

Pharmaceutical Management Information System: Support Supervision Report, April–June 2014, Cameroon

December 2014



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SIAPS 
Systems for Improved Access
to Pharmaceuticals and Services

Pharmaceutical Management Information System: Support Supervision Report, April–June 2014, Cameroon

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SIAPS 

The SIAPS logo consists of the word "SIAPS" in a bold, green, sans-serif font, followed by a stylized blue figure of a person with arms raised in a V-shape.

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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ARVs, Cameroon, HIV/AIDS, information systems, PEPFAR, PMIS, Support Supervision Report, health facilities

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ACRONYMS AND ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
AZT/3TC	zidovudine/lamivudine
AZT/3TC/NVP	zidovudine/lamivudine/nevirapine
CAPR	Centre d'Approvisionnement Pharmaceutique Régional (Regional Medical Store)
CBC	Cameroon Baptist Convention
CDC	US Centers for Disease Control and Prevention
CEBEC	Conférence des Eglises Baptistes et Evangéliques du Cameroun
CMES	Centre Médical des Entreprises de la Sanaga
CNLS	Comité National de Lutte contre le SIDA (National AIDs Control Committee)
CTA	Centre de Traitement Agréé (approved treatment center)
EFV	efavirenz
HD	Hôpital de District
HIV	human immunodeficiency virus
HR	Hôpital Régional
LMIS	logistics management information system
LPV/r	lopinavir/ritonavir
MoSoH	months of stock on hand
NVP	nevirapine
PMTCT	prevention of mother-to-child transmission
RMS	Regional Medical Store
RTG	Regional Technical Group
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
TDF/3TC	tenofovir/lamivudine
TDF/3TC/EFV	tenofovir/lamivudine/efavirenz
UPEC	Unité de Prise en Charge (Health Facilities Treatment Center)

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SIAPS/Cameroon acknowledges the massive contribution made by all the Regional Medical Store managers, the directors, the coordinators, and the pharmacy staff (pharmacy attendants, storekeepers, data reporting agent) of health facilities for their commitment during this support supervision.

EXECUTIVE SUMMARY

A joint team from the Comité National de Lutte contre le SIDA (CNLS, or National AIDS Control Committee) at both central and regional levels and the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program provided supportive supervision in August and September 2014 to 6 of 10 regions of Cameroon and 30% (34/115) of the antiretroviral therapy (ART) health facilities in those regions. The supportive supervision covered data from the period April–June 2014 for an estimated 55.6% of the total number of patients on ART in Cameroon.

During the supervision, SIAPS staff provided technical support, conducted trainings, provided supportive supervision, and mentored health workers at targeted health facilities in the regions of Adamawa, Centre, East, Littoral, Northwest, and Southwest. To support data collection, SIAPS has adapted the CNLS overall program supervision guide (*Guide des supervisions des acteurs de la mise en œuvre du plan stratégique nationale de lutte contre le VIH, le Sida et les IST 2011–2015*) to focus on supply chain management components.

Results of this supervision show a decrease in the percentage of health facilities reporting on time in quarter 3 as compared to quarter 2. For instance, the percentage of health facilities reporting on or before the fifth of the following month dropped from 29.4% in quarter 2 (January–March 2014) compared with 8.8% in quarter 3 (April–June 2014).

An evaluation of reports submitted on or before the 10th, shows that the percentage of health facilities reporting on or before the 10th of the following month dropped from 76.5% in quarter 2 (January–March 2014) to 52.9% in quarter 3 (April–June 2014). Six of 34 health facilities (17.6%) have never submitted their reports on or before the 10th for the past three quarters (quarters 1, 2, and 3).

Stock cards are available in all the supervised health facilities, and 82% of targeted health facilities had stock cards updated in quarter 3 as compared with 88% in quarter 2. Globally, pharmacy attendants have not yet developed an on-time recording habit.

