



**Sexual & Reproductive
Health Commodities:
Measuring Prices, Availability
& Affordability**

**Data Collection Report
Zambia (2017)**



Written by:
Gaby Ooms
Research Officer
Health Action International

Gemma Buckland Merrett
Senior Research Manager
Health Action International

For correspondence, please email
gaby@haiweb.org.

Sexual & Reproductive Health Commodities: Measuring Prices, Availability & Affordability

Data Collection Report Zambia (2017)

Published by:

Health Action International
Overtoom 60 (2) | 1054 HK Amsterdam |
The Netherlands | +31 20 412 4523 | www.haiweb.org

Licensing:

This report is licensed under the Creative Commons
Attribution-NonCommercial 4.0 International Licence.

To view a copy of this licence, visit
www.creativecommons.org/licenses/by-nc/4.0/



This report is part of
Health Action International's
contribution to the
Health Systems Advocacy Partnership.

Table of Contents

1. Introduction.....	4
2. Data Collection.....	6
3. Results	7
3.1 Overall availability of SRHC	
3.2 Availability of selected SRHC by sector	
3.3 Stock-out days	
3.4 SRHC Prices in Public, Private and Mission Sectors	
3.5 SRHC Affordability in Public, Private and Mission Sectors	
3.6 Stakeholder interviews	
4. Discussion.....	24
5. Appendices.....	27
5.1 Appendix A – SRHC Surveyed	
5.2 Appendix B – SRHC Availability	
5.3 Appendix C – SRHC Stock-out Data	
5.4 Appendix D – SRHC Prices and Affordability Data	
5.5 Appendix E – SRHC Access: Qualitative Data Analysis	

1. Introduction

Good sexual and reproductive health (SRH) is a state of complete physical, mental and social well-being in all matters relating to reproduction for both men and women, including adolescents. Maintaining good SRH means people need access to accurate information and safe, effective, affordable and acceptable contraception methods of their choice. They must be informed and empowered to protect themselves from sexually transmitted infections 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.

National policies on medicine pricing and procurement strategies are needed to ensure medicines are affordable and available. While policies are also greatly needed to improve health infrastructure, health education and financing are further required to ensure the rational use of medicines. Even in the face of weak infrastructure and gross inequality that underpins poverty prevalence, improvements in access can be achieved. However, without reliable information on medicine prices and availability, governments are working in an evidence vacuum. This restricts their ability to construct meaningful policy and properly evaluate the impact of any policy interventions. Reliable information is also a useful means of comparison between countries with similar health budgets for knowledge transfer and learning. Thus, in order to develop evidence-based policies, robust data is required. The Health Action International (HAI)–World Health Organization (WHO) methodology to assess the price, availability, and affordability components of medicines provides valuable data. To date, the methodology has not specifically targeted commodities for SRH. HAI has now adapted the methodology to focus on a specific set of sexual and reproductive health commodities (SRHC)^{1,2}.

The objective of the survey is to generate reliable information on the price, availability and affordability of selected important commodities in the SRH supply chain, with the ultimate goal of improving access to affordable medicines for all. The methodology uses a cross-sectional design with quantitative methods and a semi-structured questionnaire adapted from the standardised HAI–WHO methodology, *Measuring Medicine Prices, Availability, Affordability and Price Components (2nd Edition)*. It allows data on the availability and out-of-pocket patient prices of SRHC in the public, private and mission/other sectors to be collected. It also assesses health provider perspectives on access to SRHC beyond the medicines supply chain. The method facilitates rapid and reliable data collection and enables price and availability indicators to be compared within and between individual countries.

¹ Please refer to the *Sexual and Reproductive Health Commodities: Measuring Prices, Availability and Affordability* methodology and data entry manual (1st editions) for a full description of the methodology used for data collection.

² For a full list of the commodities surveyed, see Appendix A.

The following report presents the results of the survey carried out by HAI and in-country partners (Medicines Transparency Alliance [MeTA] Zambia) during August and September 2017 in Zambia.

The report provides data relating to the following questions:

- What price do people pay for SRH medicines?
- Do the prices and availability of the same medicines vary across the public, private and mission sectors?
- How affordable are medicines for ordinary people?
- What do health providers see as the main barriers to accessing medicines?

The following report should be used to highlight potential areas for intervention to improve access to SRHC and monitor changes to access over time in the country of study.

2. Data Collection

This report presents data from the initial roll-out of the HAI research methodology, *SRHC: Measuring Prices, Availability and Affordability*, in Zambia. The methodology used for the data collection follows the first version of HAI's SRHC data collection manual, produced in 2017. Please refer to this manual for all details on the methodology followed for data collection. Data collectors were trained in Zambia in August 2017.

Data collectors visited facilities at 'health post' levels and above belonging to public, private and mission sectors in both urban and rural areas. The selection of provinces to survey was random to provide a representative picture for the country. The provincial districts selected for data collection were: Eastern, Central, Copper Belt, Muchinga, Lusaka and Southern. A total of 132 facilities were surveyed across public, private and mission sectors. The distribution of these facilities is outlined below.

	Urban	Rural	Total (N)
Public	30	42	72
Private	32	5	37
Mission	6	17	23
Total	68	64	132

Table 1: Distribution of surveyed facilities

3. Results

The following sections contain data analysed from Section A of the methodology, *SRHC: Measuring Prices, Availability and Affordability*. The section below measures the availability of commodities at facilities. Please refer to Appendix B for a full breakdown of the availability data across sectors.

3.1 Overall Availability of SRHC

This research showed that mean availability of SHRC in Zambia was on average 34%, with the average availability in the public sector highest (41%). Availability of SHRC was not dependent on whether the facility was located in an urban or rural area. The differences between public and private sector availability were noticeable, as the commodities were on average available in only 25% of private sector facilities, compared with the 41% availability in the public sector. Table 2 shows the mean availability of SHRC across sectors and locations.

Only 15 of the 53 commodities researched were on average available at more than 50% of the facilities, while almost half of all commodities were available at less than 25% of the facilities. Figure 1 illustrates the overall mean availability of each SRHC.

	Percentage Availability		
	Overall	Urban	Rural
Public	41	45	37
Private	25	25	27
Mission	36	39	35
Total	34	37	34

Table 2: Mean availability of SRHC by sector and location

3.2 Availability of Selected SRHC by Sector

As mentioned, differences in availability between public and private sector facilities were noticeable, while the mission sector had similar availability to the public sector. Below a closer look is taken at the availability of selected SRHC across the sectors. Figure 2 is an overview of the availability of the commodities across the sectors, while figures 3 – 5 are an illustration of the availability of SRHC in urban and rural areas in the public, private and mission sector, respectively. Please refer to Appendix B again for a full breakdown of the availability data across sectors.

Contraceptives

Availability of ethinylestradiol + levonorgestrel tablets, known as the birth control pill, was highest in the private sector (89%), followed by the public sector (81%). In the mission sector differences between areas for this birth control pill were apparent: only 33% of urban facilities had the tablets, compared with 76% of rural facilities. Different formulations

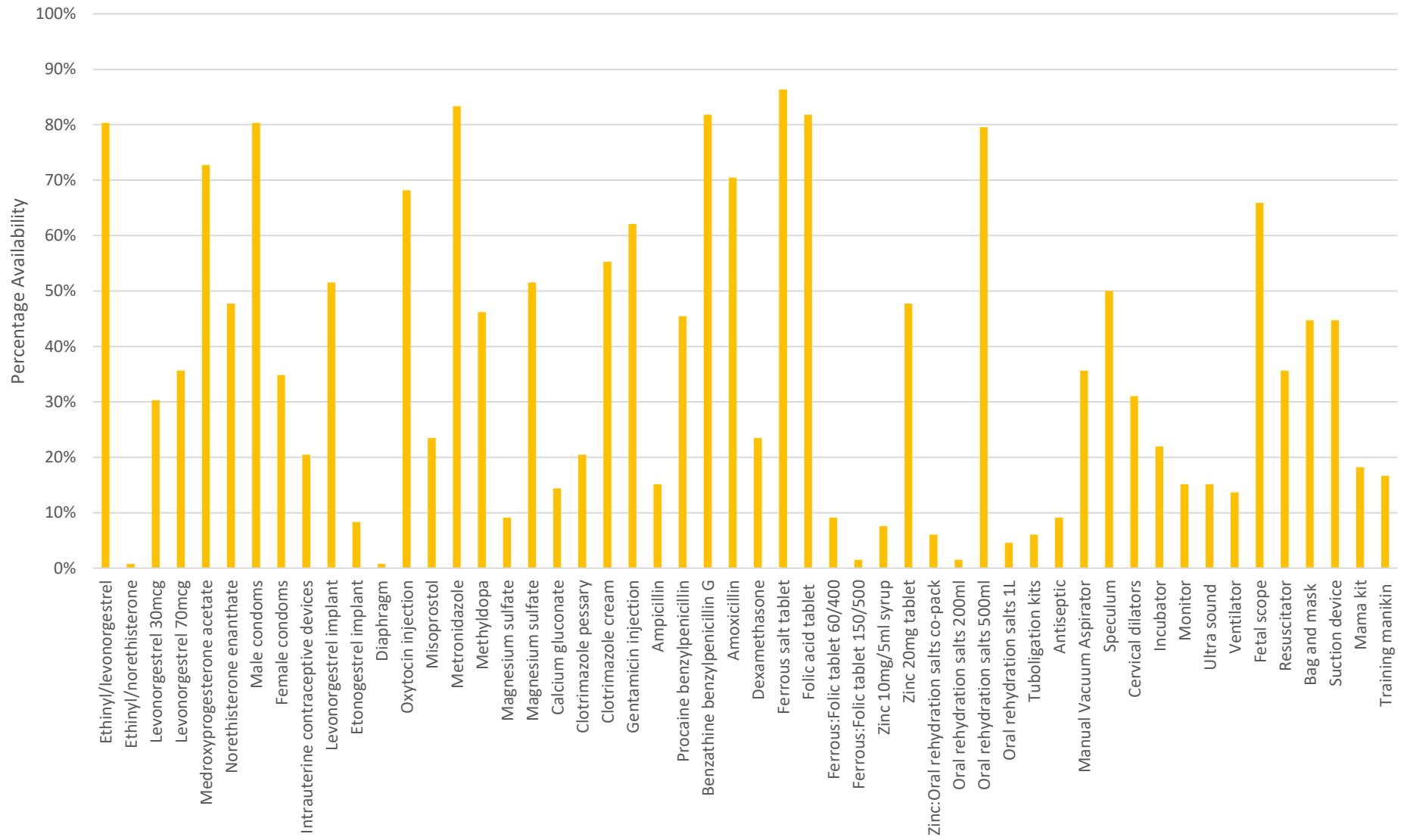


Figure 1: Mean percentage availability of SRHC.

of levonorgestrel tablets, used as emergency contraceptive after birth control failure or unprotected intercourse, ranged from unavailable (rural private facilities and urban mission facilities) to 53% availability of the 750 mcg tablets in rural mission facilities. Medroxyprogesterone acetate, an injectable contraceptive, was regularly available in the public sector (86%), but less available in the private (54%) and mission (61%) sectors. Availability of male condoms was 80% or higher in public and private facilities, while availability in the mission sector was lower (61%). Female condoms were on average less available than male condoms: 42% in public facilities, 27% in private facilities, and 26% in mission facilities. Interestingly, levonorgestrel implants were available in 79% of public facilities, while in the private sector they were available in only 3% of facilities.

Pregnancy & Childbirth

Not all pregnancy supplements were regularly available. An example is calcium gluconate, which was available in 13% of public facilities, 5% of private facilities and 35% of mission facilities. Another example is zinc tablets (20 mg), which were available at 47% of public facilities, 38% of private facilities, and 65% of mission facilities. ORS sachets in the dosage of 1L were available in 83% of public facilities, 81% of private facilities, and 65% of mission facilities, while the other formulations (200 ml and 500 ml) were highly unavailable across all sectors.

Oxytocin, used to induce labour and in the prevention and treatment of post-partum haemorrhage, was regularly available in the public and mission sectors (92% and 91%, respectively), but was available in only 8% of private sector facilities. Misoprostol, another medicine used to induce labour, also did not have a high availability: 21% in the public sector, 24% in the private sector, and 30% in the mission sector. Magnesium sulphate, used in the treatment of pre-term labour and pre-eclampsia, only had a relatively high availability in the public sector (74%), but had a seriously low availability in the private sector (3%). Interestingly, in the mission sector, only 17% of urban facilities had magnesium sulphate available, while the availability in rural facilities was 76%. The availability of gentamicin, used to treat pneumonia and maternal and neonatal sepsis, differed by urban and rural area. For instance, in the public sector it was available in 77% of urban area facilities and 57% of rural area facilities, and in the mission sector in 83% and 65%, respectively. Interestingly, in the private sector it was reversed: only 47% of urban area facilities had gentamicin available, in contrast with 80% of rural facilities.

