REPORT

SEXUAL AND REPRODUCTIVE HEALTH COMMODITIES IN ISIOLO COUNTY, KENYA: AVAILABILITY, STOCKOUTS AND AFFORDABILITY

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Solutions for Supporting Healthy Adolescents

REPORT

SEXUAL AND REPRODUCTIVE HEALTH COMMODITIES IN ISIOLO COUNTY, KENYA: AVAILABILITY, STOCKOUTS AND AFFORDABILITY

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Acknowledgements
Special thanks to the data collectors for the collection of research data.

August 2023

Publisher
Health Action International
Overtoom 60 (2) | 1054 HK Amsterdam
The Netherlands
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HAIWEB.ORG

Funded by the European Union

This publication has been produced with the financial support of the European Union. Its contents are the sole responsibility of Health Action International and do not necessarily reflect the views of the European Union.

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1. BACKGROUND

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. Sexual and reproductive 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 details medicines and commodities that are essential to the provision of quality SRH care (WHO, 2021).

When a health system is well equipped to provide SRH commodities and services, it means people are enabled to decide if and when they want to become pregnant, to have a healthy pregnancy and safe childbirth, and to protect themselves against STIs and HIV/AIDS. They will also receive timely and proper treatment in case they do contract HIV/AIDS or a sexually transmitted infection (STI).

Unfortunately, Kenya experiences challenges with the adequate provision of SRH services and commodities. The maternal mortality rate is estimated to be 362 per 100,000 live births, while the prevalence of modern contraceptive use continues to be low, with 56.9% of currently married women aged 15-49 years, and 59.2% of sexually active unmarried women aged 15-49 years, using a modern contraceptive.[1,2] However, modern contraceptive use among married women aged 15-49 years is much lower in Isiolo (28.7%), Mandera (1.8%) and Marsabit (5.6%) Counties, with unmet need ranging from 17.3% to 37.6% in these counties.[2] Among sexually active unmarried adolescents aged 15-19 years, there is an unmet need for family planning of 34.5%.[2] This research was conducted to study the availability, affordability and stockouts of 49 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 Isiolo, Mandera and Marsabit Counties in Kenya. This research is essential as it creates a clear overview of the availability and affordability of a comprehensive package of essential SRH commodities in Kenya, which will contribute to the development of evidence-based policies to improve the SRH of women and adolescents.

2. RESEARCH METHODOLOGY

This study was conducted by Faith to Action Network Kenya 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 the AMREF Ethics and Scientific Review Committee and National Commission for Science, Technology and Innovation (NACOSTI).

This study used an adapted version of the HAI/WHO Methodology (2008). Teams of data collectors visited 86 health facilities from the public, private and faith-based sectors to survey the availability, stockouts and patient prices of 49 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.

1. Kenya National Bureau of Statistics. Kenya Demographic and Health Survey 2014. (2015). Nairobi: Kenya.
2. Kenya National Bureau of Statistics. Kenya Demographic and Health Survey 2022: Key Indicators Report. (2023). Nairobi: Kenya.

The study sample included health facilities from urban as well as rural areas, ranging from dispensaries/clinics to referral hospitals. Availability was only measured for commodities based on the health facility level where they should be available. For example, carbetocin is available from primary hospitals and up. 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 national rural poverty line of 3947 KES per month, or 131.6 KES per day[3], was used to calculate affordability of commodities. If a commodity cost more than a day's income, it was considered unaffordable. Table 1 provides an overview of the overall study sample. This report provides the results from Isiolo County, in which 29 health facilities were surveyed: 14 from the public sector, eight from the private sector, and seven from the faith-based sector.

Table 1. Study sample.

	Public	Private	Faith-based	Total
Urban	8	19	3	**30**
Rural	41	5	10	**56**
Total	**49**	**24**	**13**	**86**

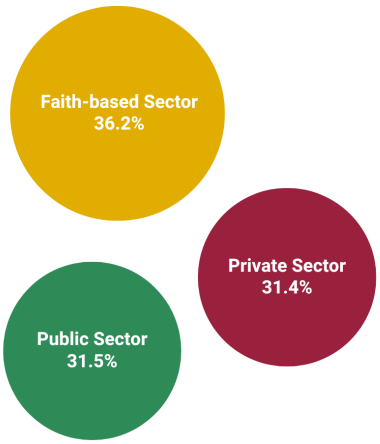
3. FINDINGS

Page 5 of the report presents the findings on the availability of all 49 surveyed commodities combined and compares the different sectors from which commodities may be obtained. Pages 6-16 provide the availability, stockouts and affordability for individual commodities, per commodity group.

SRH COMMODITY AVAILABILITY AT A GLANCE

In Isiolo County, the overall availability across the sectors was 32.0%. The public and private sectors had, on average, comparable availabilities (31.5% and 31.4%, respectively) (see Figure 1). The faith-based sector had an overall availability of 36.2%.

Figure 1. Overall availability of the 49 surveyed SRH commodities, comparing the public, private and faith-based sectors.