Of the supervised health facilities, 85.3% are using dispensing registers in quarter 3, compared with 82% in quarter 2 and 0% in quarter 1. The number of health facilities where dispensing register are up to date increased from 0% in quarter 1 and quarter 2 to 74.5% in quarter 3.

In the Littoral and Centre regions (the two regions with the highest patient volume in the country, handling 47% of patients on treatment), the use of dispensing registers in health facilities is very low (66.7% in the Centre region and 85.7% in the Littoral region).

Dispensing registers are not used in Laquintinie Hospital, which handles almost 33.6% of the total number of ART patients in the Littoral region. As a result, consumption data are not available for decision making. The Yaoundé Central Hospital and General Hospital are using an electronic-based system to record consumption data, but the dispensing register should be used for backup because the electronic system can collapse.

Of targeted health facilities, 79.4% are using appropriate tools (ART registers, dispensing registers, monthly reporting booklets, stock cards) for recording and reporting data in quarter

3, compared with only 35.4% in quarter 2. This means data on patients and stock are available for decision making in 79.4% of health facilities.

The number of health facilities that observed proper storage practices remains constant from quarter 2 to quarter 3 (9%). This low and constant percentage is the result of lack of equipment, especially shelves and pallets for proper arrangement and wall thermometers for temperature monitoring.

In the April–June 2014 quarter, 82.4% of stock cards record matching with physical counts, compared with 97.1 % in the January–March 2014 quarter and 61.7 % in the October–December 2014 quarter.

In April–June 2014, 94.1% of facilities experienced at least three days stock-out of at least one of the following products (AZT/3TC/NVP; AZT/3TC; TDF/3TC/EFV; TDF/3TC; NVP; EFV; LPV/r), compared with 92.1% in the January–March 2014 quarter. AZT/3TC and AZT/3TC/NVP recorded the longest period of stock-out during the quarter, averaging 376 and 342 days, respectively, for all the 34 facilities, meaning almost 11 and 10 days of stock-out per health facility.

The number of patients reported treated in the targeted health facilities increased from 61,689 in October 2013 to 63,878 in March 2014, to 65,867 in April 2014 and declined to 59,384 in May 2014 and rose again to 64,214 in June 2014.

In all health facilities, discrepancies were noted between the calculated number of defaulters and the health facility's reported number of defaulters in the same month. For example, Hôpital Laquintinie de Douala's monthly report in April 2014 shows that 4,370 patients were treated. The May 2014 monthly report reveals that 2,429 patients were treated, and 59 patients were initiated in May according to the report. The number of defaulters should be $4,370 - 2429 + 59 = 2,000$. But Hôpital Laquintinie reported zero defaulters in May 2014.

The number of patients initiated on ART is higher compared to the number of patients eligible from October to December 2013 and April to June 2014. During these quarters, enough antiretrovirals (ARVs) were available in Cameroon. This means that the sustainable availability of ARVs will significantly increase the number of patients under treatment in Cameroon.

Globally, the consumption of TDF/3TC-based regimens increased from 31.65% in the October–December 2013 quarter to 49.74% in the January–March 2014 quarter and 75.40% in April–June 2014 quarter while the consumption of AZT/3TC-based regimens decreased from 67.17% in the October–December 2013 quarter to 43.77% in the January–March 2014 quarter and 22.60% in the April–June 2014. The country had faced many episodes of AZT/3TC/NVP and AZT/3TC stock-outs, and patients on these regimens who could not get their medicines were shifted to TDF/3TC-based regimens. Also, all new patients, including prevention of mother-to-child transmission (PMTCT) option B+ women are initiated on TDF/3TC-based regimens. According to CNLS, starting in January 2015, 90% of patients on ART will be on TDF/3TC-based regimens and the remaining 10% on AZT/3TC-based regimens.