Sexually Transmitted Infections

Benzathine benzylpenicillin, used in the treatment of syphilis, was commonly available in the public and private sector (90% and 81%, respectively). Only in mission sector, rural area facilities was availability lower (47%). Clotrimazole pessary and –cream, used to treat yeast infections, were available inconsistently across the sectors, with availability in the private sector being highest: clotrimazole pessary was available in 46% of facilities, and clotrimazole cream in 70%. Metronidazole, used for vaginal infections, was available in 86% of public and private facilities, and 70% of mission facilities.

Medical Devices and Procedures

Vasectomy and tubal ligation kits were very scarce. In the rural public and private sector both were unavailable at all facilities. In urban area private facilities, the kits were available in only 3% of facilities. In urban public sector facilities, where availability was highest, it was still very low: vasectomy kits were found in 13% of facilities, and tubal ligation kits in 17%. Speculums had highest availability in the mission sector (74%), followed by the public sector (64%), and were scarcely available at private sector facilities (8%). Ultrasound scans had low availability in all sectors, as in the private sector only 5% of facilities had an ultrasound scan available, and the mission and public sectors were not doing much better (18% and 22%, respectively). Another commodity not readily available was the incubator: 32% of public facilities, 5% of private facilities, and 17% of mission facilities had an incubator. Antiseptic, of major importance to prevent infections as a consequence of any surgical procedures, was also scarcely available. In the public sector 13% of facilities had antiseptic available, in the private sector only 3%, and availability in the mission sector was 9%. Another commodity important during surgery is the suction device, which was available in 57% of public facilities, only 11% of private facilities, and in 61% of mission facilities.

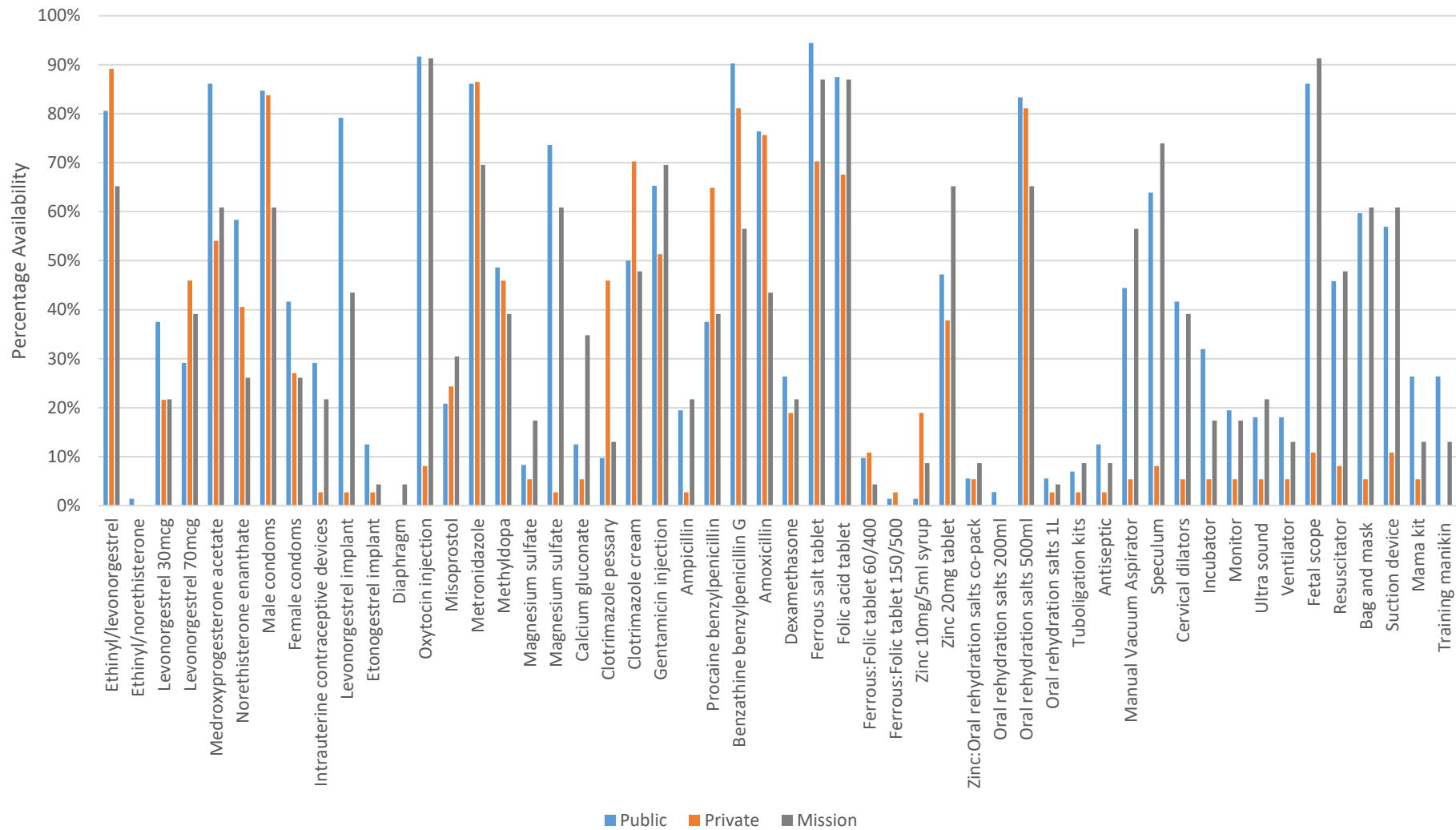


Figure 2: Mean percentage availability of SRHC across public, private and mission facilities.

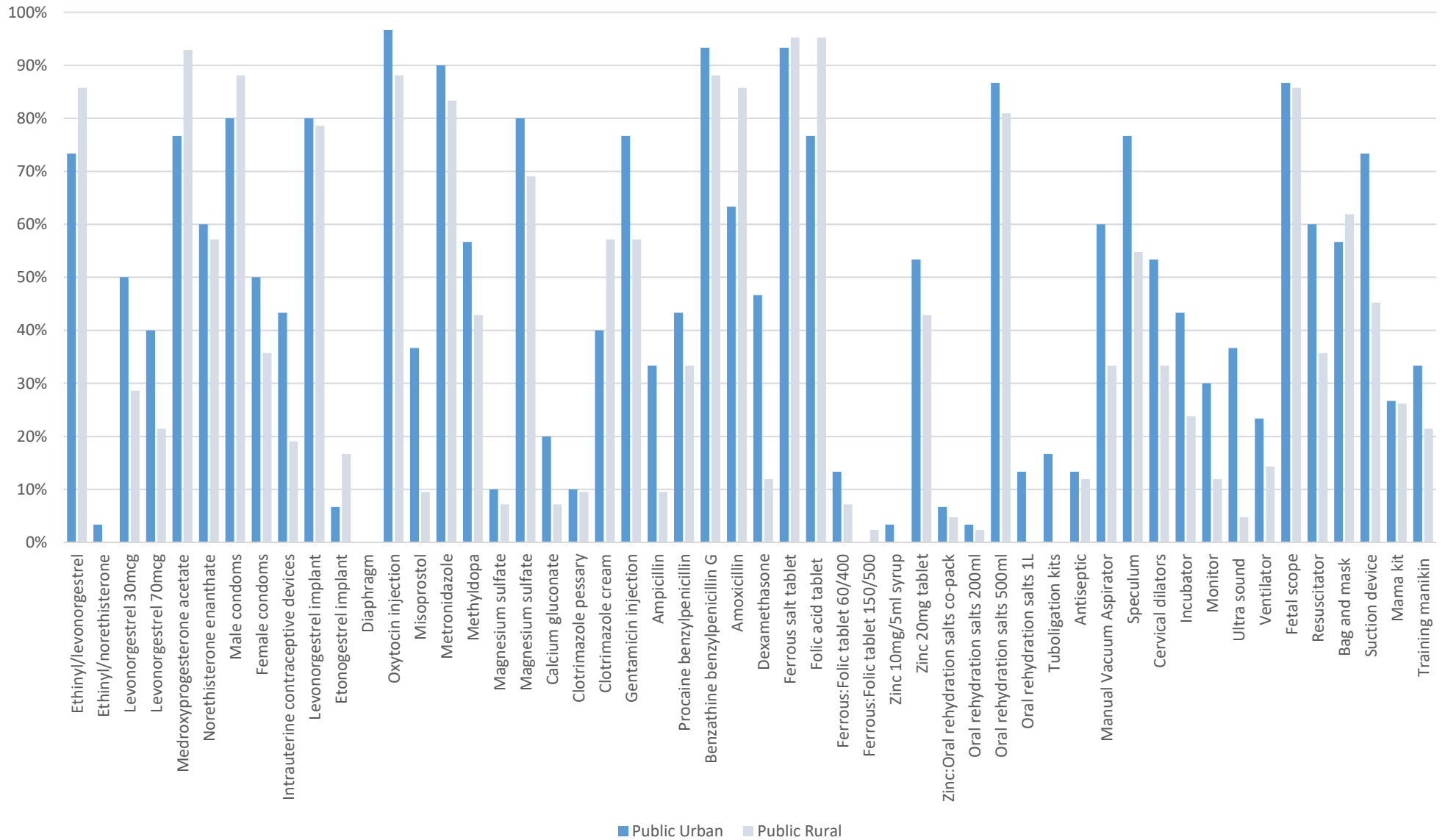


Figure 3: Mean percentage availability of SRHC in public sector facilities in urban and rural locations.

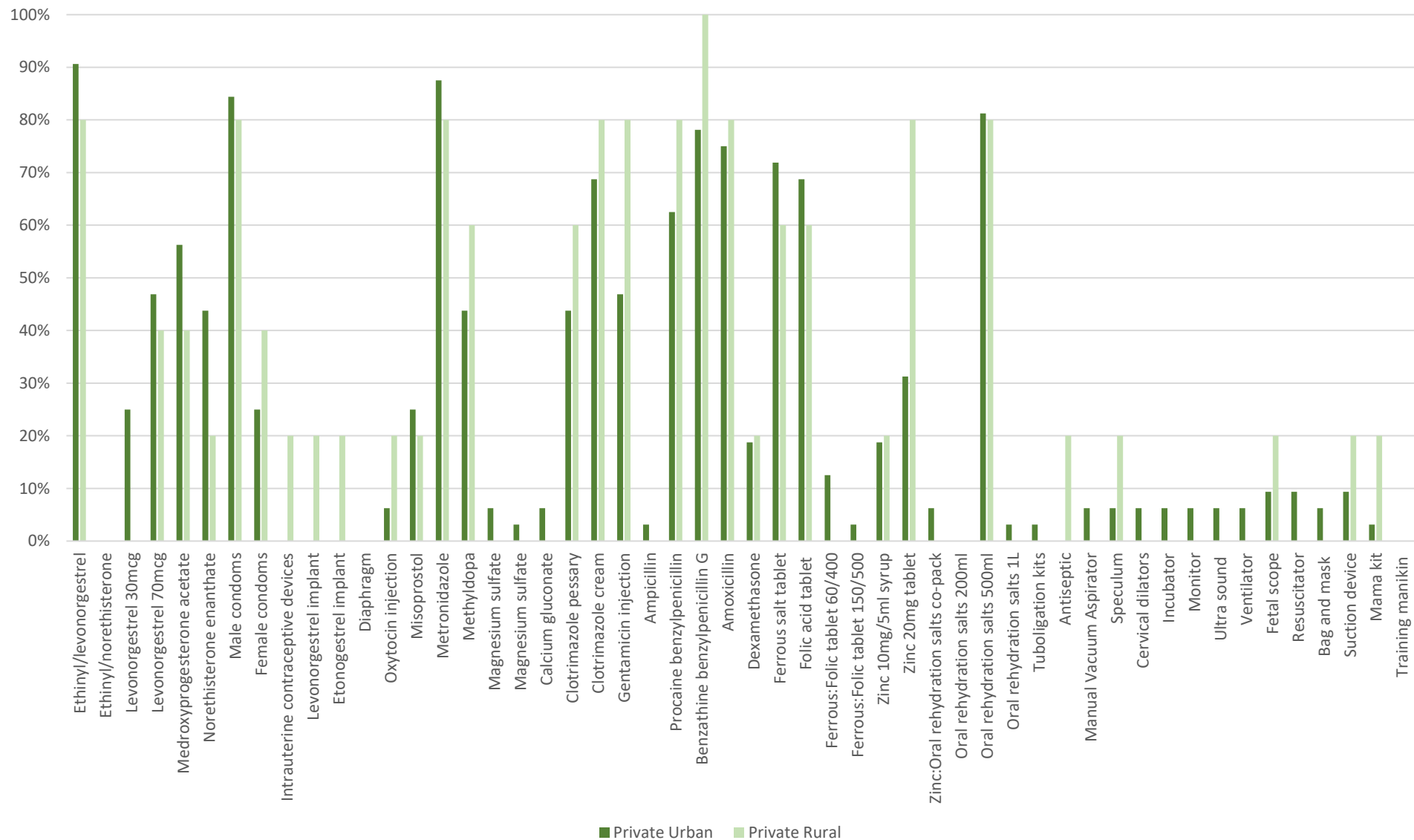


Figure 4: Mean percentage availability of SRHC in private sector facilities in urban and rural locations.