3. Kenya National Bureau of Statistics. The Kenya Poverty Report Based on the 2021 Kenya Continuous Household Survey.

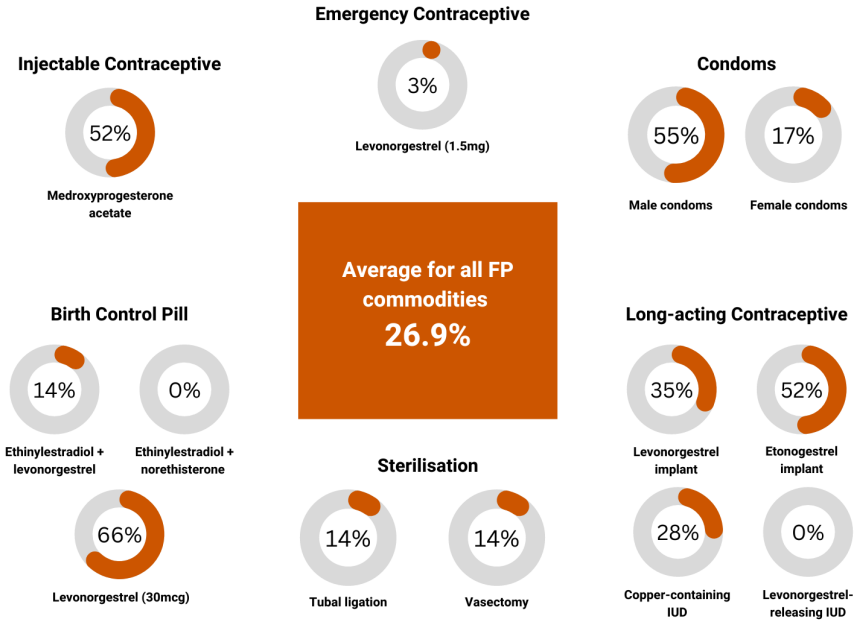
FAMILY PLANNING

Family planning (FP) commodities are products which allow individuals to plan their pregnancy. To have the choice and freedom to decide on pregnancy upholds 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 three months, while implants and intra uterine devices (IUDs) are effective for a long time and can stay in situ 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[4] are services that allow people the decision to not have any (more) children.

Availability

The average availability of family planning commodities across sectors was 26.9% (see Figure 2). None of the commodities had an 80% or higher availability. The highest availability was found for levonorgestrel 30mcg (66%). Ethinylestradiol + norethisterone and levonorgestrel-releasing IUDs were unavailable at all surveyed facilities.

Figure 2. Availability of FP commodities.



In the public sector, only male condoms and levonorgestrel (30mcg), a type of birth control pill, had an availability of 80% or higher (see Table 2). The two other birth control pills (ethinylestradiol + levonorgestrel and ethinylestradiol + norethisterone) had a very low availability (14.3% and 0.0%, respectively). Levonorgestrel (1.5mg), the emergency contraceptive, also had a low availability at 7.1%. The two implants and medroxyprogesterone acetate (injectable contraceptive) were available at about 60% to 70% of public facilities, while copper-containing IUDs and female condoms were available at 21.4% of the surveyed facilities. In the private and faith-based sectors, six and eight of 13 surveyed FP commodities, respectively, were unavailable at all facilities. The highest availability in the private sector was found for levonorgestrel (30mcg) and male condoms, which were available at 50% of the facilities. In the faith-based sector, highest availability was found for levonorgestrel (30mcg) and the copper-containing IUD (available at 42.9% of facilities).

4. Although vasectomy and tubal ligation are in principle reversible, it is not the intention, and there's no guarantee that it will be successful.

Table 2. Availability of FP commodities, per sector.

	Public (%)	Private (%)	Faith-based (%)
Ethinylestradiol + levonorgestrel	14.3	25.0	0.0
Ethinylestradiol + norethisterone	0.0	0.0	0.0
Levonorgestrel (30 mcg)	85.7	50.0	42.9
Levonorgestrel (1.5 mg)	7.1	0.0	0.0
Medroxyprogesterone acetate	71.4	37.5	28.6
Implants: levonorgestrel	57.1	25.0	0.0
Implants: etonogestrel	64.3	50.0	28.6
Copper-containing IUD	21.4	25.0	42.9
Levonorgestrel-releasing IUD	0.0	0.0	0.0
Male condoms	85.7	50.0	0.0
Female condoms	21.4	0.0	28.6
Vasectomy services	50.0	0.0	0.0
Tubal ligation services	50.0	0.0	0.0

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. Stockouts were not very common in the public sector (see Table 3). Only ethinyestradiol + levonorgestrel (50% of facilities) and medroxyprogesterone (40% of facilities) experienced a stockout. However, especially for medroxyprogesterone acetate, the stockout lasted on average a long time: 258 days. In the private sector, only levonorgestrel implants experienced a stockout, while in the faith-based sector 66.7% and 50% of health facilities, respectively, experienced a stockout of levonorgestrel (30mcg) and medroxyprogesterone acetate.

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

	Public		Private		Faith-based	
	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days
Ethinylestradiol + levonorgestrel	50.0	30	0.0	-	0.0	-
Levonorgestrel (30 mcg)	0.0	-	0.0	-	66.7	143
Medroxyprogesterone acetate	40.0	258	0.0	-	50.0	60
Implants: levonorgestrel	0.0	-	50.0	365	-	-
Implants: etonogestrel	0.0	-	0.0	-	0.0	-
Copper-containing IUD	0.0	-	0.0	-	0.0	-
Male condoms	0.0	-	0.0	-	-	-
Female condoms	0.0	-	-	-	0.0	-

NB: Stock information for ethinylestradiol + norethisterone, levonorgestrel (1.5mg) and levonorgestrel-releasing IUDs was unavailable in all three sectors and is therefore not shown.

Affordability

An overview of all average prices and treatment regimens is given in Annex 2. All FP commodities were free to the patients in health facilities in the public sector (see Table 4). In the private sector most commodities were unaffordable. For example, one month's supply of ethinylestradiol + levonorgestrel cost 1.14 days of wages, while a copper-containing IUD cost 1.90 days of wages. In the faith-based sector most of the commodities were affordable, with the exception of etonogestrel implants, which cost 1.14 days of wages.

Table 4. Affordability of FP commodities.

	Public	Private	Faith-based
Ethinylestradiol + levonorgestrel	0 days	1.14 days	-
Levonorgestrel (30 mcg)	0 days	0 days	0 days
Medroxyprogesterone acetate	0 days	1.52 days	0.38 days
Implants: levonorgestrel	0 days	1.14 days	-
Implants: etonogestrel	0 days	0 days	1.14 days
Copper-containing IUD	0 days	1.90 days	0 days
Male condoms	0 days	0 days	-
Female condoms	0 days	-	0 days

NB: Pricing information for ethinylestradiol + norethisterone, levonorgestrel (1.5mg), and levonorgestrel-releasing IUDs was unavailable in all three sectors and is therefore not shown.