INTRODUCTION

This report shows the result of continuous monitoring conducted quarterly in Cameroon to ensure stock availability at ART treatment sites of some HIV and AIDS commodities. Data sources on patient, consumption, and report submission information are from monthly reports collected at health facilities during supervision. Data on stock status are collected by the supervisors with the support of the pharmacy staff the day of the visit.

The report is divided into five main sections: Introduction, Results, SIAPS Actions, Recommendations, and Annexes. The results section is an aggregate of five main subsections: Report Submission, Stock Status, Consumption Trends, Patient Information, and Treatment Regimen Analysis.

RESULTS

Report Submission

Report Timeliness

Late submission of reports delays the completion of feedback reports as well as the implementation of recommendations and actions. The CNLS recommends that all health facilities should submit their monthly reports to their Regional Technical Group (RTG) of the CNLS on or before the fifth of the month following the reporting month.

The specific logistics management information system (LMIS) reports are the following—

- Monthly statistics on global management of persons living with HIV
- Monthly statistics on patients by protocol
- Monthly follow-up of ARV and drugs for opportunistic infections

Figure 1 shows the percentage of health facilities that submitted their reports on time from quarter 1 (October–December 2013) through quarter 2 (January–March 2014) to quarter 3 (April–June 2014).

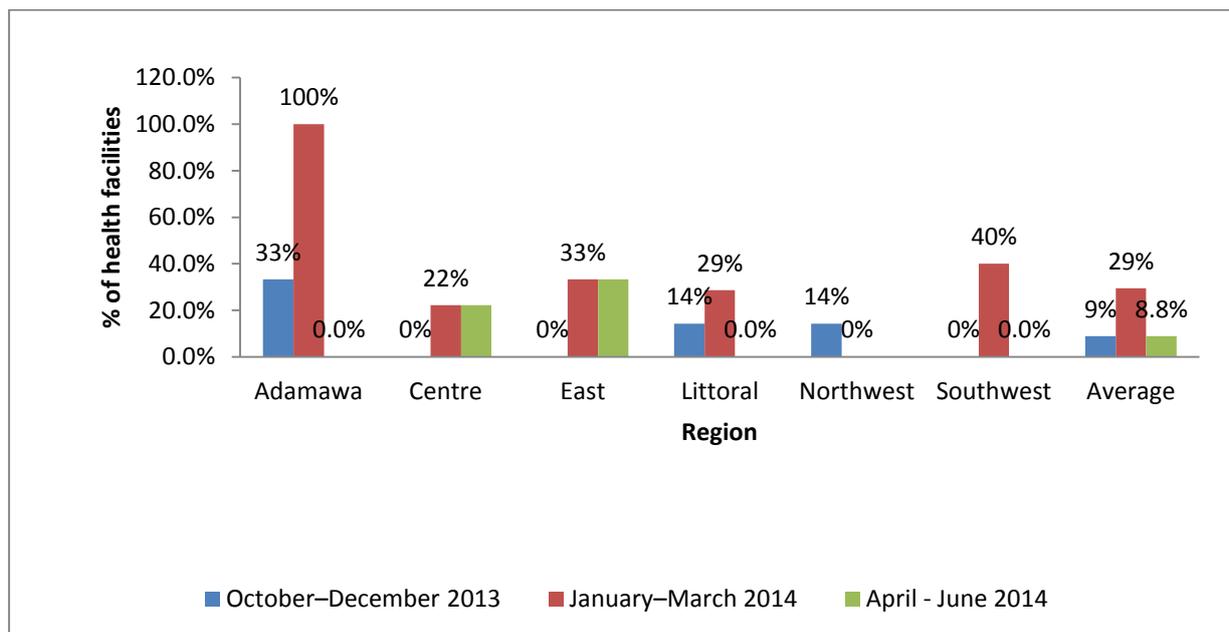


Figure 1. Percentage of health facilities that submitted their reports on time

Apart from the Centre and East regions, where the percentages of facilities submitting reports on time has remained stable although low (22% and 33%, respectively), between quarter 2 and quarter 3, other regions recorded drastic drops in timeliness of report submission. The percentage of health facilities that submit their monthly reports before the fifth of the month decreased from 29.4% in quarter 2 (January–March 2014) to 8.8% in quarter 3 (April–June 2014).