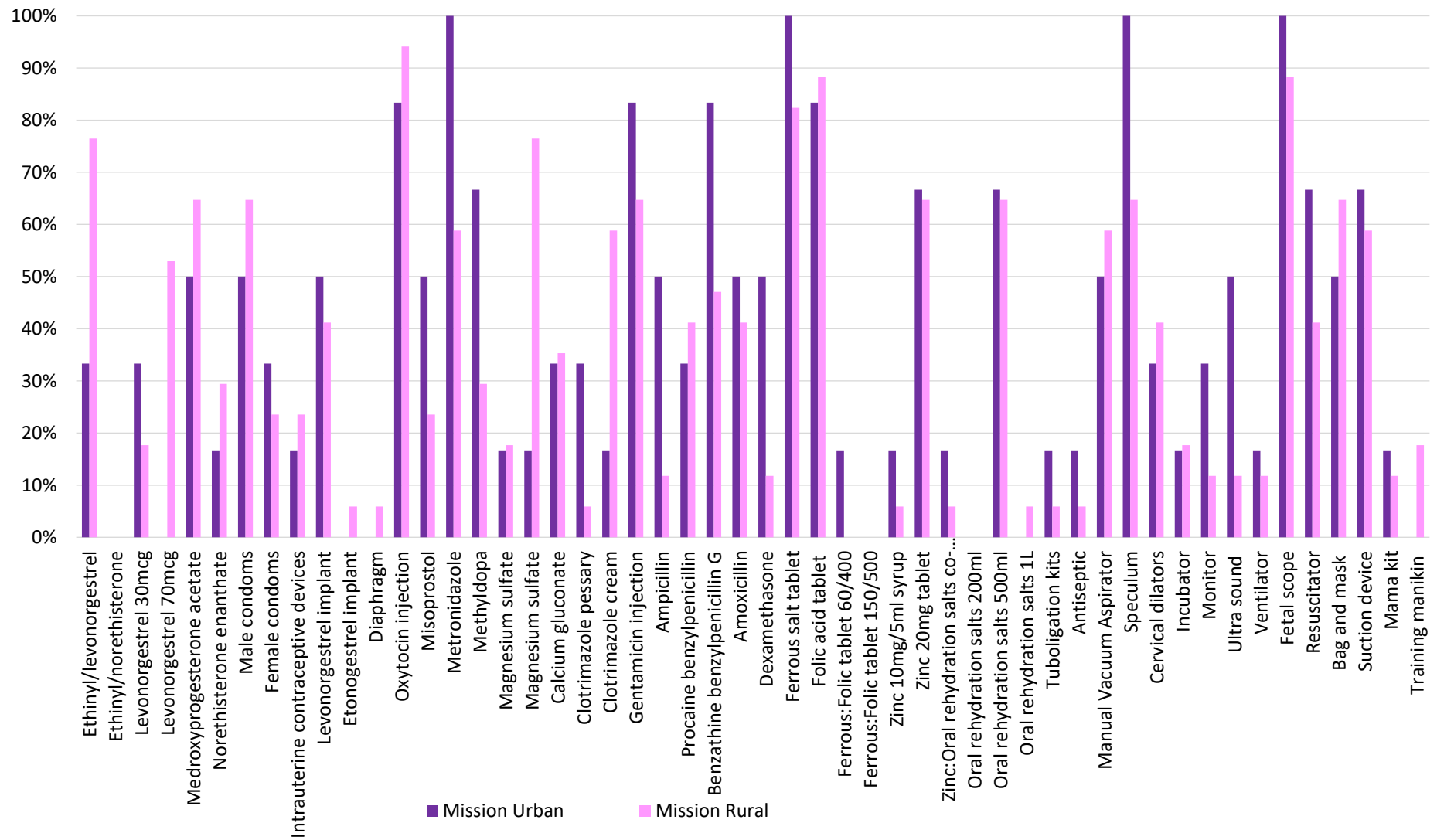


Figure 5: Mean percentage availability of SRHC in mission sector facilities in urban and rural locations

3.3 Stock-out Days

Stock-out information was only recorded by data collectors when stock information could be seen via a stock card or stock-taking database. As a result, in cases where stock information was not recorded, or anecdotal evidence was presented, the stock-out days could not be recorded. Please refer to Appendix C for a full breakdown of the stock-out data across sectors.

In the public and mission sector, stock-outs occurred in 6% of facilities, and in the private sector they occurred in 3% of facilities (see table 3). The public and mission sectors were also similar in the number of stock-out days: in the public sector, the average number of days an SRHC was stocked-out per month was 8, and in the mission sector this was 7 days. The private sector had on average 3 days of stock-outs per month.

	Percentage of Facilities Reporting Stockouts	Average Number of Stockout Days
Public	6	8
Private	3	3
Mission	6	7

Table 3: Percentage of facilities reporting stock-outs in the six months prior to survey and the average number of stock-outs recorded per facility.

Stock-outs for specific SRHC in the public sector ranged from 0% to 24% of facilities, with amoxicillin (24%), ethinylestradiol + levonorgestrel (19%), metronidazole (17%), clotrimazole cream (17%), dexamethasone (17%), and levonorgestrel 30 mcg tablets (15%) stocked-out at the most facilities. In the private sector stock-outs ranged from 0% to 11%, with three SRHC experiencing stock-outs at more than 10% of facilities: medroxyprogesterone acetate, zinc 20 mg tablets, and ORS sachets of 1L. In the mission sector the SRHC that was most stocked-out at facilities was clotrimazole cream (35%), followed by ethinylestradiol + levonorgestrel, male condoms and amoxicillin (17%), and metronidazole tablets (13%). Figure 6 shows the percentage of facilities experiencing stock-outs for each SRHC.

In the public sector, 4 of the 37 SRHC for which stock-out data was collected were stocked-out for more than 20 days per month, and of these, one was stocked out the entire month. In the private sector this occurred with one commodity, while in the mission sector this was the case for 5 commodities, of which 4 were stocked-out the entire month. Figure 7 is an overview of the number of stock-out days per sector and commodity.

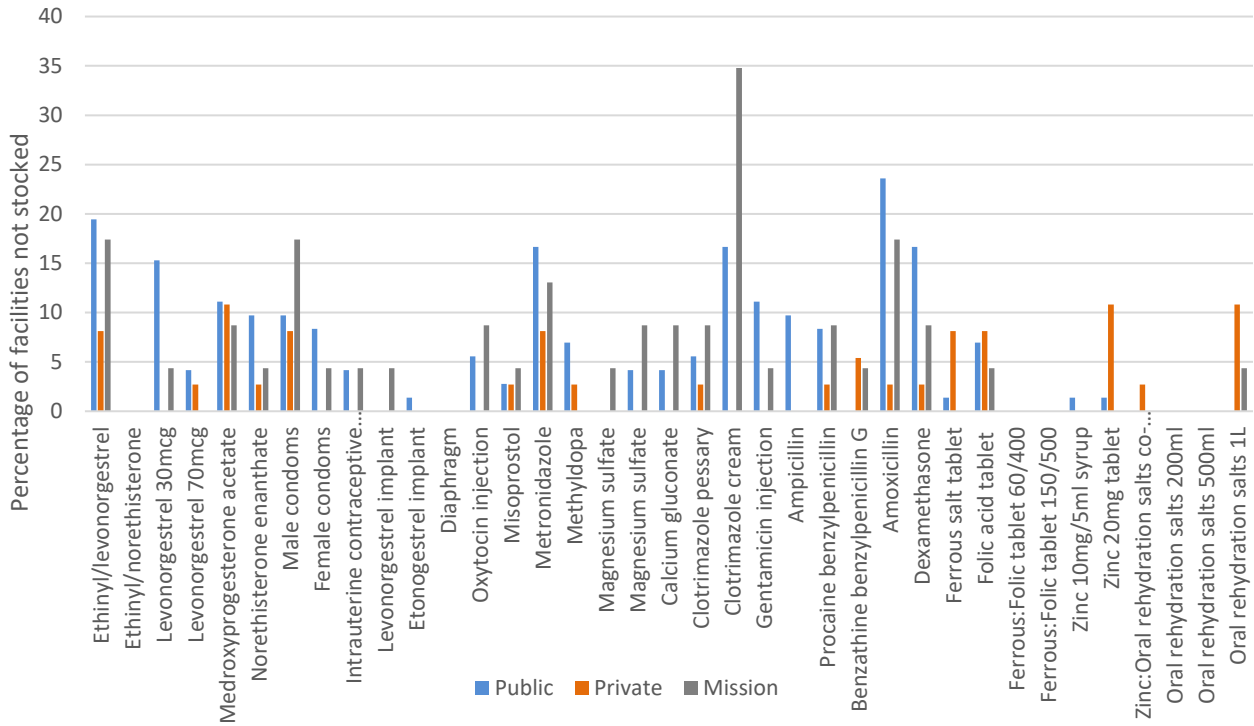


Figure 6: Percentage of facilities reporting stock-outs for SRHC in the six months prior to survey.

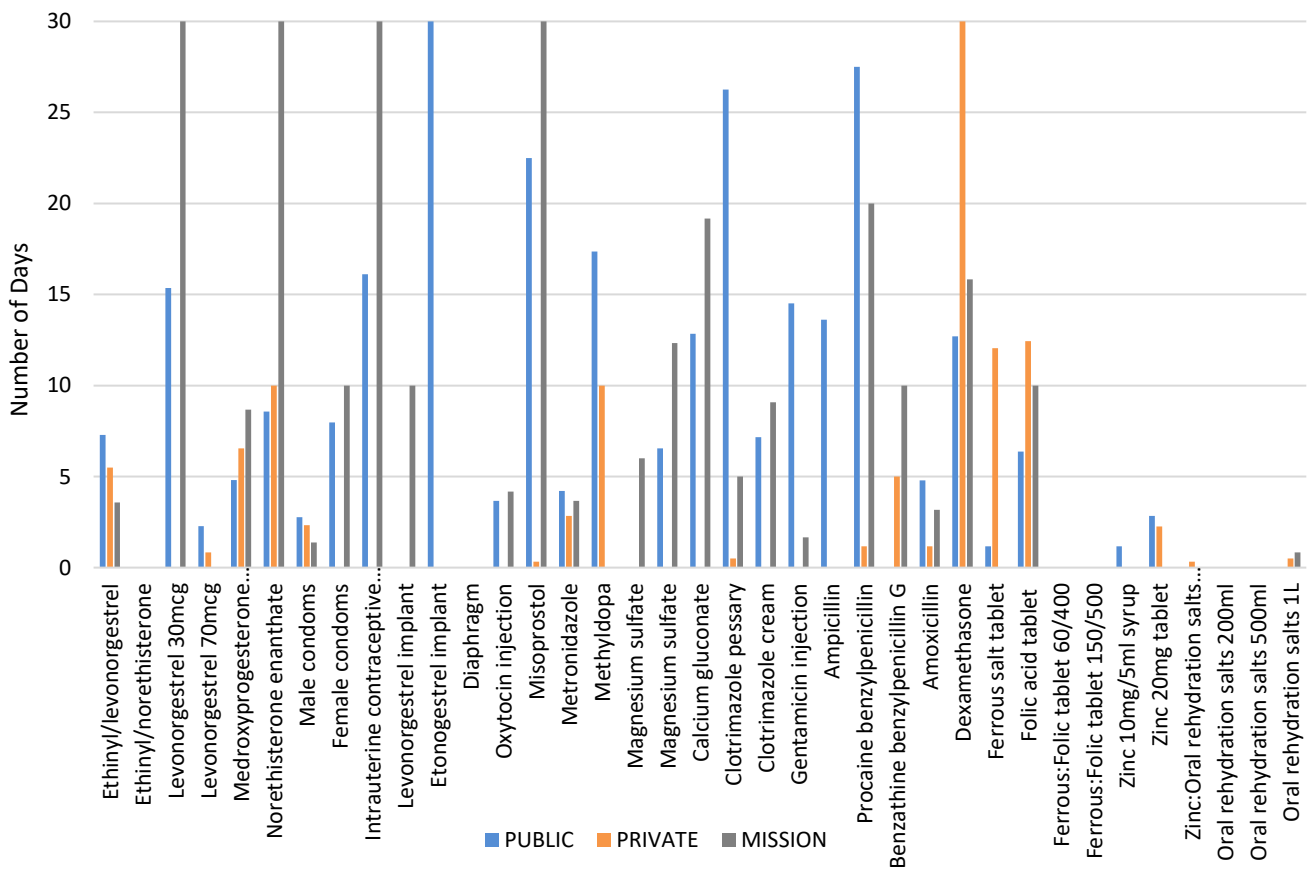


Figure 7: Average number of reported stock-out days per month for SRHC in public, private and mission sectors.