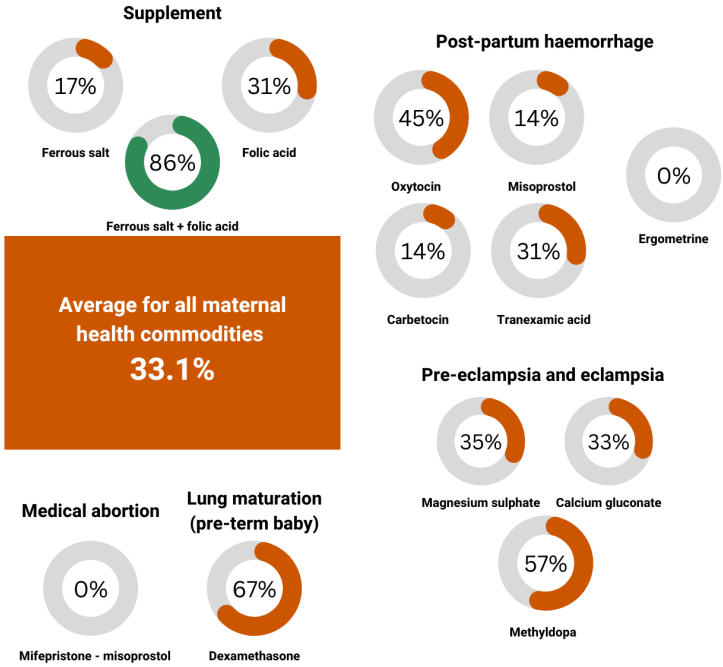
MATERNAL HEALTH

Maternal health commodities represent a diverse group of products which are 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, n.d.). Maternal health commodities include a diversity of medicines with different uses; examples are supplements which are used to prevent iron and folic acid deficiencies, which are associated with adverse pregnancy outcomes to both 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 across sectors was 33.1% (see Figure 3). Only ferrous salt + folic acid had an 80% or higher availability. Ergometrine and mifepristone - misoprostol were unavailable at all surveyed health facilities.

Figure 3. Availabilitv of maternal health commodities.



In the public sector, of the five commodities used to treat post-partum haemorrhage, only oxytocin was available, and only at 42.9% of health facilities (see Table 5). Availability of commodities for post-partum haemorrhage was better in the private and faith-based sectors. Oxytocin was available in 62.5% of private facilities and tranexamic acid in 50%. Misoprostol and carbetocin had a lower availability, while ergometrine was unavailable in all health facilities. In the faith-based sector, tranexamic acid had the highest availability of post-partum haemorrhage commodities at 71.4% availability. Magnesium sulphate (treatment of pre-eclampsia) availability was low across public and faith-based sectors, with highest availability found in private health facilities. Ferrous salt + folic acid tablets had a high availability across the sectors.

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

	Public (%)	Private (%)	Faith-based (%)
Oxytocin	42.9	62.5	28.6
Misoprostol	0.0	37.5	14.3
Carbetocin	0.0	25.0	0.0
Tranexamic acid	0.0	50.0	71.4
(methyl)ergometrine	0.0	0.0	0.0
Mifepristone - misoprostol	0.0	0.0	0.0
Magnesium sulphate	35.7	50.0	14.3
Calcium gluconate	16.7	40.0	100.0
Ferrous salt	7.1	25.0	28.6
Folic acid tablet	7.1	37.5	71.4
Ferrous salt and folic acid	100.0	50.0	100.0
Dexamethasone	33.3	100.0	100.0
Methyldopa	50.0	50.0	100.0

Stockouts

None of the maternal health commodities experienced a stockout in the public or private sector (see Table 6). In the faith-based sector only folic acid tablets and methyldopa experienced stockouts (40% and 25% of facilities, respectively). Stockouts of folic acid tablets were lengthy, lasting on average 189 days.

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

	Public		Private		Faith-based	
	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days
Oxytocin	0.0	-	0.0	-	0.0	-
Misoprostol	-	-	0.0	-	0.0	-
Carbetocin	-	-	0.0	-	-	-
Tranexamic acid	-	-	0.0	-	0.0	-
Magnesium sulphate	0.0	-	0.0	-	0.0	-
Calcium gluconate	-	-	0.0	-	0.0	-
Ferrous salt	0.0	-	0.0	-	0.0	-
Folic acid tablet	0.0	-	0.0	-	40.0	189
Ferrous salt and folic acid	0.0	-	0.0	-	0.0	-
Dexamethasone	0.0	-	0.0	-	0.0	-
Methyldopa	0.0	-	0.0	-	25.0	12

NB: Stock information for ergometrine and mifepristone - misoprostol was unavailable in all three sectors and is therefore not shown.

Affordability

In the public sector all maternal health commodities were free to the patient (see Table 7). In the private and faith-based sectors, many of the commodities were unaffordable. In the private sector, six of 11 available maternal health commodities were unaffordable. Especially tranexamic acid and methyldopa were unaffordable, costing 12.16 days and 9.57 days, respectively. In the faith-based sector, six of eight available maternal health commodities were unaffordable, with magnesium sulphate (8.21 days) and methyldopa (13.68 days) being the least affordable.

Table 7. Affordability of maternal health commodities.

	Public	Private	Faith-based
Oxytocin (10 IU in 1ml)	0 days	0.11 days	0.76 days
Misoprostol (200mcg)	-	1.14 days	5.70 days
Carbetocin (100mcg/ml)	-	0 days	-
Tranexamic acid (100mg/ml in 10ml)	-	12.16 days	-
Magnesium sulphate (0.5mg/ml)	0 days	2.74 days	8.21 days
Calcium gluconate (100mg/ml in 10ml)	0 days	0 days	-
Ferrous salt (200mg)	0 days	0.07 days	1.25 days
Folic acid (5mg)	0 days	1.14 days	1.14 days
Ferrous salt and folic acid (60mg + 400mcg)	0 days	0.76 days	0 days
Dexamethasone (4mg/ml)	0 days	4.56 days	2.28 days
Methyldopa (250mg)	0 days	9.57 days	13.68 days

NB: Pricing information for ergometrine and mifepristone - misoprostol was unavailable in all three sectors and is therefore not shown.