Analysis of reports submitted on or before the 10th shows that 76.5% of health facilities submitted their monthly reports on or before the 10th in quarter 2 (January–March 2014) compared with 52.9% in quarter 3 (April–June 2014). This late submission may be explained by the following—

- Strike action took place in some health facilities (CEBEC Bonaberi).
- Data reporting staff are not stable at their health facilities because of salary arrears (Baptist Hospital Mutenguene, CBC Mboppi, CDC Tiko).
- Most important, the national ART evaluation exercise (“Audit de la File active”) of patients on treatment took place during quarter 3 and involved all RTG/CNLS staff, who therefore were not always available to collect reports from health facilities.

Table 1 lists the 6 of 34 (17.6%) of health facilities that never submitted their report on or before the 10th from October 2013 to June 2014.

Table 1. Health Facilities That Never Reported on or before the 10th, October 2013–June 2014

Region	Health facility
Adamawa	CTA Hôpital Régional de Ngaoundéré
Centre	Hôpital de la caisse de Yaoundé
Centre	Fondation Chantal Biya
Littoral	Hôpital Laquintinie
Littoral	Hôpital de District de Nylon
Northwest	Hôpital Régional de Bamenda

Report Completeness

From October to December 2013, the report on the follow-up of ARVs and drugs for opportunistic infections was identified as the one not submitted at month’s end. The main reason for not submitting this report was the lack of stock management tools. SIAPS then provided stock cards, dispensing registers, and monthly reporting tools to health facilities in the course of January and March 2014. Figure 2 shows the percentage of health facilities that submitted complete reports for the January–March and April–June 2014 quarters.