3.4 SRHC Prices in Public, Private and Mission Sectors

The following sections contain data analysed from Section B of the methodology, *SRHC: Measuring Prices, Availability & Affordability*. This section measures the pricing of commodities at facilities. Affordability of SRHC is based on the salary of the lowest-paid government worker in Zambia in 2017, the year of data collection. In Zambia, this is 96.7 Kwacha (ZMW) per day. SRHC not included in the analysis below are those which are not typically sold in facilities, such as equipment and devices (e.g., incubators and monitors). Prices displayed are for individual units of a commodity; a unit is the single most effective amount of a commodity that can be used (e.g., one tablet, a strip of 28 contraceptive tablets, 1ml or 1 vial). Please refer to Appendix D for a full breakdown of the price and affordability data across sectors. Where the commodity was not available across all sectors or locations, it has been removed from the figure.

In the public sector, with the exception of gentamicin injection, all SRHC were free to the patient. Even in the mission sector, almost all SRHC were free to the patient. Gentamicin injection had a mean unit price of 2 ZMW in the mission sector, and while all other commodities had a mean price of 0 ZMW, three commodities needed to be paid for in one or more mission sector facilities: metronidazole and amoxicillin had a max unit price of 1 ZMW, and ORS sachets of 1L had a max unit price of 4 ZMW. In the private sector, 7 of the 37 SRHC had a mean price of 0 ZMW for the patient, while the other commodities had a mean price ranging from 1 ZMW (metronidazole) to 53 ZMW (misoprostol). Table 4 is an overview of the SRHC commodity prices.

Commodity	Prices in Zambian Kwacha (ZMW)								
	Public Sector			Private Sector			Mission Sector		
	Mean Unit Price	Min Unit Price	Max Unit Price	Mean Unit Price	Min Unit Price	Max Unit Price	Mean Unit Price	Min Unit Price	Max Unit Price
Ethinyl/levonorgestrel	0	0	0	7	0	12	0	0	0
Ethinyl/norethisterone	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
Levonorgestrel 30mcg	0	0	0	6	0	10	0	0	0
Levonorgestrel 70mcg	0	0	0	18	0	40	0	0	0
Medroxyprogesterone acetate	0	0	0	16	0	65	0	0	0
Norethisterone enanthate	0	0	0	26	0	164	0	0	0
Male condoms	0	0	0	3	0	20	0	0	0
Female condoms	0	0	0	5	0	10	0	0	0
Intrauterine contraceptive devices	0	0	0	0	0	0	0	0	0
Levonorgestrel implant	0	0	0	0	0	0	0	0	0
Etonogestrel implant	0	0	0	0	0	0	0	0	0
Diaphragm	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0
Oxytocin injection	0	0	0	6	0	13	0	0	0
Misoprostol	0	0	0	53	0	250	0	0	0
Metronidazole	0	0	0	1	0	15	0	0	1
Methyldopa	0	0	0	3	0	15	0	0	0
Magnesium sulfate	0	0	0	9	0	18	0	0	0
Magnesium sulfate	0	0	0	12	12	12	0	0	0

Calcium gluconate	0	0	0	4	0	9	0	0	0
Clotrimazole pessary	0	0	0	10	0	30	0	0	0
Clotrimazole cream	0	0	0	18	0	55	0	0	0
Gentamicin injection	1	0	15	8	0	15	2	0	15
Ampicillin	0	0	0	0	0	0	0	0	0
Procaine benzylpenicillin	0	0	0	10	0	20	0	0	0
Benzathine benzylpenicillin G	0	0	0	11	0	50	0	0	0
Amoxicillin	0	0	0	2	0	20	0	0	1
Dexamethasone	0	0	0	7	5	10	0	0	0
Ferrous salt tablet	0	0	0	0	0	5	0	0	0
Folic acid tablet	0	0	0	0	0	5	0	0	0
Ferrous:Folic tablet 60/400	0	0	0	2	0	7	0	0	0
Ferrous:Folic tablet 150/500	0	0	0	0	0	0	N/A	N/A	N/A
Zinc 10mg/5ml syrup	0	0	0	15	0	25	0	0	0
Zinc 20mg tablet	0	0	0	2	0	12	0	0	0
Zinc:Oral rehydration salts co-pack	0	0	0	15	10	20	0	0	0
Oral rehydration salts 200ml	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
Oral rehydration salts 500ml	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oral rehydration salts 1L	0	0	0	3	0	6	0	0	4

Note: N/A denotes SRHC was unavailable and, therefore, no price or affordability information can be calculated.

Table 4: SRHC mean, minimum and maximum unit prices in public, private and mission sector facilities.

Interestingly, when price data for a commodity was available for both urban and rural areas, this research showed that in the private sector the mean price for the same commodity differed per area (see figure 8). Namely, the mean prices of SRHC were markedly higher in urban private sector facilities than in rural private sector facilities.

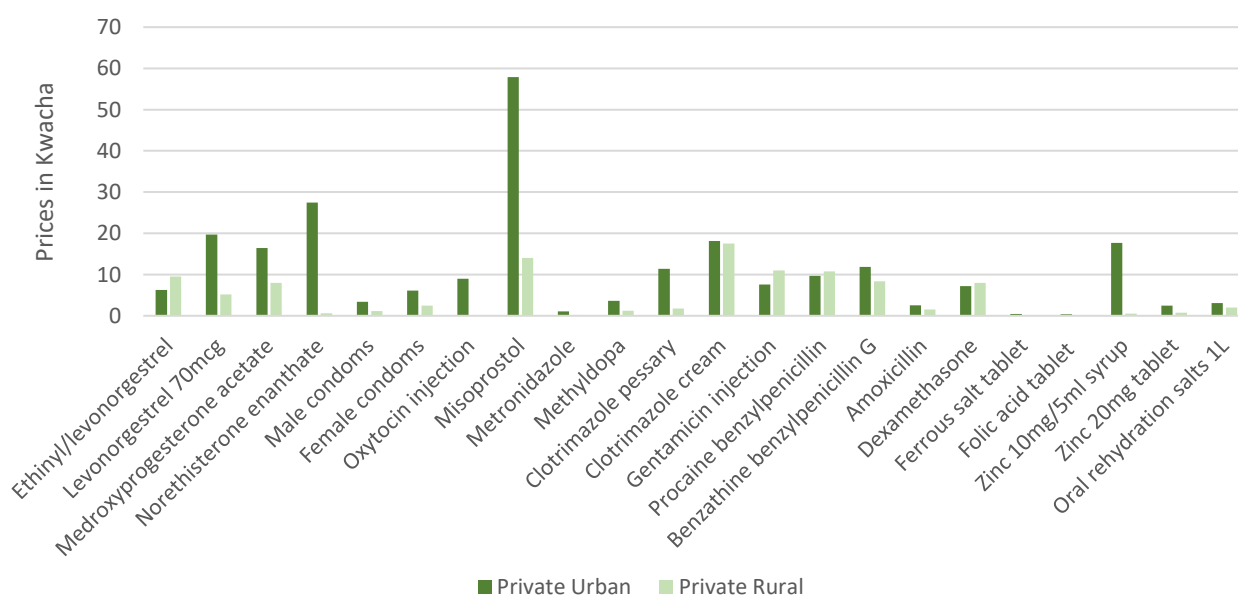


Figure 8: SRHC mean unit prices in the private sector, by area.

3.5 SRHC Affordability in Public, Private and Mission Sectors

In the public and mission sectors affordability of SRHC was optimal because the commodities were free to the patient. The affordability of SRHC in the private sector, using the wages of a lowest-paid government worker in Zambia in 2017, did not exceed 0.5 days of wages, with the exception of misoprostol, which cost 0.55 days (see appendix D and figure 9).

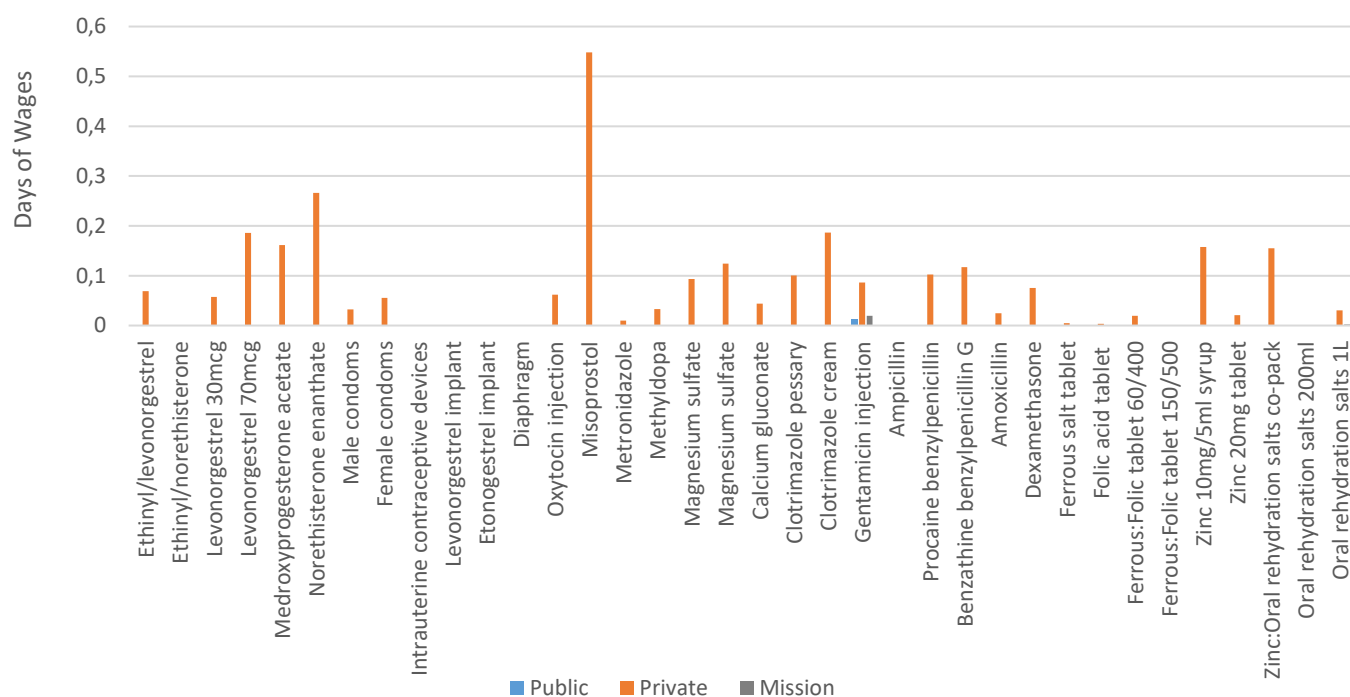


Figure 9: Affordability of SRHC in public, private and mission sectors.

3.6 Stakeholder interviews

The following sections contain data analysed from Section B of the methodology, SRHC: Measuring Prices, Availability & Affordability. This section investigates access to SRHC in general and at particular facilities from the perspective of the interviewed health provider. The respondents remained the same as those providing assistance in Part A of the survey. The response rate for the survey was 89%; fifteen people declined to answer the qualitative component of the survey. Please refer to Appendix E for a full breakdown of the data across the sectors.

Key Challenges to SRHC Access

Respondents were asked what they thought were the key challenges to SRHC access. They were given six options and the opportunity to add further suggestions. Respondents could choose as many options as they thought applicable. The options were:

- a. There is no demand for medicines/commodities.
- b. Requested medicines and commodities are not supplied.