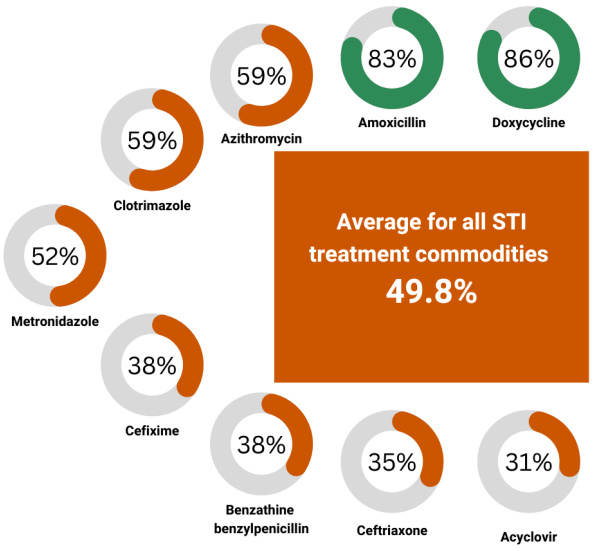
STI TREATMENT

A basket of commodities for the treatment of STIs, such as Chlamydia, Gonorrhoea and Syphilis were surveyed. Since a number of common 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 single or combination of STIs. 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 Isiolo in general, only two of the nine surveyed commodities for STI treatment, amoxicillin and doxycycline, had an 80% or higher availability (see Figure 4). Four of the STI treatment commodities were available at less than 50% of the facilities.

Figure 4. Availability of STI treatment commodities.



Availability of many STI treatment commodities was especially low in the public sector (see Table 8). In this sector, none of the commodities had an 80% or higher availability, while seven of the nine commodities had an availability of less than 40%. Metronidazole was available at only 7.1%, while cefixime was available at none of the public health facilities. In the private and faith-based sectors, availability of the STI treatment commodities was higher. In the private sector, doxycycline, amoxicillin and metronidazole had an availability of 80% or higher, while clotrimazole and azithromycin had an 75% availability. In the faith-based sector, six of nine commodities had an 80% or higher availability. Acyclovir and ceftriaxone had the lowest availability at 42.9%.

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

	Public (%)	Private (%)	Faith-based (%)
Metronidazole	7.1	100.0	85.7
Clotrimazole	28.6	75.0	100.0
Benzathine benzylpenicillin	14.3	50.0	71.4
Amoxicillin	71.4	100.0	85.7
Acyclovir	21.4	37.5	42.9
Azithromycin	35.7	75.0	85.7
Ceftriaxone	21.4	50.0	42.9
Doxycycline	78.6	87.5	100.0
Cefixime	0.0	50.0	100.0

Stockouts

Stockouts of the STI treatment commodities in the public sector were common for azithromycin and ceftriaxone (60.0% and 66.7%, respectively) (see Table 9). These stockouts lasted on average 242 days for azithromycin and 228 days for ceftriaxone. Doxycycline was stocked out at 20.0% of facilities, lasting on average 228 days, while amoxicillin experienced stockouts at 11.1% of facilities, lasting 365 days.

In the private sector no stockouts of STI treatment commodities occurred. In the faith-based sector acyclovir experienced stockouts at one-third of the facilities, with these stockouts lasting on average 365 days.

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

	Public (%)		Private (%)		Faith-based (%)	
	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days
Metronidazole	0.0	-	0.0	-	0.0	-
Clotrimazole	0.0	-	0.0	-	0.0	-
Benzathine benzylpenicillin	0.0	-	0.0	-	0.0	-
Amoxicillin	11.1	365	0.0	-	0.0	-
Acyclovir	0.0	-	0.0	-	33.3	365
Azithromycin	60.0	242	0.0	-	0.0	-
Ceftriaxone	66.7	228	0.0	-	0.0	-
Doxycycline	20.0	228	0.0	-	0.0	-
Cefixime	-	-	0.0	-	0.0	-

Affordability

In the public sector, again all STI treatment commodities were free to the patient (see Table 10). In the private sector only cefixime was affordable (0.49 days). A treatment of acyclovir was the least affordable, costing 6.72 days of wages. In the faith-based sector most of the STI treatment commodities were affordable, with the exception of acyclovir, which cost 2.28 days of wages.

Table 10. Affordability of STI treatment commodities.

	Public	Private	Faith-based
Metronidazole (250mg)	-	1.33 days	0.74 days
Clotrimazole (500mg)	0 days	2.28 days	0.19 days
Amoxicillin (250mg)	0 days	2.39 days	0 days
Acyclovir (200mg)	0 days	6.72 days	2.28 days
Azithromycin (500mg)	0 days	1.14 days	0.38 days
Ceftriaxone (1g in vial)	0 days	1.90 days	-
Doxycycline (100mg)	0 days	1.06 days	0.53 days
Cefixime (400mg)	-	0.49 days	0.11 days

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

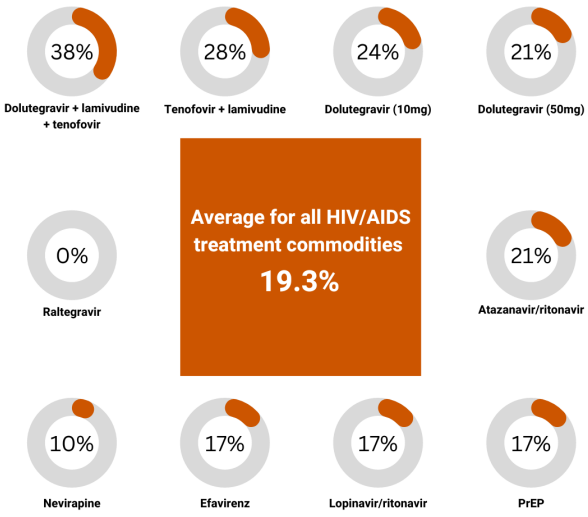
HIV/AIDS

Sub-Saharan Africa still faces the highest burden of HIV/AIDS globally. The condition, which is caused by a virus, is incurable. That said, highly effective antiretroviral therapies are on the market, which can minimise symptoms for many years, and which 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

One average across sectors, none of the commodities for the treatment of HIV/AIDS had an availability of 80% or higher (see Figure 5). Highest availability was found dolutegravir + lamivudine + tenofovir (38%). Raltegravir was unavailable at all health facilities.

