28.6	0.0	40.0
Ethinylestradiol + norethisterone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Levonorgestrel	57.5	56.0	58.2	30.4	35.1	11.1	14.3	0.0	20.0
Levonorgestrel	56.3	40.0	63.6	52.2	48.6	66.7	14.3	0.0	20.0
Medroxyprogesterone acetate	75.0	76.0	74.5	47.8	51.4	33.3	14.3	0.0	20.0
Norethisterone enanthate	75.0	76.0	74.5	23.9	24.3	22.2	42.9	0.0	60.0
Implants: levonorgestrel	48.8	24.0	60.0	10.5	11.8	0.0	16.7	0.0	20.0
Implants: etonogestrel	62.5	64.0	61.8	26.3	29.4	0.0	33.3	0.0	40.0
Copper-containing IUD	38.8	48.0	34.5	21.1	23.5	0.0	0.0	0.0	0.0
Levonorgestrel-releasing IUD	2.5	4.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Male condoms	91.3	96.0	89.1	78.3	75.7	88.9	42.9	0.0	60.0
Female condoms	50.0	40.0	54.5	10.9	10.8	11.1	14.3	0.0	20.0
Oxytocin	71.3	80.0	67.3	15.8	17.6	0.0	83.3	100.0	80.0
Misoprostol	13.8	28.0	7.3	0.0	0.0	0.0	66.7	0.0	80.0
Carbetocin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tranexamic acid	8.8	16.0	5.5	21.7	24.3	11.1	57.1	50.0	60.0
(methyl)ergometrine	0.0	0.0	0.0	-	-	-	0.0	0.0	0.0
Mifepristone - misoprostol	15.0	20.0	12.7	17.4	16.2	22.2	14.3	0.0	20.0
Magnesium sulphate	67.5	84.0	60.0	21.1	23.5	0.0	66.7	0.0	80.0
Calcium gluconate	58.3	71.4	40.0	0.0	0.0	-	60.0	0.0	75.0

Ferrous salt	25.0	32.0	21.8	71.7	73.0	66.7	57.1	100.0	40.0
Folic acid tablet	80.0	72.0	83.6	78.3	75.7	88.9	85.7	50.0	100.0
Ferrous salt and folic acid	15.0	24.0	10.9	26.1	24.3	33.3	0.0	0.0	0.0
Dexamethasone	47.5	64.0	40.0	34.8	37.8	22.2	85.7	50.0	100.0
Methyldopa	32.5	44.0	27.3	41.3	45.9	22.2	71.4	50.0	80.0
Metronidazole	60.0	60.0	60.0	80.4	81.1	77.8	85.7	100.0	80.0
Clotrimazole	12.5	28.0	5.5	65.2	64.9	66.7	57.1	100.0	40.0
Benzathine benzylpenicillin	47.5	48.0	47.3	80.4	81.1	77.8	85.7	100.0	80.0
Amoxicillin	33.8	48.0	27.3	78.3	75.7	88.9	85.7	50.0	100.0
Acyclovir	12.5	16.0	10.9	65.2	64.9	66.7	42.9	100.0	20.0
Azithromycin	10.0	28.0	1.8	65.2	62.2	77.8	71.4	100.0	60.0
Ceftriaxone	65.0	64.0	65.5	60.9	59.5	66.7	57.1	50.0	60.0
Doxycycline	82.5	68.0	89.1	89.1	91.9	77.8	100.0	100.0	100.0
Cefixime	1.3	4.0	0.0	56.5	59.5	44.4	0.0	0.0	0.0
Pre-Exposure Prophylaxis: (emtricitabine (FTC) + tenofovir (TDF))	61.3	84.0	50.9	21.1	17.6	50.0	83.3	0.0	100.0
Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF)	77.5	88.0	72.7	36.8	35.3	50.0	100.0	100.0	100.0
Tenofovir + lamivudine (TDF + 3TC)	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	60.0
Atazanavir/ritonavir (ATV/r)	30.0	64.0	14.5	15.8	11.8	50.0	33.3	0.0	40.0
Darunavir/ritonavir (DRV/r)	2.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lopinavir/ritonavir (LPV/r)	51.3	72.0	41.8	21.1	17.6	50.0	50.0	0.0	60.0
Raltegravir (RAL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Dolutegravir (DTG)	53.8	68.0	47.3	15.8	11.8	50.0	100.0	100.0	100.0
pediatric dolutegravir (DTG)	60.0	88.0	47.3	5.3	0.0	50.0	66.7	0.0	80.0
Efavirenz (EFV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nevirapine	45.0	48.0	43.6	15.8	11.8	50.0	50.0	100.0	40.0
Sanitary pads	2.5	4.0	1.8	47.8	43.2	66.7	14.3	50.0	0.0
Tampons	0.0	0.0	0.0	21.7	24.3	11.1	0.0	0.0	0.0
Vasectomy kit	25.0	28.6	20.0	10.5	11.8	0.0	0.0	0.0	0.0
Tubal ligation kit	41.7	28.6	60.0	4.3	5.4	0.0	0.0	0.0	0.0
Pregnancy test kit	8.8	12.0	7.3	58.7	56.8	66.7	14.3	50.0	0.0
HIV self-test kit	42.5	40.0	43.6	30.4	35.1	11.1	28.6	50.0	20.0
HPV DNA test kit	1.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 2. Stockouts per sector and location.