- c. Logistical issues for supply of medicines/commodities.
- d. Training of staff.
- e. Cost of medicines to patients.
- f. Frequent stock outs.
- g. Other (specify):

The most commonly mentioned key challenge to SRHC access was training of staff (47%), followed by that requested commodities are not supplied (38%) and frequent stock-outs (34%) (See figure 10).

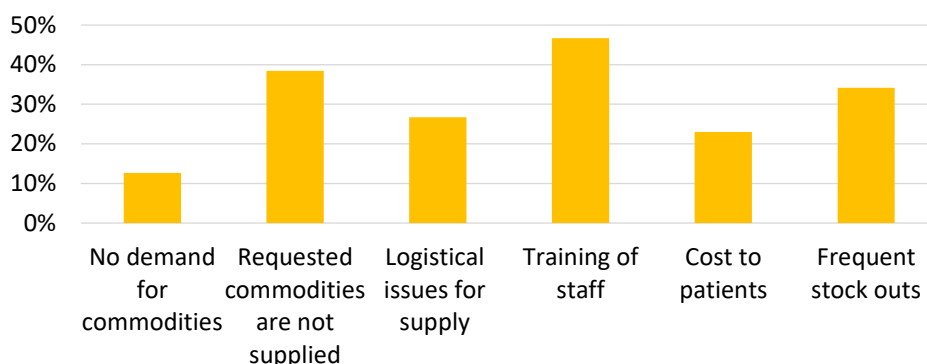


Figure 10: Key challenges to SRHC access.

When the key challenges were ordered according to the sectors, it became clear that some key challenges differed between the sectors. For instance, in the private sector, the biggest challenge according to the respondents was cost to the patients (52%), while in the public and mission sector this was not prioritised as one of the major challenges (3% and 14%, respectively) (see figure 11). In the public and mission sectors training of staff was still the main challenge, as it was mentioned by 52% of the respondents in both sectors. In the private sector 35% thought it was a key challenge. Other main challenges in the public and mission sectors were that requested commodities are not supplied, frequent stock-outs, and logistical issues for supply. In the private sector other main challenges were also that commodities are not supplied and frequent stock-outs.

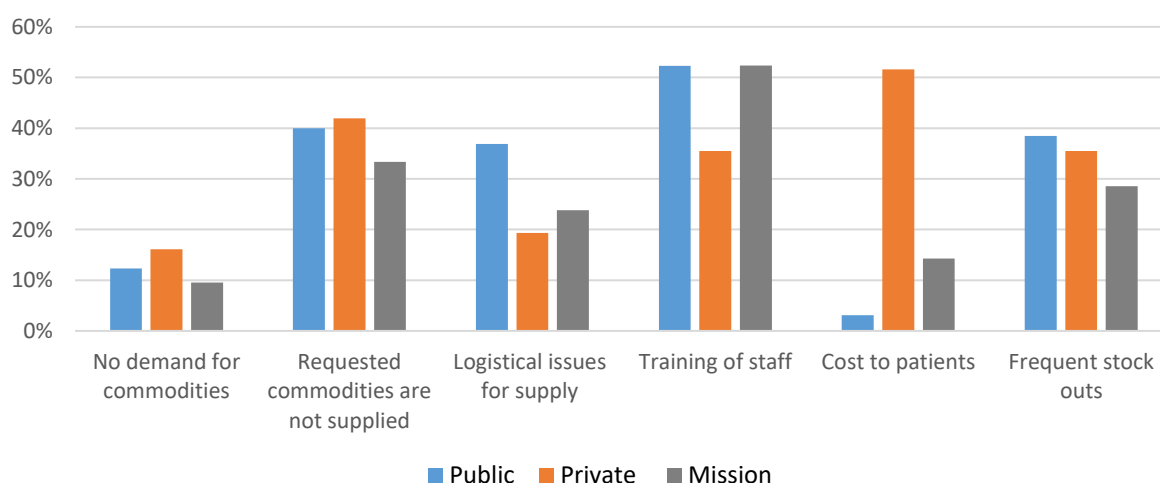


Figure 11: Key challenges to SRHC access in public, private and mission sectors.

Improving Access to SRHC

Respondents were asked what they thought could be done, in general, to improve access to SRHC in Zambia. Where possible, they were also asked to list their top three priorities. Respondents believed that improving the supply chain (41%) was one of the key things that could be done to improve access (see figure 12). Improvements to the supply chain included accurate ordering of SRHC, efficient and accurate delivery, and a move to a 'pull system', rather than a 'push system', of SRHC stock ordering. Another recommendation made was to offer or improve follow-up services to patients (26%). Some respondents also mentioned client education and outreach (19%) and increasing the number of trained staff (16%) to improve access to SRHC.

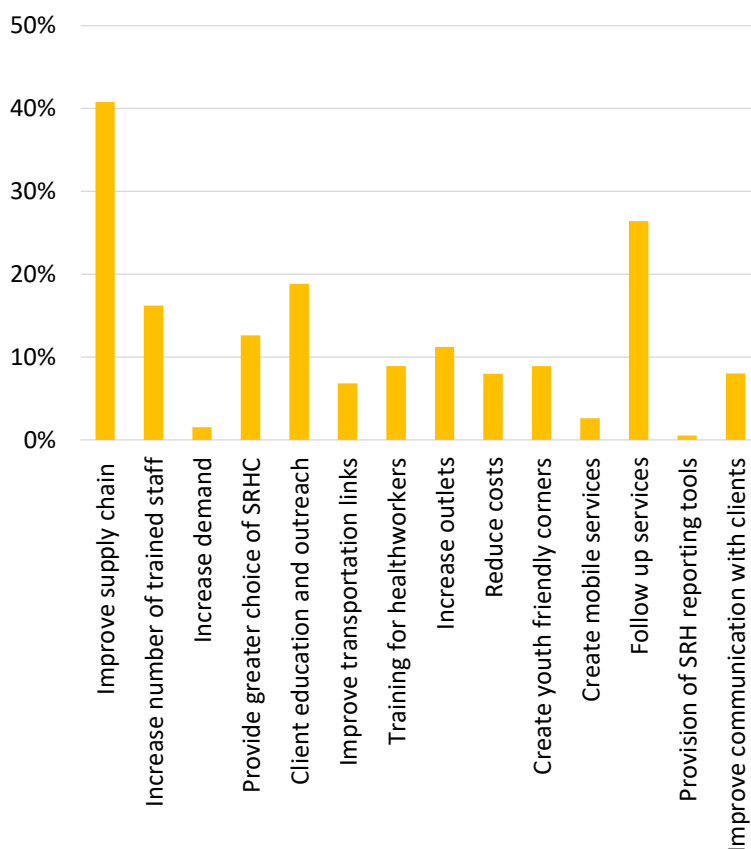
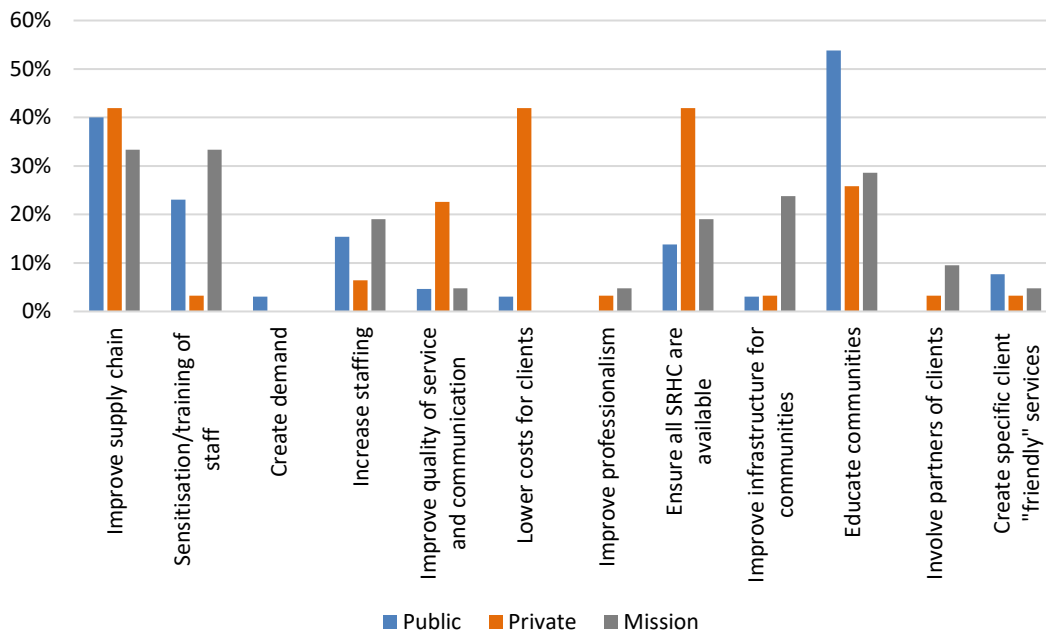


Figure 12: Improving access to SRHC in Zambia.

Ensuring Access to SRH Services at Facilities

Respondents were also asked what could be done to ensure access to SRH services at the facility at which they worked. In the public sector respondents believed that educating the communities (54%), improving the supply chain (40%), and sensitising/ training staff were the best ways to improve access to SRH services at their facility (figure 13). In the private sector facilities 42% of respondents believed lower costs for patients, ensuring all SRHC are available and improving the supply chain were equally important to ensure access in their facilities. Educating communities was mentioned by 26% of respondents. In the mission sector, improving the supply chain and sensitisation/ training of staff were highest prioritised (33%), followed by educating the communities on SRH (29%) as ways to improve access to SRH services in their facilities.



Note: "Create specific client-friendly services" was described as the provision of specific services focusing on a particular demographic, or specific sections of the facility focusing on SRHC for a particular group of people (e.g., youths).

Figure 13: Ensuring access to SRH services in public, private and mission sector facilities.

Reluctance for Clients to Access SRHC

Respondents were asked if they thought clients that visited their facility were reluctant to visit for SRHC and SRH services. If respondents replied, "Yes", they were asked to provide their thoughts on the reasons for this reluctance and what they believed could be done to tackle this issue.

Of the respondents, 67% believed that clients were reluctant to access SRHC (see figure 14). The response to why they think clients are reluctant differed to some extent across the sectors, but there were still similarities in responses (see figure 15). For instance, all sectors stated lack of knowledge and fear of side effects were important contributors to clients' reluctance. Interestingly, in the public and private sectors 22% and 29% of respondents, respectively, believed that myths, superstition and religion played a role in patients' reluctance, while only 5% of respondents from the mission sector believed this. In the mission sector, respondents believed, next to fear of side effects and lack of knowledge, that one of the main reasons for clients' reluctance was the lack of support from male partners (14%). When respondents were asked about ways to decrease

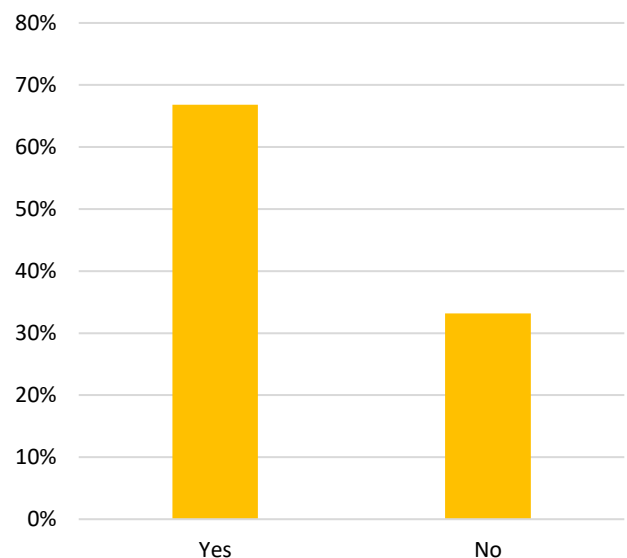


Figure 14: Reluctance for clients to access SRHC.

clients' reluctance to access SRHC, 48% recommended improving client education for everyone, so for both men and women (see figure 16).