Figure 5. Availability of HIV/AIDS treatment commodities.



Only dolutegravir + lamivudine + tenofovir was available at more than 50% of the health facilities in the public sector (see Table 11). Most of the commodities were available at 35% to 43% of public facilities, with the exception of nevirapine (21.4%) and raltegravir (0.0%). In the private sector none of the HIV/AIDS treatment commodities were available. In the faith-based sector only four of 10 surveyed HIV/AIDS treatment commodities were available at facilities: dolutegravir (both formulations) was available at 14.3% of facilities, tenofovir + lamivudine at 28.6%, and dolutegravir + lamivudine + tenofovir at 42.9%.

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

	Public (%)	Private (%)	Faith-based (%)
PrEP (emtricitabine + tenofovir)	35.7	0.0	0.0
Dolutegravir + lamivudine + tenofovir	57.1	0.0	42.9
Tenofovir + lamivudine	42.9	0.0	28.6
Atazanavir/ritonavir	42.9	0.0	0.0
Lopinavir/ritonavir	35.7	0.0	0.0
Raltegravir	0.0	0.0	0.0
Dolutegravir (50mg)	35.7	0.0	14.3
pediatric dolutegravir (10mg)	42.9	0.0	14.3
Efavirenz	35.7	0.0	0.0
Nevirapine	21.4	0.0	0.0

Stockouts

In the public sector, two commodities, PrEP and dolutegravir + lamivudine + tenofovir, experienced stockouts (20.0% and 12.5%, respectively) (see Table 12). These stockouts lasted on average 30 days for PrEP, and six days for dolutegravir + lamivudine + tenofovir. In the faith-based sector, none of the commodities 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	
	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days	Facilities with stockout (%)	Average # of stockout days
PrEP (emtricitabine + tenofovir)	20.0	30	-	-	-	-
Dolutegravir + lamivudine + tenofovir	12.5	60	-	-	0.0	-
Tenofovir + lamivudine	0.0	-	-	-	0.0	-
Atazanavir/ritonavir	0.0	-	-	-	-	-
Raltegravir	0.0	-	-	-	-	-
pediatric dolutegravir (10mg)	0.0	-	-	-	0.0	-
Efavirenz	0.0	-	-	-	0.0	-
Nevirapine	0.0	-	-	-	-	-

NB: Stock information for lopinavir/ritonavir and dolutegravir (50mg) was unavailable in all three sectors and is therefore not shown.

Affordability

All HIV/AIDS treatment commodities were free to the patient in the public and faith-based sectors.

Table 13. Affordability of HIV/AIDS treatment commodities.

	Public	Private	Faith-based
PrEP (emtricitabine + tenofovir) (200mg + 300mg)	0 days	-	-
Dolutegravir + lamivudine + tenofovir (50mg + 300mg + 300mg)	0 days	-	0 days
Tenofovir + lamivudine (300mg + 300mg)	0 days	-	0 days
Atazanavir/ritonavir (300mg + 100mg)	0 days	-	-
Raltegravir (400mg)	0 days	-	-
pediatric dolutegravir (10mg)	0 days	-	0 days
Efavirenz (600mg)	0 days	-	0 days
Nevirapine (50mg/5ml)	0 days	-	-

NB: Pricing information for Lopinavir/ritonavir and dolutegravir (50mg) was unavailable in all three sectors and is therefore not shown.

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

Availability of pregnancy tests was much higher in the private (75.0%) and faith-based (85.7%) sectors than in the public sector (35.7%) (see Table 14). Sanitary pads had a comparable availability across the sectors (21.4%-28.6%), with HIV self-test kits being more available in the faith-based sector (42.9%) than the public (21.4%) and private (25.0%) sectors.

Table 14. Availability, stockouts at health facilities, and average number of stockout days per stockout of menstrual hygiene products and kits, per sector.

	Public			Private			Faith-based		
	Availability (%)	Facilities with stockout (%)	Average # of stockout days	Availability (%)	Facilities with stockout (%)	Average # of stockout days	Availability (%)	Facilities with stockout (%)	Average # of stockout days
Sanitary pads	21.4	0.0	-	25.0	0.0	-	28.6	0.0	-
Pregnancy test kit	35.7	0.0	-	75.0	0.0	-	85.7	0.0	-
HIV self-test kit	21.4	20.0	90	25.0	0.0	-	42.9	0.0	-
HPV DNA test kit	14.3	0.0	-	0.0	-	-	0.0	-	-

Affordability

In the public and faith-based sectors, all sanitary pads and kits were free to the patient (see Table 15). In the private sector, an HIV self-test kit cost 0.19 days of wages.

Table 15. Affordability of menstrual hygiene products and kits.

	Public	Private	Faith-based
Sanitary pads	0 days	0 days	0 days
Pregnancy test kit	0 days	0 days	0 days
HIV self-test kit	0 days	0.19 days	0 days
HPV DNA test kit	0 days	-	-

4. RECOMMENDATIONS

The Constitution of Kenya 2010 provides the overarching legal framework to ensure a comprehensive rights-based approach to health services delivery. It provides that every person has a right to the highest attainable standard of health, which includes reproductive health rights. The Kenya health policy goal is to attain the highest possible standard of health in a responsive manner. This is by supporting equitable, affordable, and high-quality health and related services at the highest attainable standards for all Kenyans. This is to be realized progressively during the policy period 2014 – 2030.

Access to medicines and medical commodities forms a crucial building block of health systems. Without proper access to quality assured and safe commodities, people, among them adolescents, are not able to live in optimal health. This research was conducted to study the availability, affordability and stockouts of 49 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. The study aimed at creating a clear overview of the availability and affordability of a comprehensive package of essential SRH commodities at the County level, which will contribute to the development of evidence-based policies to improve the SRH of women and adolescents.