	Facilities reporting a stockout in a 12-month period (%)					
Number of facilities with stock cards (%)	25 (100)	54 (98)	16 (43)	2 (22)	2 (100)	5 (100)
	Public urban	Public rural	Private urban	Private rural	Faith-based urban	Faith-based rural
Ethinylestradiol + levonorgestrel	50.0	48.9	33.3	100.0	-	100.0
Ethinylestradiol + norethisterone	100.0	100.0	-	-	-	100.0
Levonorgestrel	23.5	31.4	12.5	0.0	-	50.0
Levonorgestrel	50.0	75.8	33.3	-	-	0.0
Medroxyprogesterone acetate	57.1	60.5	50.0	0.0	-	50.0
Norethisterone enanthate	21.1	38.1	28.6	-	-	33.3
Implants: levonorgestrel	57.1	38.1	33.3	-	-	0.0
Implants: etonogestrel	31.3	37.8	16.7	-	-	0.0
Copper-containing IUD	50.0	27.3	60.0	-	-	-
Levonorgestrel-releasing IUD	66.7	50.0	-	-	-	-
Male condoms	9.1	26.9	42.9	-	-	0.0
Female condoms	30.8	7.4	33.3	-	-	0.0
Oxytocin	20.0	33.3	100.0	-	0.0	0.0
Misoprostol	78.6	66.7	-	-	-	0.0
Carbetocin	-	-	-	-	-	-

Tranexamic acid	57.1	100.0	100.0	-	0.0	50.0
(methyl)ergometrine	-	-	-	-	-	-
Mifepristone - misoprostol	85.7	100.0	0.0	-	-	66.7
Magnesium sulphate	11.1	42.4	40.0	-	100.0	20.0
Calcium gluconate	55.6	66.7	100.0	-	100.0	50.0
Ferrous salt	89.5	90.0	41.7	-	0.0	75.0
Folic acid tablet	69.6	56.3	36.4	0.0	50.0	20.0
Ferrous salt and folic acid	93.3	85.7	57.1	0.0	-	100.0
Dexamethasone	52.2	61.3	62.5	50.0	100.0	0.0
Methyldopa	71.4	72.0	50.0	-	0.0	75.0
Metronidazole	92.0	86.4	16.7	50.0	0.0	75.0
Clotrimazole	85.7	94.1	0.0	100.0	0.0	50.0
Benzathine benzylpenicillin	81.8	83.3	37.5	0.0	50.0	25.0
Amoxicillin	87.0	100.0	10.0	0.0	50.0	60.0
Acyclovir	91.7	92.9	66.7	0.0	0.0	0.0