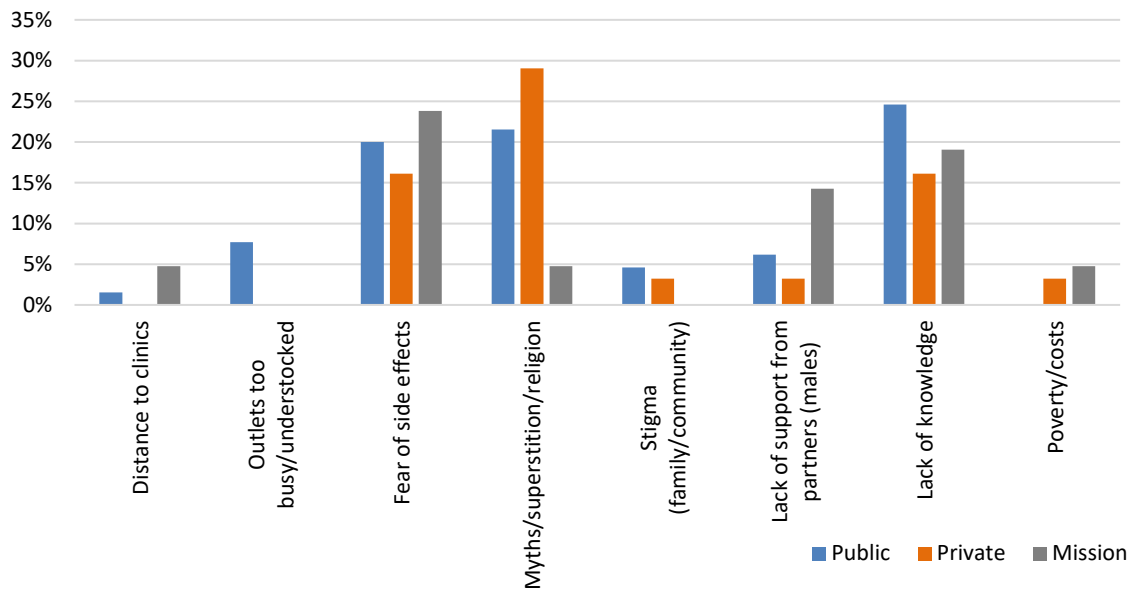
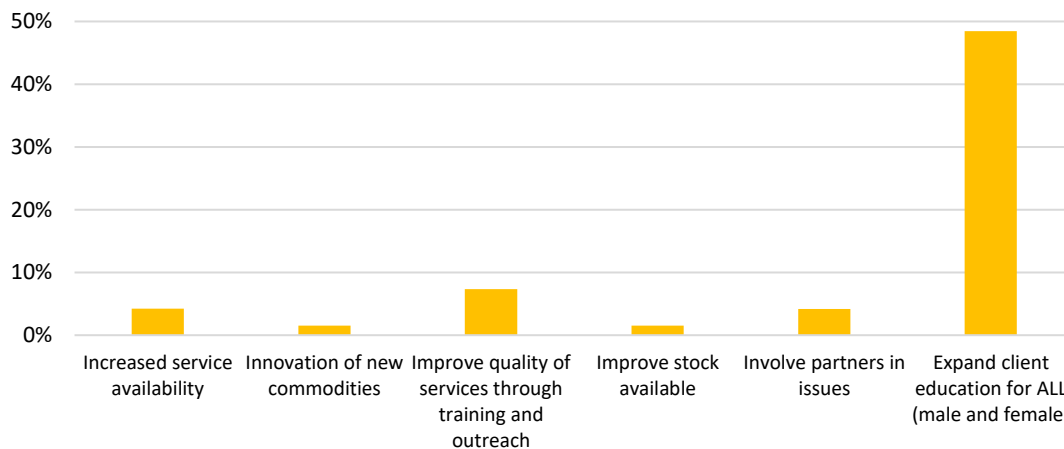


Figure 15: Reasons for client reluctance in accessing SRHC in public, private and mission sector facilities.



Note: By "innovation of new commodities", respondents described the availability of new and easier-to-use commodities for clients. "Involving partner in issues" meant involving males in the SRH of their female partners to aid understanding.

Figure 16: Possible improvements to overcome client reluctance to access SRHC at facilities.

4. Discussion

This is the first roll-out of a planned yearly survey as part of the Health Systems Advocacy (HSA) – Sexual and Reproductive Health project. This research aims to create a clear picture of Zambia's current situation regarding access to sexual and reproductive health commodities, and to identify the best way to improve access to these commodities.

This research showed that availability of SRHC is problematic in Zambia, as only 34% of the commodities were available in the facilities. At 41%, availability in the public sector was highest, while the availability in the private sector was evidently lower at 25%. Moreover, almost half of the 53 commodities researched were available at less than 25% of the facilities, and only 15 commodities were on average available at more than 50% of the facilities.

In Zambia, the birth control pill and injectable co are the most commonly used contraceptives³. Availability of contraceptives was inconsistent, with one formulation of the birth control pill and male condoms being most available. However, availability of these contraceptives was still not optimal, as male condoms were available in 80-88% of public and private facilities but only in 50-65% of mission facilities, and birth control pill availability ranged from 33% in urban mission sector facilities to 91% in urban private sector facilities. Medroxyprogesterone acetate, the injectable contraceptive, was commonly available in the private sector, but less so in the other sectors. Other contraceptives had seriously low availability even though contraceptives are crucial for family planning. This suboptimal availability of contraceptives makes it difficult to access the commodities, which likely contributes to the 20% of women in Zambia who were experiencing unmet needs for family planning in 2015⁴.

Antenatal and post-natal commodities, such as oxytocin, magnesium sulphate and gentamicin were also available inconsistently across the different sectors, with availability being in general highest in the public sector and seriously low in the private sector. These medicines are crucial to ensure a healthy pregnancy and life for both the mother and the baby, and when they are not available, it can lead to serious morbidity and mortality. The irregular availability of these commodities thus likely contributes to the 396 maternal deaths per 100,000 live births in Zambia⁵. The same is the case with medical devices and procedures available at facilities; important devices and procedures that had a low availability, such as ultrasound scans, incubators, antiseptic and suction devices, have a significant impact on the health outcomes of mothers and babies as it affects the quality of treatment offered to the clients.

³ United Nations, Department of Economic and Social Affairs, Population Division. *Trends in Contraceptive Use Worldwide 2015*. (Geneva: United Nations, 2015), p. 1-63.

⁴ United Nations, Department of Economic and Social Affairs, Population Division. *Trends in Contraceptive Use Worldwide 2015*. (Geneva: United Nations, 2015), p. 1-63.

⁵ Central Statistical Office, Informational Research and Dissemination Branch. *Zambia in Figures 2016*. (Lusaka: Central Statistical Office, 2016), p. 1-30.

For SRHC in general, stock-outs occurred on average at only 6% of public, 3% of private, and 6% of mission sector facilities, and lasted on average 8, 3, and 7 days per month, respectively. However, specific SRHC were stocked-out at up to 24% of facilities in the public sector, and up to 35% in the mission sector. Moreover, in the public sector, 4 of the 37 SRHC for which stock-out data was collected were stocked-out for more than 20 days per month, and in the mission sector this was the case for 5 commodities. Also, even though stock-outs were not a common occurrence, since availability of SRHC is already low, stock-outs can still have a significant impact on access to SRHC. Related, frequent stock-outs were also mentioned by 34% of respondents to be a major challenge to SRHC access. Important to note is that stock cards were not available at a number of facilities, which may have led to an underestimation of the stock-out situation.

Even though all SRHC were free to the patient in the public sector, almost all were free to the patient in the mission sector, and in the private sector no SRHC exceeded 0.55 days' wages of a lowest-paid government worker, costs to patients were still mentioned as a major challenge to SRHC. Naturally, this was especially the case for the private sector, where 52% of respondents believed it was a key challenge. This is not surprising, as Zambia's lowest-paid government worker earns the equivalence of USD 10.37⁶, while in 2015 57.5% of Zambia's population was living below the international poverty line of USD 1.90⁷. Another interesting finding in this research is that mean prices of SRHC were significantly higher in urban private sector facilities than in rural private sector facilities. Further research into this finding is recommended.

Not only stock-outs and costs to patients were thought to be key challenges affecting access to SRHC, other challenges thought to be as important were lack of staff training on SRH, the fact that requested commodities are not supplied, and logistical issues for supply. To improve access to SRHC, the following recommendations are made:

- Improve the supply chain
 - Efficient and accurate delivery
 - Move to a 'pull system' of SRHC stock ordering
- Offer and/or improve follow-up services to patients
- Client education and outreach
- Increase the number of trained staff

Recommendations to improve access to SRHC at their own facilities are of the same nature as the general recommendations, with the exception of the recommendation to lower the costs for patients in private sector facilities. To decrease reluctance of clients to access SRHC, which was thought to be quite a problem, expanding client education, for both men and women, is recommended.

⁶ Based on currency conversion of ZMW to USD for the value of ZMW in USD on September 13th, 2017 via <https://www.oanda.com/currency/converter/>.

⁷The World Bank. *Poverty & Equality Data Portal: Zambia*. Accessed 23 November, 2017: <http://povertydata.worldbank.org/poverty/country/ZMB>

Conclusion

The lack of availability of commodities, the stock-outs, the unaffordability of SRHC and challenges at the community and facility level all contribute to the difficulties people experience in accessing sexual and reproductive healthcare services, as well as to the 20% of women that still have unmet family planning needs. Improvements in accessing SRHC in Zambia are therefore needed to achieve the Sustainable Development Goal of universal access to sexual and reproductive healthcare services. This survey showed that community education might have a considerable impact on health-seeking behaviour of clients. Improving knowledge in the community about SRH will tackle many of the reasons given as to why 67% of clients are reluctant to access SRH services. For instance, comprehensive education on SRH will improve the general knowledge about SRH, which will in turn reduce the (ungrounded) fear of side effects and target the myths, superstitions and religious factors negatively influencing SRH services use. Related to community education is staff sensitisation. Staff sensitisation and continued education is needed to ensure clients feel comfortable in accessing SRH services at facilities. To achieve this, it is important that staff is sufficiently knowledgeable about SRH and services available so they can offer quality care, that they are professional in their approach, and that no stigmatisation occurs within the facility. Improving client and staff education is not enough; if the commodities are not available they cannot be accessed. Therefore, another important area of focus to improve access to SRH services is the pharmacy chain, as a suboptimal pharmacy chain leads to problems with availability and stock-outs of the commodities. To improve the pharmacy chain, SRHC should be accurately ordered, the delivery should be efficient, accurate and timely, and a closer look should be taken to see whether a 'pull system' would work better in the Zambian situation than the 'push system' in use at the moment. Lastly, costs are also an important access-limiting factor in the private sector for which solutions should be developed.

5. Appendices

7.1 Appendix A: SRHC Surveyed

Commodity

Ethinylestradiol + levonorgestrel (tablet, 30 mcg + 150 mcg)
Ethinylestradiol + norethisterone (tablet, 35 mcg + 1.0 mg)
Levonorgestrel (tablet, 30 mcg)
Levonorgestrel (tablet, 750 mcg)
Medroxyprogesterone acetate (150mg in 1 ml vial)
Norethisterone enanthate (200mg/ml in 1 ml vial)
Male condoms
Female condoms
Intrauterine contraceptive devices
Implants: Levonorgestrel
Implants: Etonogestrel
Diaphragm
Oxytocin injection (10IU, 1ml)
Misoprostol (200 mcg tablet)
Metronidazole (tablet, 200mg)
Methyldopa (tablet, 250mg)
Magnesium sulfate (500mg in 2ml)
Magnesium sulfate (500mg in 10ml)
Calcium gluconate (100mg in 10ml ampoule)
Clotrimazole (pessary 500mg)
Clotrimazole (cream 1% in 15g tube)
Gentamicin injection (40mg/ml in 2ml)
Ampicillin (500mg powder for injection)
Procaine benzylpenicillin, fort (powder for injection 4MU)
Benzathine benzylpenicillin G (2.4MU in 10ml)
Amoxicillin (125mg/250mg)
Dexamethasone (4mg/ml)
Ferrous salt tablet (200mg)
Folic acid tablet (tablet 5mg)
Ferrous salt and folic acid (tablet 60mg iron + 400mcg folic acid)
Ferrous salt and folic acid (tablet 150mg iron + 500mcg folic acid)
Zinc (10mg in 5ml syrup)
Zinc (20mg tablet)
Zinc oral rehydration salts co-pack (10mg tablet/1L)
Oral rehydration salts (sachets of 200ml)
Oral rehydration salts (sachets of 500ml)
Oral rehydration salts (sachets of 1L)
Vasectomy kits
Tuboligation kits
Antiseptic (chlorhexidine/alcohol)
Manual vacuum aspiration kits
Speculum
Cervical dilators
Incubator
Monitor
Ultrasound scan

Ventilator
Fetal scope
Resuscitator
Bag and mask (size 0)
Suction device
Mama kit
Training manikin for infant resuscitation

Table 5: Full list of SRHC surveyed.