In Isiolo County, the overall availability of SRHC across the sectors was 32.0%. The public and private sectors had, on average, comparable availabilities (31.5% and 31.4%, respectively). The faith-based sector had an overall availability of 36.2%. The average availability of family planning commodities was 26.9%. However, stockouts were occasionally experienced especially for medroxyprogesterone acetate which would last on average a long time of 258 days. The average availability of maternal health commodities was 33.1%. In the public sector, of the five commodities used to treat post-partum haemorrhage, only oxytocin was available, and only at 42.9% of health facilities. Availability of commodities for post-partum haemorrhage was better in the private and faith-based sectors. Availability of many STI treatment commodities was especially low in the public sector. None of the commodities had an 80% or higher availability. Metronidazole was available at only 7.1%, while cefixime was available at none of the health facilities. Stockouts of the STI treatment commodities in the public sector were common for azithromycin and ceftriaxone (60.0% and 66.7%, respectively). These stockouts lasted on average 242 days for azithromycin and 228 days for ceftriaxone. Doxycycline was stocked out at 20.0% of facilities, lasting on average 228 days, while amoxicillin experienced stockouts at 11.1% of facilities, lasting 365 days. Sanitary pads had a comparable availability across the sectors (21.4%-28.6%).

Based on the Kenya Health Policy (2014-2030) policy orientations and principles, the below are some recommendations to the County leadership that if implemented, could contribute to improved availability and accessibility of quality assured SRH commodities and services. The recommendations are presented under seven different topics: health financing, health leadership, health products and technologies, health information, health workforce, service delivery systems, and research and development.

1. Health financing

This relates to the process of mobilising and managing required finances to ensure provision of health and related services and is attained through ensuring equity, efficiency, transparency, and accountability in resource mobilisation, allocation, and use.

- The County should increase financing for SRH commodities including self-test kits and menstrual health and hygiene products.
- The County should progressively work towards the elimination of payment at the point of use for SRH commodities, especially by the marginalised and indigent populations, through social health insurance and government subsidies to private and faith-based health facilities.
- The County should promote private sector participation in financing of healthcare through public-private partnerships and other mechanisms.
- Through effective multi-stakeholder coordination, resources available from various stakeholders supporting the County should be pooled to increase efficiency in utilisation.
- Community members should be supported to strengthen social accountability systems where public officials and service providers account for the use of already allocated resources and efficiency of the supply chain systems for SRH commodities.

2. Health leadership

This relates to how the oversight of the delivery of SRH and related services is provided by the County leaders responsible for health. The County executive committee (CEC) is responsible for the preparation of county policies, plans and budgets for approval from the County Assembly; and for the submission to external regulatory offices of the National Treasury and Office of the Controller of Budget. The CEC is responsible for implementation of all laws passed by the County Assembly and National Assembly and may also prepare laws for consideration by the County Assembly. The CEC provides regular non-financial and financial reports to the County Assembly; and to external regulatory and oversight offices of the Controller of Budget and the Office of the Auditor General.

The County Assembly roles are to represent citizens, exercise the legislative authority of the County Government and oversight the County Executive. The County Assembly makes and passes all county laws required for the effective performance and exercise of the powers of the County Government. It also approves county policies, plans and budgets and oversights implementation by the County Executive. The County health management teams (CHMT) have a responsibility to ensure that health policies are implemented and regulations and standards are adhered to in the delivery of healthcare.

National Policies, strategies and standards - Below are some of the documents that support availability of SRH commodities and services at the County and health facility level. The CHMT should disseminate them and utilize the standards in their supportive supervision activities.

- National Reproductive Health/Family Planning Commodity Security Strategy 2020/21 – 2024/24 - works towards elimination of stocks out at the facility level.
- Total Market Approach for Family Planning National Strategy 2020-2025 - public and non-profit sectors provide subsidised services for needy consumers while maintaining sustainable commercial provision for consumers who are able to pay.
- Revised FP standards – support availability of adequate and quality commodities and services.

Multi-stakeholder approach for SRH - The CHMT should budget for, convene and coordinate SRH Commodity Security technical working group meetings to support SRH commodity availability and accessibility. They should also facilitate multi-stakeholder collaboration and partnerships for harmonized and efficient use of resources.

Social Accountability - The CHMT should be receptive to the application of principles and practices of social accountability, including reporting on performance, creation of public awareness, fostering transparency, and public participation in decision making on SRH-related matters.

3. Health products and technologies

These include essential medicines, medical supplies, vaccines, health technologies, and public health commodities required for provision of services. The County should ensure that effective, safe, and affordable SRH commodities and products are available and rationally used at all times.

- The CHMT should maximise the use of existing commodities and products through redistribution from overstocked to understocked health facilities. This will promote availability.
- The CHMT should consider and apply technologies that are appropriate (accessible, affordable, feasible, and culturally acceptable to the community) in addressing SRH challenges. For example avail and train girls and women on the use of re-usable sanitary towels (also referred to as dignity kits) as these are more affordable than the disposable sanitary towels.
- To promote availability, the CHMT should ensure that the County and health facilities have the essential list of SRH commodities and products and refer to this in acquisition, financing, and other access-enhancing interventions.

4. Health information

This refers to the system for generation, collation, analysis, dissemination, and utilisation of health-related information required for provision of services. For effective monitoring and timely decision-making on SRH commodities, health facilities are obligated to report on information emanating from their activities through established channels in a manner that meets safety and confidentiality requirements.

- To improve availability, the CHMT should support health facilities to strengthen the accuracy, timeliness, and completeness of health information on stock status and consumption. This can be achieved through availing of data documentation, reporting and ordering tools.
- The County and Sub-county health management teams should conduct regular meetings with facility-in-charges on commodity management and data use for decision-making in order to avoid wastage and stock-out of commodities.
- The responsible CHMT officer should ensure timely reporting and requisition of SRH commodities through reminders and prompt follow-up on facilities with delays. This is due to the unique nature of the County where sometimes communication is a challenge and, in some cases, facilities close down due to insecurity or other reasons.
- The CHMT should strengthen mechanisms for health information dissemination to ensure information is available where and when needed. These include policies, guidelines and reports that support SRH commodities availability, affordability and quality.
- To support social accountability, the CHMT should facilitate access to information by the public while protecting privacy and confidentiality.