Azithromycin	81.8	100.0	50.0	50.0	50.0	75.0
Ceftriaxone	52.6	38.5	27.3	0.0	100.0	25.0
Doxycycline	66.7	63.8	11.1	50.0	50.0	40.0
Cefixime	100.0	100.0	33.3	-	-	100.0
Pre-Exposure Prophylaxis (PrEP): (emtricitabine (FTC) + tenofovir (TDF))	10.0	34.5	0.0	0.0	-	0.0
Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF)	13.0	18.4	0.0	0.0	-	0.0
Tenofovir + lamivudine (TDF + 3TC)	50.0	100.0	100.0	-	-	0.0
Atazanavir/ritonavir (ATV/r)	0.0	12.5	0.0	-	-	0.0
Darunavir/ritonavir (DRV/r)	0.0	-	-	-	-	-
Lopinavir/ritonavir (LPV/r)	0.0	9.1	0.0	0.0	-	0.0
Raltegravir (RAL)	-	-	-	-	-	-
Dolutegravir (DTG)	23.5	16.0	0.0	0.0	0.0	20.0
pediatric dolutegravir (DTG)	10.0	29.6	-	0.0	-	25.0
Efavirenz (EFV)	-	100.0	-	-	-	-

Nevirapine	10.0	20.0	0.0	-	0.0	0.0
Sanitary pads	100.0	100.0	0.0	-	0.0	-
Tampons	-	-	-	-	-	-
Pregnancy test kit	87.5	100.0	33.3	-	0.0	-
HIV self-test kit	53.8	54.2	100.0	-	0.0	0.0
HPV DNA test kit	100.0	-	-	-	-	-

Table 3. Price and affordability per sector, with treatment regimens.

	Average Unit Price (ZKW)			Treatment	Treatment	Mean Treatment Cost			Affordability (days of wages)		
	Public	Private	Faith-based	Units	Days	Public	Private	Faith-based	Public	Private	Faith-based
Ethinylestradiol + levonorgestrel (30mcg + 150 mcg)	0.00	11.67	0.00	1	1	0.00	11.67	0.00	0.00	0.27	0.00
Ethinylestradiol + norethisterone (35mcg + 1.0 mg)	-	-	-	1	1	-	-	-	-	-	-
Levonorgestrel (30 mcg)	0.00	10.64	0.00	1	1	0.00	10.64	0.00	0.00	0.25	0.00
Levonorgestrel (1.5 mg)	0.00	23.64	-	1	1	0.00	23.64	-	0.00	0.55	-
Medroxyprogesterone acetate (150 mg/ml)	0.00	41.56	0.00	1	1	0.00	41.56	0.00	0.00	0.96	0.00
Norethisterone enanthate (200mg/ml)	0.00	21.50	0.00	1	1	0.00	21.50	0.00	0.00	0.50	0.00
Implants: levonorgestrel	0.03	100.00	0.00	1	1	0.03	100.00	0.00	0.00	2.31	0.00
Implants: etonogestrel	0.00	42.00	0.00	1	1	0.00	42.00	0.00	0.00	0.97	0.00
Copper-containing IUD	0.00	125.00	-	1	1	0.00	125.00	-	0.00	2.88	-
Levonorgestrel-releasing IUD	0.00	-	-	1	1	0.00	-	-	0.00	-	-
Male condoms	0.00	1.38	0.00	1	1	0.00	1.38	0.00	0.00	0.03	0.00
Female condoms	0.00	0.00	0.00	1	1	0.00	0.00	0.00	0.00	0.00	0.00
Oxytocin (10 IU in 1ml)	0.00	5.00	0.00	1	1	0.00	5.00	0.00	0.00	0.12	0.00
Misoprostol (200mcg)	0.00	12.50	0.00	5	1	0.00	62.50	0.00	0.00	1.44	0.00
Carbetocin (100mcg/ml)	-	-	-	1	1	-	-	-	-	-	-
Tranexamic acid (100mg/ml in 5ml)	0.00	26.25	0.00	2	1	0.00	52.50	0.00	0.00	1.21	0.00
Ergometrine (200mcg in 1ml)	-	-	-	3	1	-	-	-	-	-	-
Mifepristone - misoprostol (200mg + 200mcg)	0.00	306.25	-	1	1	0.00	306.25	-	0.00	7.07	-
Magnesium sulphate (0.5mg/ml)	0.00	150.00	0.00	9	1	0.00	1350.00	0.00	0.00	31.16	0.00
Calcium gluconate (100mg/ml in 10ml)	0.00	30.00	0.00	1	1	0.00	30.00	0.00	0.00	0.69	0.00
Ferrous salt (equiv 60mg iron)	0.00	0.84	0.20	1	30	0.00	25.24	6.00	0.00	0.58	0.14
Folic acid tablet (5mg)	0.00	0.48	0.05	1	30	0.00	14.31	1.50	0.00	0.33	0.03
Ferrous salt and folic acid (60mg + 400mcg)	0.00	0.67	-	1	30	0.00	20.00	-	0.00	0.46	-
Dexamethasone (4mg/ml)	0.00	28.58	0.00	3	1	0.00	85.75	0.00	0.00	1.98	0.00
Methyldopa (250mg)	0.00	2.01	0.60	6	30	0.00	360.95	108.00	0.00	8.33	2.49
Metronidazole (250mg)	0.00	1.00	0.25	4	7	0.00	28.02	7.00	0.00	0.65	0.16
Clotrimazole (500mg)	0.00	11.67	0.00	1	1	0.00	11.67	0.00	0.00	0.27	0.00
Benzathine benzylpenicillin (2.4 million IU)	0.00	23.31	11.67	1	1	0.00	23.31	11.67	0.00	0.54	0.27