7.2 Appendix B: SRHC Availability

Commodity	Percentage Mean Availability (%)					
	Public		Private		Mission	
	Urban	Rural	Urban	Rural	Urban	Rural
Ethinylestradiol + levonorgestrel (tablet, 30 mcg + 150 mcg)	73%	86%	91%	80%	33%	76%
Ethinylestradiol + norethisterone tablet (35 mcg + 1.0 mg)	3%	0%	0%	0%	0%	0%
Levonorgestrel tablet (30 mcg)	50%	29%	25%	0%	33%	18%
Levonorgestrel tablet (750 mcg)	40%	21%	47%	40%	0%	53%
Medroxyprogesterone acetate (150mg in 1 ml vial)	77%	93%	56%	40%	50%	65%
Norethisterone enanthate (200mg/ml in 1 ml vial)	60%	57%	44%	20%	17%	29%
Male condoms	80%	88%	84%	80%	50%	65%
Female condoms	50%	36%	25%	40%	33%	24%
Intrauterine contraceptive devices	43%	19%	0%	20%	17%	24%
Implants: Levonorgestrel	80%	79%	0%	20%	50%	41%
Implants: Etonogestrel	7%	17%	0%	20%	0%	6%
Diaphragm	0%	0%	0%	0%	0%	6%
Oxytocin injection (10IU, 1ml)	97%	88%	6%	20%	83%	94%
Misoprostol (200 mcg tablet)	37%	10%	25%	20%	50%	24%
Metronidazole tablet (200mg)	90%	83%	88%	80%	100%	59%
Methyldopa tablet (250mg)	57%	43%	44%	60%	67%	29%
Magnesium sulfate (500mg in 2ml)	10%	7%	6%	0%	17%	18%
Magnesium sulfate (500mg in 10ml)	80%	69%	3%	0%	17%	76%
Calcium gluconate (100mg in 10ml ampoule)	20%	7%	6%	0%	33%	35%
Clotrimazole (pessary 500mg)	10%	10%	44%	60%	33%	6%
Clotrimazole (cream 1% in 15g tube)	40%	57%	69%	80%	17%	59%
Gentamicin injection (40mg/ml in 2ml)	77%	57%	47%	80%	83%	65%
Ampicillin (500mg powder for injection)	33%	10%	3%	0%	50%	12%
Procaine benzylpenicillin, fort (powder for injection 4MU)	43%	33%	63%	80%	33%	41%
Benzathine benzylpenicillin G (2.4MU in 10ml)	93%	88%	78%	100%	83%	47%
Amoxicillin (125mg/250mg)	63%	86%	75%	80%	50%	41%
Dexamethasone (4mg/ml)	47%	12%	19%	20%	50%	12%
Ferrous Salt (tablet 200mg)	93%	95%	72%	60%	100%	82%

Folic Acid (tablet, 5mg)	77%	95%	69%	60%	83%	88%
Ferrous salt and folic acid (tablet 60mg iron + 400mcg folic acid)	13%	7%	13%	0%	17%	0%
Ferrous salt and folic acid (tablet 150mg iron + 500mcg folic acid)	0%	2%	3%	0%	0%	0%
Zinc (10mg in 5ml syrup)	3%	0%	19%	20%	17%	6%
Zinc (20mg tablet)	53%	43%	31%	80%	67%	65%
Zinc oral rehydration salt (co-pack 10mg/1ml)	7%	5%	6%	0%	17%	6%
Oral rehydration salts (sachets of 200ml)	3%	2%	0%	0%	0%	0%
Oral rehydration salts (sachets of 500ml)	0%	0%	0%	0%	0%	0%
Oral rehydration salts (sachets of 1L)	87%	81%	81%	80%	67%	65%
Vasectomy kits	13%	0%	3%	0%	0%	6%
Tuboligation kits	17%	0%	3%	0%	17%	6%
Antiseptic	13%	12%	0%	20%	17%	6%
Manual vacuum aspiration kits	60%	33%	6%	0%	50%	59%
Speculum	77%	55%	6%	20%	100%	65%
Cervical dilators	53%	33%	6%	0%	33%	41%
Incubator	43%	24%	6%	0%	17%	18%
Monitor	30%	12%	6%	0%	33%	12%
Ultrasound	37%	5%	6%	0%	50%	12%
Ventilator	23%	14%	6%	0%	17%	12%
Fetal scope	87%	86%	9%	20%	100%	88%
Resuscitator	60%	36%	9%	0%	67%	41%
Bag and mask	57%	62%	6%	0%	50%	65%
Suction device	73%	45%	9%	20%	67%	59%
Mama kit	27%	26%	3%	20%	17%	12%
Training mannequin	33%	21%	0%	0%	0%	18%
Average	45%	37%	25%	27%	39%	35%

Table 6: Percentage availability of SRHC across all sectors and locations.

7.3 Appendix C: SRHC Stockout Data

Commodity	Percentage of Facilities Reporting a Stockout (in Last Six Months)			Average Number of Stockout Days		
	Public	Private	Mission	Public	Private	Mission
Ethinylestradiol + levonorgestrel (tablet, 30 mcg + 150 mcg)	19	8	17	7	6	4
Ethinylestradiol + norethisterone (tablet, 35 mcg + 1.0 mg)	0	0	0	0	0	0
Levonorgestrel (tablet, 30 mcg)	15	0	4	15	0	30
Levonorgestrel (tablet, 750 mcg)	4	3	0	2	1	0
Medroxyprogesterone acetate (150mg in 1 ml vial)	11	11	9	5	7	9
Norethisterone enanthate (200mg/ml in 1 ml vial)	10	3	4	9	10	30
Male condoms	10	8	17	3	2	1
Female condoms	8	0	4	8	0	10
Intrauterine contraceptive devices	4	0	4	16	0	30
Implants: Levonorgestrel	0	0	4	0	0	10
Implants: Etonogestrel	1	0	0	30	0	0
Diaphragm	0	0	0	0	0	0
Oxytocin injection (10IU, 1ml)	6	0	9	4	0	4
Misoprostol (tablet, 200 mcg)	3	3	4	23	0	30
Metronidazole (tablet, 200mg)	17	8	13	4	3	4
Methyldopa (tablet, 250mg)	7	3	0	17	10	0
Magnesium sulfate (500mg in 2ml)	0	0	4	0	0	6
Magnesium sulfate (500mg in 10ml)	4	0	9	7	0	12
Calcium gluconate (100mg in 10ml ampoule)	4	0	9	13	0	19
Clotrimazole (pessary 500mg)	6	3	9	26	1	5
Clotrimazole (cream 1% in 15g tube)	17	0	35	7	0	9
Gentamicin injection (40mg/ml in 2ml)	11	0	4	15	0	2
Ampicillin (500mg powder for injection)	10	0	0	14	0	0

Procaine benzylpenicillin, fort (powder for injection 4MU)	8	3	9	28	1	20
Benzathine benzylpenicillin G (2.4MU in 10ml)	0	5	4	0	5	10
Amoxicillin (125mg/250mg)	24	3	17	5	1	3
Dexamethasone (4mg/ml)	17	3	9	13	30	16
Ferrous salt (tablet, 200mg)	1	8	0	1	12	0
Folic acid (tablet, 5mg)	7	8	4	6	12	10
Ferrous salt and folic acid (tablet 60mg iron + 400mcg folic acid)	0	0	0	0	0	0
Ferrous salt and folic acid (tablet 150mg iron + 500mcg folic acid)	0	0	0	0	0	0
Zinc (10mg in 5ml syrup)	1	0	0	1	0	0
Zinc (tablet, 20mg)	1	11	0	3	2	0
Zinc oral rehydration salts(co-pack 10mg/1ml)	0	3	0	0	0	0
Oral rehydration salts (sachets of 200ml)	0	0	0	0	0	0
Oral rehydration salts (sachets of 500ml)	0	0	0	0	0	0
Oral rehydration salts (sachets of 1L)	0	11	4	0	1	1
Average	5.7	2.8	5.6	8	3	7

Table 7: Facilities reporting stock-out days in the six months prior to survey and the average number of stock-out days for SRHC.

7.4 Appendix D: SRHC Prices and Affordability Data

Commodity	Mean Unit Price (ZMK)			Treatment Units	Affordability (Days of Wages)		
	Public	Private	Mission		Public	Private	Mission
Ethinylestradiol + levonorgestrel (tablet, 30 mcg + 150 mcg)	0	7	0	28	0	0.07	0.0
Ethinylestradiol + norethisterone (tablet, 35 mcg + 1.0 mg)	0	N/A	N/A	28	0	N/A	N/A
Levonorgestrel (tablet, 30 mcg)	0	6	0	28	0	0.06	0.0
Levonorgestrel (tablet, 750 mcg)	0	18	0	28	0	0.19	0.0
Medroxyprogesterone acetate (150mg in 1 ml vial)	0	16	0	1	0	0.16	0.0
Norethisterone enanthate (200mg/ml in 1 ml vial)	0	26	0	1	0	0.27	0.0
Male condoms	0	3	0	1	0	0.03	0.0
Female condoms	0	5	0	1	0	0.06	0.0
Intrauterine contraceptive devices	0	0	0	1	0	0.00	0.0
Implants: Levonorgestrel	0	0	0	1	0	0.00	0.0
Implants: Etonogestrel	0	0	0	1	0	0.00	0.0
Diaphragm	N/A	N/A	0	1	N/A	N/A	0.0
Oxytocin injection (10IU, 1ml)	0	6	0	1	0	0.06	0.0
Misoprostol (200 mcg tablet)	0	53	0	1	0	0.55	0.0
Metronidazole (tablet, 200mg)	0	1	0	1	0	0.01	0.0
Methyldopa (tablet, 250mg)	0	3	0	1	0	0.03	0.0
Magnesium sulfate (500mg in 2ml)	0	9	0	1	0	0.09	0.0
Magnesium sulfate (500mg in 10ml)	0	12	0	1	0	0.12	0.0
Calcium gluconate (100mg in 10ml ampoule)	0	4	0	1	0	0.04	0.0
Clotrimazole (pessary 500mg)	0	10	0	1	0	0.10	0.0

Clotrimazole (cream 1% in 15g tube)	0	18	0	1	0	0.19	0.0
Gentamicin injection (40mg/ml in 2ml)	1	8	2	1	0.01	0.09	0.0
Ampicillin (500mg powder for injection)	0	0	0	1	0	0.00	0.0
Procaine benzylpenicillin, fort (powder for injection 4MU)	0	10	0	1	0	0.10	0.0
Benzathine benzylpenicillin G (2.4MU in 10ml)	0	11	0	1	0	0.12	0.0
Amoxicillin (125mg/250mg)	0	2	0	1	0	0.02	0.0
Dexamethasone (4mg/ml)	0	7	0	1	0	0.08	0.0
Ferrous salt tablet (200mg)	0	0	0	1	0	0.00	0.0
Folic acid tablet (5mg)	0	0	0	1	0	0.00	0.0
Ferrous salt and folic acid (tablet 60mg iron + 400mcg folic acid)	0	2	0	1	0	0.02	0.0
Ferrous salt and folic acid tablet (150mg iron + 500mcg folic acid)	0	0	N/A	1	0	0.00	N/A
Zinc (10mg in 5ml syrup)	0	15	0	1	0	0.16	0.0
Zinc (20mg tablet)	0	2	0	1	0	0.02	0.0
Zinc oral rehydration salts (co-pack 10mg/1ml)	0	15	0	1	0	0.16	0.0
Oral rehydration salts (sachets of 200ml)	0	N/A	N/A	1	0	N/A	N/A
Oral rehydration salts (sachets of 500ml)	N/A	N/A	N/A	1	N/A	N/A	N/A
Oral rehydration salts (sachets of 1L)	0	3	0	1	0	0.03	0.0

Note: Affordability is based on the number of days of wages a commodity would cost. This is derived from the salary of the lowest-paid government worker in Zambia in 2017. N/A denotes the commodity was not available in all facilities; therefore, price and affordability could not be calculated.

Table 8: Mean unit prices for SRHC and affordability of SRHC.