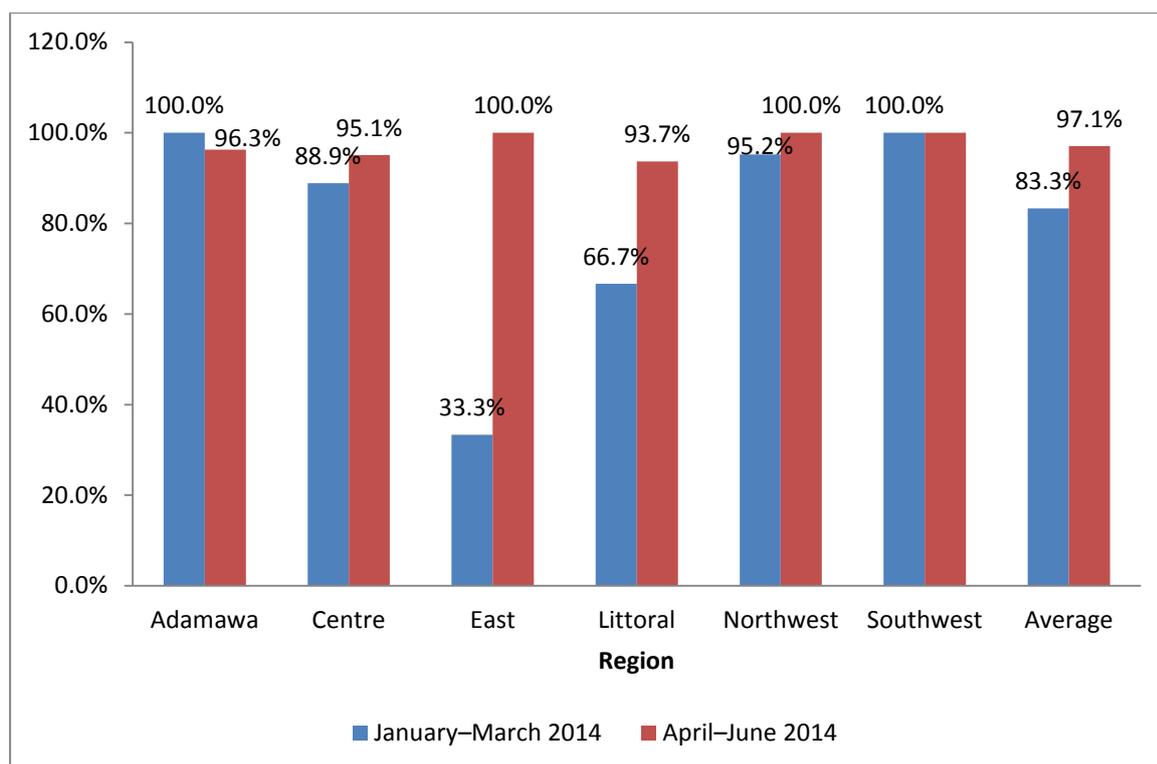


Figure 2. Completeness of health facility reports, January–March 2014 and April–June 2014

As shown in figure 2, the percentage of health facilities that submitted complete reports increased from 83.3% in quarter 2 (January–March 2014) to 97.1% in quarter 3 (April–June 2014) with the East region recording a tremendous improvement from 33% to 100% and the Littoral region from 66.7% to 93.7%.

Hôpital Laquintinie de Douala and Hôpital Central de Yaoundé, which have the highest ART patient numbers in Cameroon, have never submitted complete reports from October 2013 to June 2014. The particular report missing is the “Monthly follow-up of ARVs and drugs for opportunistic infections.”

Stock Status

Stock Card Availability

In the management of medicines, stock cards are considered a key tool because all the information related to stock movements can be obtained from them. Figure 3 shows that stock cards were 100% available in five of the six regions that were supervised in quarter 3. Special note should be made for the East region where the availability of stock cards improved from 33% in January to 100% in August 2014.

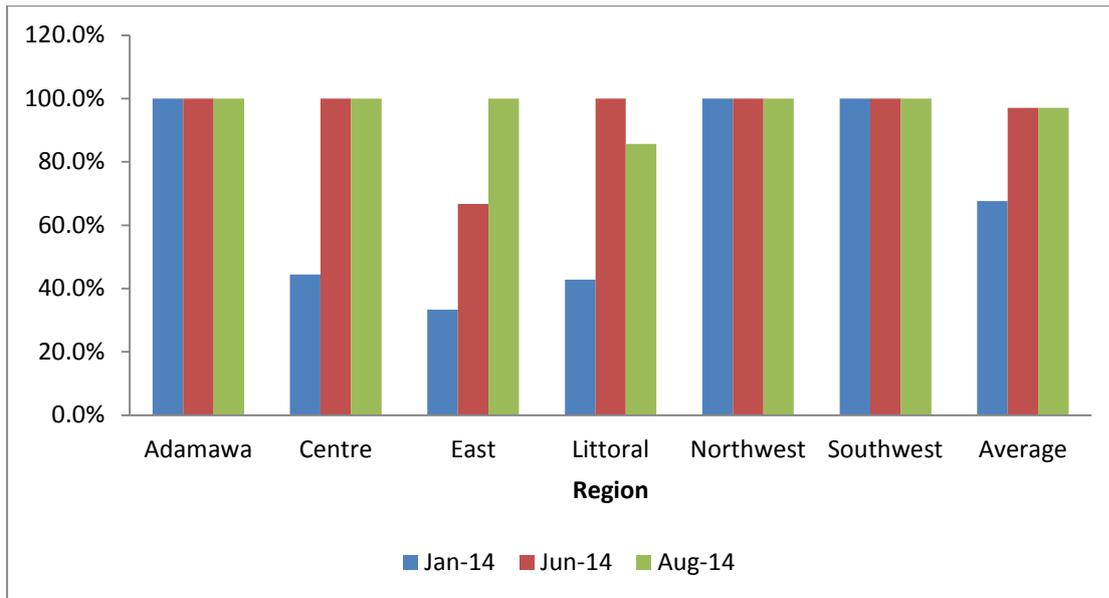


Figure 3. Stock card availability from January to August 2014

The only health facility where stock cards were not available for all the products managed during the supervision in August 2014 was Hôpital Laquintinie de Douala.