5. Health workforce

This refers to the human resources required for health facility operations.

- To improve management of SRH commodities, the CHMT should have a mechanism to identify commodity management and SRH service provision training needs and provide opportunities for training.
- The CHMT should be deliberate with needs-based SRH service provision and commodity management capacity strengthening (on-the-job training and mentorship) for HCWs in public as well as private and faith-based health facilities.
- CHMT should train and support health facility-linked community-based distributors (CBDs) in order to improve availability and accessibility of affordable commodities such as short-term contraceptives, menstrual hygiene products and self-test kits sourced through the public health facilities.

6. Service delivery systems

This refers to the organisational arrangements required for delivery of services including supervision and mentorship services.

- To identify gaps that might hinder availability and access, the CHMT should integrate supportive supervision for SRH commodities and services into their routine supportive supervision exercises. Integration of regular commodity assessments into supportive supervision visits to ensure proper commodity management practices can limit wastage and stock-outs.
- Facilities should be informed about the findings of research and data collected for continuous quality improvement and maintenance of the highest standards of SRH.
- To promote SRH commodities availability, accessibility and quality, the CHMT should ensure that SRH policies are implemented and regulations and standards adhered to in the delivery of healthcare.
- Counties should reach out to the National level and other relevant stakeholders/ partners for technical assistance in the form of specialised expertise and utilisation of new service delivery tools that support availability of SRH commodities and quality services.

7. Research and development

Research plays a significant role in guiding policy formulation and action to improve the health and development. Counties should utilise available research findings such as National surveys, the SHARP Project baseline evaluation report and other research reports to guide the development of County policies and laws that promote SRH commodity availability and affordability. The County should also budget for and partner with stakeholders to conduct further research as may be required.

The above recommendations, together with any additional recommendations that may be suggested by the County health leadership and all other stakeholders including adolescents, if implemented would have a positive impact in supporting the right to the highest attainable standard of health as envisioned by the Constitution of Kenya 2010 and the Kenya health policy (2014 – 2030).

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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	Implants: levonorgestrel	Long-acting contraceptive
7	Implants: etonogestrel	Long-acting contraceptive
8	Copper-containing IUD	Long-acting contraceptive
9	Levonorgestrel-releasing IUD	Long-acting contraceptive
10	Male condoms	Contraceptive; STI protection
11	Female condoms	Contraceptive; STI protection
	MATERNAL HEALTH	
12	Oxytocin	Prevention of post-partum haemorrhage
13	Misoprostol	Prevention of post-partum haemorrhage; induce labour; induce medical abortion
14	Carbetocin	Prevention of post-partum haemorrhage; induce labour
15	Tranexamic acid	Prevention of post-partum haemorrhage
16	(methyl)ergometrine	Prevention of post-partum haemorrhage
17	Mifepristone - misoprostol	Medical abortion
18	Magnesium sulphate	Treatment of pre-eclampsia and eclampsia
19	Calcium gluconate	Antidote for magnesium toxicity (used in combination with magnesium sulphate)
20	Ferrous salt	Supplement, prevent iron deficiency
21	Folic acid tablet	Supplement, prevent folic acid deficiency
22	Ferrous salt and folic acid	Supplement, prevent iron and folic acid deficiency
23	Dexamethasone	Accelerating lung maturation in preterm babies
24	Methyldopa	Management of pregnancy-induced hypertension
	SEXUALLY TRANSMITTED INFECTIONS	
25	Metronidazole	Antibiotic, STI treatment
26	Clotrimazole	Antifungal, STI treatment
27	Benzathine benzylpenicillin	Antibiotic, STI treatment
28	Amoxicillin	Antibiotic, STI treatment
29	Acyclovir	Antiviral, STI treatment
30	Azithromycin	Antibiotic, STI treatment
31	Ceftriaxone	Antibiotic, STI treatment
32	Doxycycline	Antibiotic, STI treatment
33	Cefixime	Antibiotic, STI treatment

HIV/AIDS		
34	Pre-Exposure Prophylaxis (PrEP): (emtricitabine (FTC) + tenofovir (TDF))	Prevention of HIV acquisition
35	Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF)	Antiretroviral, management of HIV/AIDS
36	Tenofovir + lamivudine (TDF + 3TC)	Antiretroviral, management of HIV/AIDS
37	Atazanavir/ritonavir (ATV/r)	Antiretroviral, management of HIV/AIDS
38	Lopinavir/ritonavir (LPV/r)	Antiretroviral, management of HIV/AIDS
39	Raltegravir (RAL)	Antiretroviral, management of HIV/AIDS
40	Dolutegravir (DTG)	Antiretroviral, management of HIV/AIDS
41	Paediatric dolutegravir (DTG)	Antiretroviral, management of HIV/AIDS
42	Efavirenz (EFV)	Antiretroviral, management of HIV/AIDS
43	Nevirapine	Antiretroviral, management of HIV/AIDS
PERSONAL HYGIENE & KITS		
44	Sanitary pads	Management of menstruation
45	Vasectomy services	Male sterilisation
46	Tubal ligation services	Female sterilisation
47	Pregnancy test kit	-
48	HIV self-test kit	-
49	HPV DNA test kit	-

ANNEX 2

Table 1. Price, treatment costs and affordability per sector, with treatment regimens.