7.5 Appendix E – SRHC Access: Qualitative Data Analysis

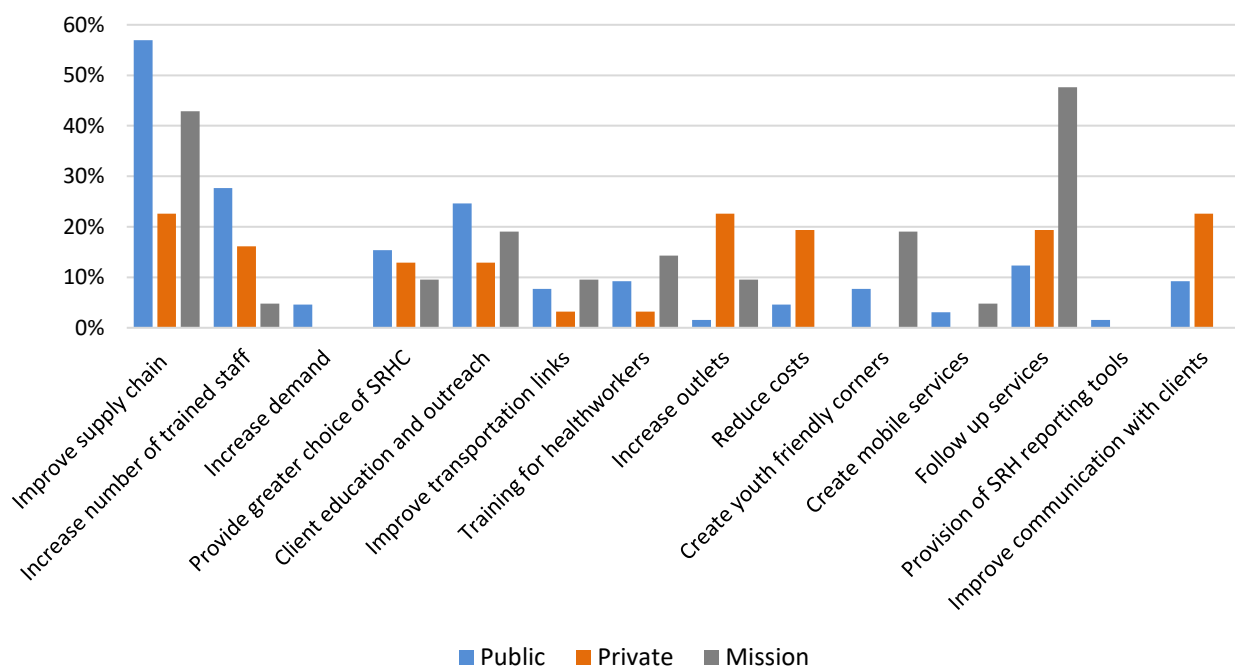
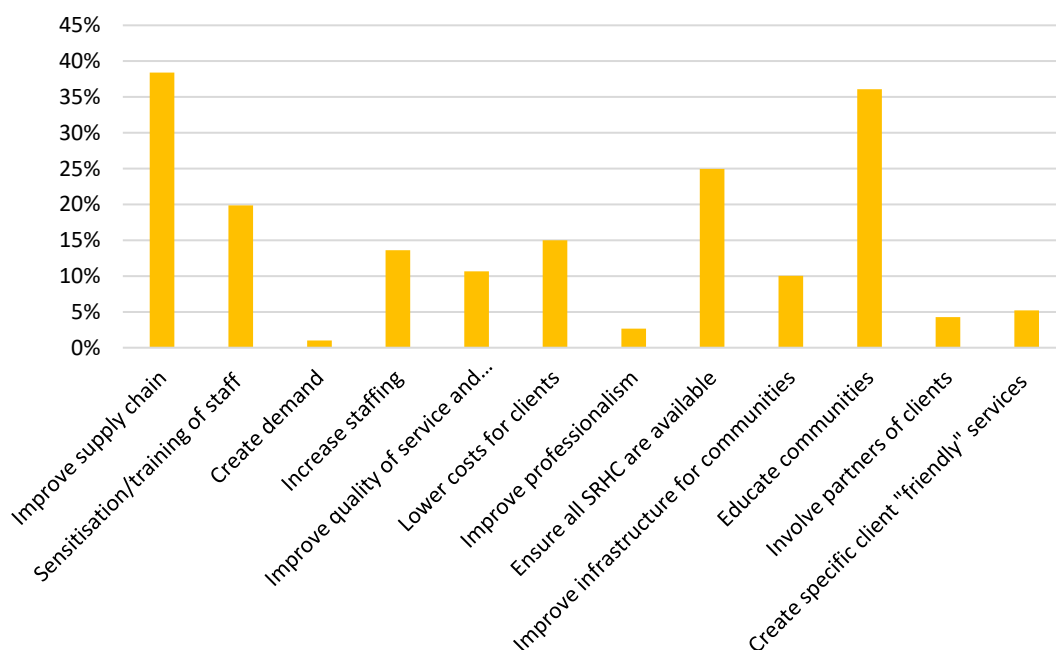


Figure 17: Improving access to SRHC in Zambia in public, private and mission sectors.



Note: "Create specific client-friendly services" was described as the provision of specific services focusing on a particular demographic, or specific sections of the facility focusing on SRHC for a particular group of people (e.g., youths).

Figure 18: Ensuring access to SRH services at facilities.

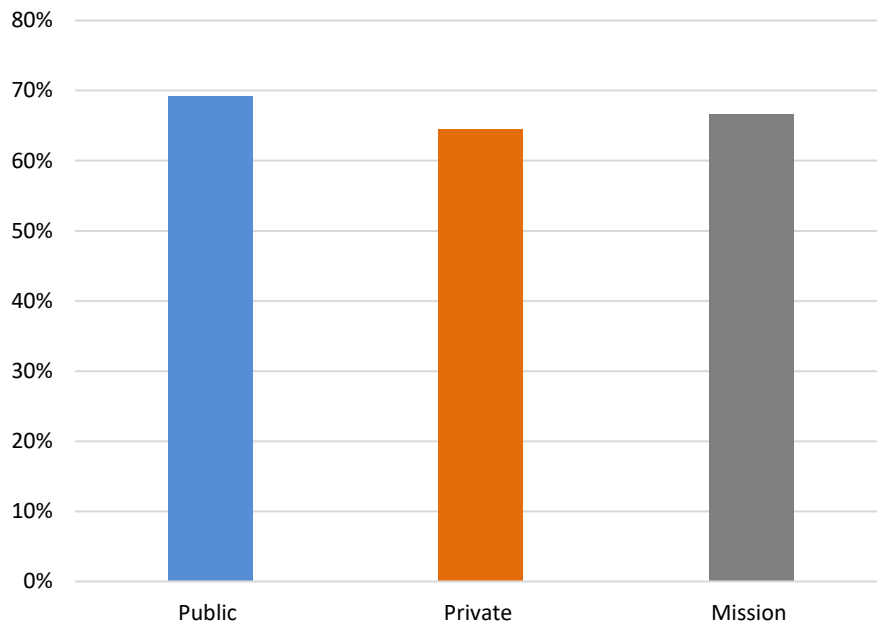


Figure 19: Reluctance to access SRHC at facilities in public, private and mission sector.

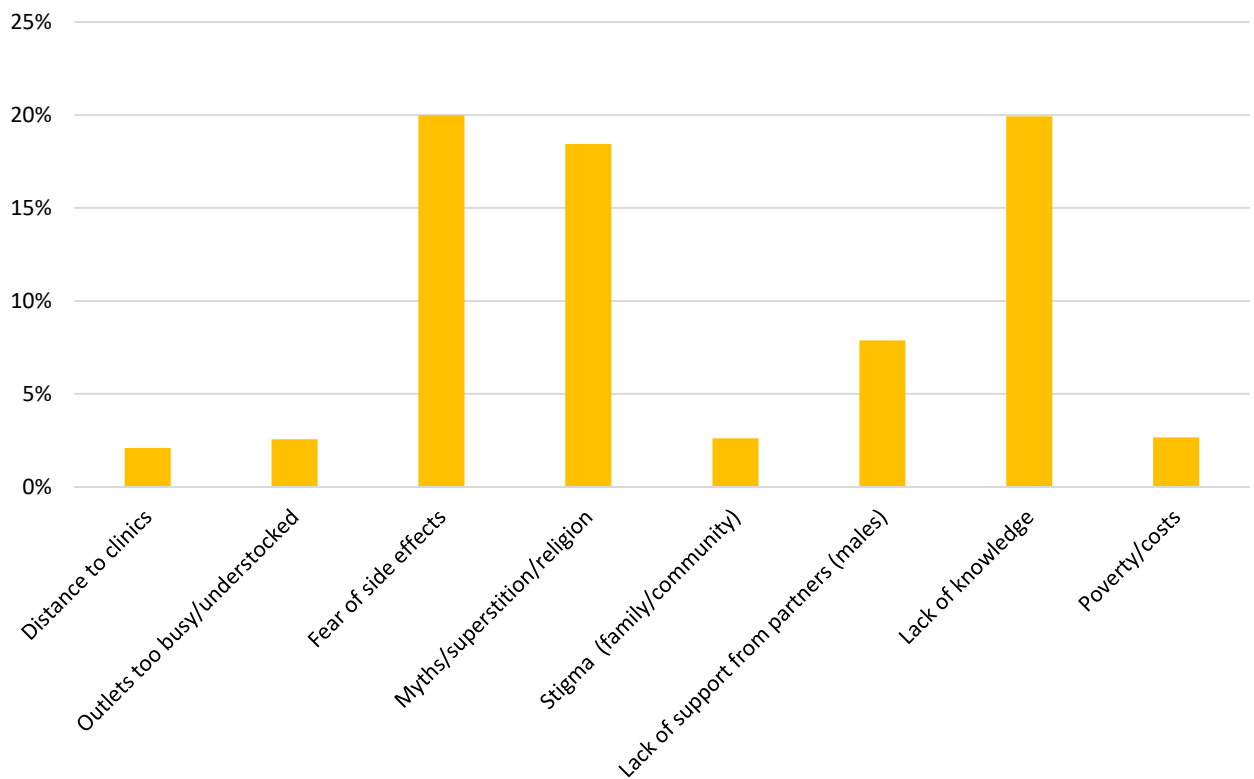


Figure 20: Reasons for client reluctance in accessing SRHC at facilities.

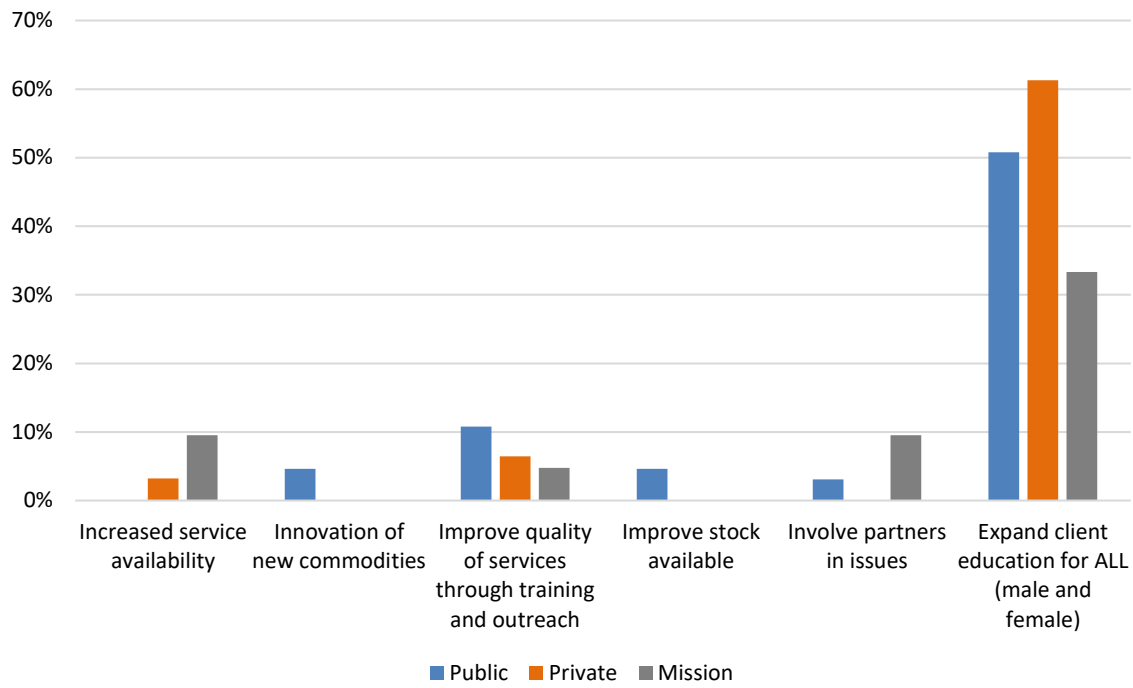


Figure 21: Possible improvements to overcome client reluctance to access SRHC in public, private and mission sector facilities.