Stock Cards Up to Date

Stock cards should always be up to date because the information they contain can be used at any given time for decision making. According to figure 4, 100% of supervised health facilities in the Adamawa and Northwest regions have been keeping their stock cards up to date from quarter 1 (October–December 2013) to quarter 3 (April–June 2014).

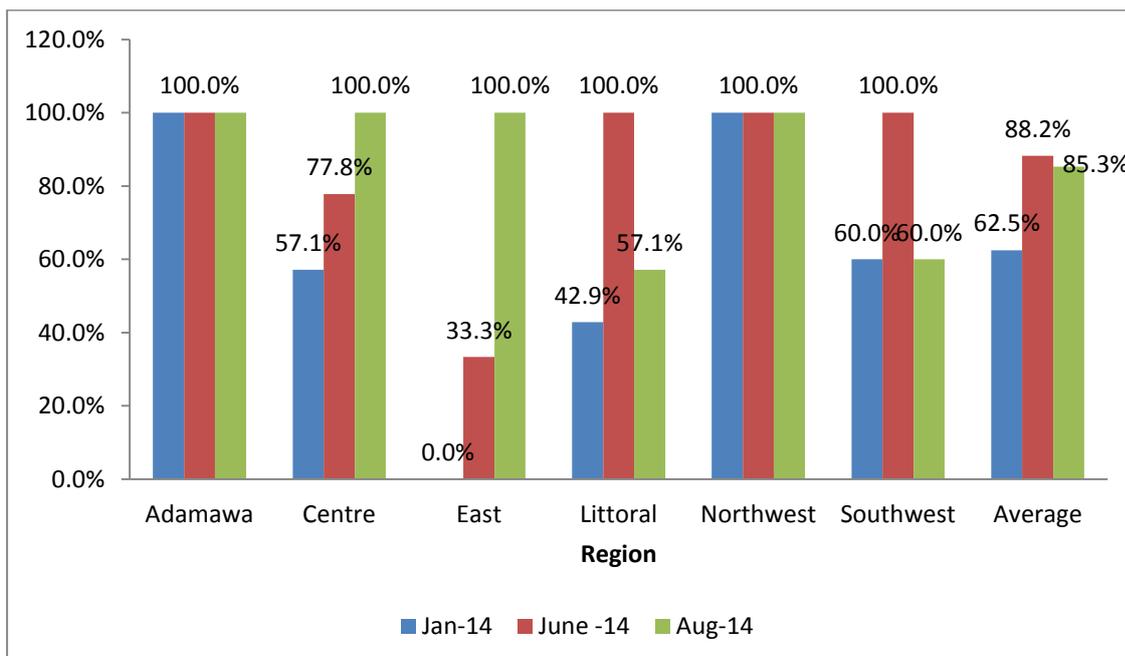


Figure 4. Percentage of health facilities with updated stock cards

The East and the Centre regions recorded noticeable progress in filling out stock card information. The East region showed an increase from 0% in quarter 1 (October–December 2013) to 33% in quarter 2 (January–March 2014) and 100% in quarter 3 (April–June 2014). The Centre region increased from 57.1% in quarter 1 (October–December 2013) to 77.8% in quarter 2 (January–March 2014) and 100% in quarter 3 (April–June 2014).