	Average Unit Price (KES)			Treatment Units	Treatment Days	Mean Treatment Cost (KES)			Affordability (days of wages)		
	Public	Private	Faith-based			Public	Private	Faith-based	Public	Private	Faith-based
Ethinylestradiol + levonorgestrel (30mcg +	0.00	-		1	1	0.00	-		0 days	-	
150 mcg)	0.00	150.00	-	1	1	0.00	150.00	-	0 days	1.14 days	-
Ethinylestradiol + norethisterone (35mcg +	0.00	200.00		1	1	0.00	200.00		0 days	1.52 days	
1.0 mg)	-	-	-	1	1	-	-	-	-	-	-
Levonorgestrel (30 mcg)	0.00	0.00	0.00	1	1	0.00	0.00	0.00	0 days	0 days	0 days
Levonorgestrel (1.5 mg)	-	-	-	1	1	-	-	-	-	-	-
Medroxyprogesterone acetate (150 mg/ml)	0.00	200.00	50.00	1	1	0.00	200.00	50.00	0 days	1.52 days	0.38 days
Implants: levonorgestrel	-	-	-	1	1	0.00	150.00	-	0 days	1.14 days	-
Implants: etonogestrel	0.00	150.00	-	1	1	0.00	0.00	150.00	0 days	0 days	1.14 days
Copper-containing IUD	0.00	0.00	150.00	1	1	0.00	250.00	0.00	0 days	1.90 days	0 days
Levonorgestrel-releasing IUD	0.00	250.00	0.00	1	1	-	-	-	-	-	-
Male condoms	-	-	-	1	1	0.00	0.00	-	0 days	0 days	-
Female condoms	0.00	0.00	-	1	1	0.00	-	0.00	0 days	-	0 days
Oxytocin (10 IU in 1ml)	0.00	15.00	100.00	1	1	0.00	15.00	100.00	0 days	0.11 days	0.76 days
Misoprostol (200mcg)	-	30.00	150.00	5	1	-	150.00	750.00	-	1.14 days	5.70 days
Carbetocin (100mcg/ml)	-	0.00	-	1	1	-	0.00	-	-	0 days	-
Tranexamic acid (100mg/ml in 5ml)	-	800.00	-	2	1	-	1600.00	-	-	12.16 days	-
Ergometrine (200mcg in 1ml)	-	-	-	3	1	-	-	-	-	-	-
Mifepristone - misoprostol (200mg + 200mcg)	-	-	-	1	1	-	-	-	-	-	-
Magnesium sulphate (0.5mg/ml)	0.00	40.00	120.00	9	1	0.00	360.00	1080.00	0 days	2.74 days	8.21 days
Calcium gluconate (100mg/ml in 10ml)	0.00	0.00	-	1	1	0.00	0.00	-	0 days	0 days	-
Ferrous salt (equiv 60mg iron)	0.00	0.30	5.50	1	30	0.00	9.00	165.00	0 days	0.07 days	1.25 days
Folic acid tablet (5mg)	0.00	5.00	5.00	1	30	0.00	150.00	150.00	0 days	1.14 days	1.14 days
Ferrous salt and folic acid (60mg + 400mcg)	0.00	3.33	0.00	1	30	0.00	99.90	0.00	0 days	0.76 days	0 days
Dexamethasone (4mg/ml)	0.00	200.00	100.00	3	1	0.00	600.00	300.00	0 days	4.56 days	2.28 days

Methyldopa (250mg)	0.00	7.00	10.00	6	30	0.00	1260.00	1800.00	0 days	9.57 days	13.68 days
Metronidazole (250mg)	-	12.50	7.00	2	7	-	175.00	98.00	-	1.33 days	0.74 days
Clotrimazole (500mg)	0.00	300.00	25.00	1	1	0.00	300.00	25.00	0 days	2.28 days	0.19 days
Benzathine benzylpenicillin (2.4 million IU)	-	-	-	2	1	-	-	-	-	-	-
Amoxicillin (250mg)	0.00	15.00	0.00	3	7	0.00	315.00	0.00	0 days	2.39 days	0 days
Acyclovir (200mg)	0.00	29.50	10.00	3	10	0.00	885.00	300.00	0 days	6.72 days	2.28 days
Azithromycin (500mg)	0.00	50.00	16.67	1	3	0.00	150.00	50.00	0 days	1.14 days	0.38 days
Ceftriaxone (1g in vial)	0.00	250.00	-	1	1	0.00	250.00	-	0 days	1.90 days	-
Doxycycline (100mg)	0.00	10.00	5.00	2	7	0.00	140.00	70.00	0 days	1.06 days	0.53 days
Cefixime (400mg)	-	65.00	15.00	1	1	-	65.00	15.00	-	0.49 days	0.11 days
Pre-Exposure Prophylaxis: (emtricitabine (FTC) + tenofovir (TDF)) (200mg +300mg)	0.00	-	-	1	30	0.00	-	-	0 days	-	-
Dolutegravir + lamivudine + tenofovir (DTG + 3TC + TDF) (50mg + 300mg + 300mg)	0.00	-	0.00	1	30	0.00	-	0.00	0 days	-	0 days
Tenofovir + lamivudine (TDF + 3TC) (300mg + 300mg)	0.00	-	0.00	1	30	0.00	-	0.00	0 days	-	0 days
Atazanavir/ritonavir (ATV/r) (300mg + 100mg)	0.00	-	-	1	30	0.00	-	-	0 days	-	-
Lopinavir/ritonavir (LPV/r) (200mg + 50mg)	0.00	-	-	4	30	0.00	-	-	0 days	-	-
Raltegravir (RAL) (400mg)	-	-	-	1	30	-	-	-	-	-	-
Dolutegravir (DTG) (50mg)	0.00	-	0.00	1	30	0.00	-	0.00	0 days	-	0 days
pediatric dolutegravir (DTG) (10mg)	0.00	-	0.00	1	30	0.00	-	0.00	0 days	-	0 days
Efavirenz (EFV) (600mg)	0.00	-	-	2	30	0.00	-	-	0 days	-	-
Nevirapine (50mg/5ml)	-	-	-	1	30	-	-	-	-	-	-
Sanitary pads	0.00	0.00	0.00	3	7	0.00	0.00	0.00	0 days	0 days	0 days
Pregnancy test kit	0.00	0.00	0.00	1	1	0.00	0.00	0.00	0 days	0 days	0 days
HIV self-test kit	0.00	25.00	0.00	1	1	0.00	25.00	0.00	0 days	0.19 days	0 days
HPV DNA test kit	0.00	-	-	1	1	0.00	-	-	0 days	-	-

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