Amoxicillin (250mg)	0.00	0.18	0.00	6	7	0.00	7.38	0.00	0.00	0.17	0.00
Acyclovir (200mg)	-	5.68	2.25	3	10	-	170.40	67.50	-	3.93	1.56
Azithromycin (500mg)	0.00	11.84	3.67	1	3	0.00	35.52	11.00	0.00	0.82	0.25
Ceftriaxone (1g in vial)	0.00	28.11	0.00	1	1	0.00	28.11	0.00	0.00	0.65	0.00
Doxycycline (100mg)	0.00	1.58	0.64	2	7	0.00	22.13	9.00	0.00	0.51	0.21
Cefixime (400mg)	-	-	-	1	1	-	-	-	-	-	-
Pre-Exposure Prophylaxis (PrEP): (emtricitabine (FTC) + tenofovir (TDF)) (200mg +300mg)	0.00	0.00	0.00	1	30	0.00	0.00	0.00	0.00	0.00	0.00
Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF) (50mg + 300mg + 300mg)	0.00	2.87	0.00	1	30	0.00	86.18	0.00	0.00	1.99	0.00
Tenofovir + lamivudine (TDF + 3TC) (300mg + 300mg)	-	-	0.00	1	30	-	-	0.00	-	-	0.00
Atazanavir/ritonavir (ATV/r) (300mg + 100mg)	0.00	0.00	0.00	1	30	0.00	0.00	0.00	0.00	0.00	0.00
Darunavir/ritonavir (DRV/r) (800mg + 100mg)	0.00	-	-	1	30	0.00	-	-	0.00	-	-
Lopinavir/ritonavir (LPV/r) (200mg + 50mg)	0.00	0.10	0.00	4	30	0.00	11.70	0.00	0.00	0.27	0.00
Raltegravir (RAL) (400mg)	-	-	-	1	30	-	-	-	-	-	-
Dolutegravir (DTG) (50mg)	0.00	0.00	0.00	1	30	0.00	0.00	0.00	0.00	0.00	0.00
Pediatric dolutegravir (DTG) (10mg)	0.00	0.00	0.00	1	30	0.00	0.00	0.00	0.00	0.00	0.00
Efavirenz (EFV) (600mg)	-	-	-	1	30	-	-	-	-	-	-
Nevirapine (50mg/5ml)	-	-	-	1	30	-	-	-	-	-	-
Sanitary pads	0.00	2.87	3.13	3	7	0.00	60.37	65.73	0.00	1.39	1.52
Tampons	-	3.31	-	3	7	-	69.53	-	-	1.60	-
Pregnancy test kit	0.00	56.83	10.00	1	1	0.00	56.83	10.00	0.00	1.31	0.23
HIV self-test kit	0.00	49.57	25.00	1	1	0.00	49.57	25.00	0.00	1.14	0.58
HPV DNA test kit	0.00	-	-	1	1	0.00	-	-	0.00	-	-

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