In the Littoral region, an increase occurred from quarter 1 (October–December 2013) to quarter 2 (January–March 2014) and a drop from quarter 2 to quarter 3 (April–June 2014). This drop is because the pharmacy attendants in Hôpital Laquintinie de Douala, Hôpital de District (HD) Banassama, and Hôpital General de Douala have yet to develop an on-time recording habit.

In the Southwest region, the drop from quarter 2 to quarter 3 (100% to 60%) is because the pharmacy attendant does not easily get access to stock cards in Kumba District Hospital treatment center because they are kept in the office of the coordinator of the treatment center who is not always on site.

For Regional Medical Stores (RMSs), 83.3% (5/6) had their stock cards updated except that of Littoral. In the Littoral RMS, storekeepers were briefed on how to keep their stock cards updated.

Use of Dispensing Registers Provided by SIAPS

In Cameroon, previously it has been very difficult to determine consumption of HIV and AIDS commodities at health facility level because dispensing registers were not available. In March 2014, SIAPS printed and made available dispensing registers to all its targeted health facilities. Figure 5 shows the percentage of health facilities using dispensing registers to record consumption data from January to August 2014.

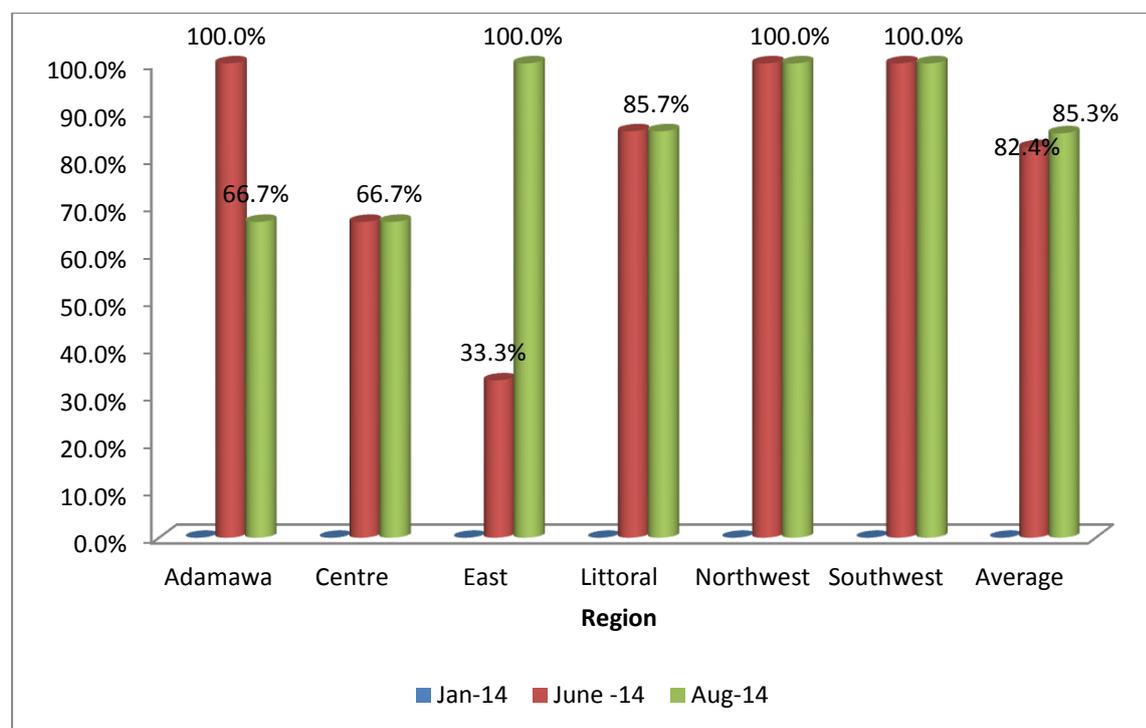


Figure 5. Percentage of health facilities using dispensing registers

On average 85.3% of all health facilities visited in August 2014 were using dispensing registers, compared with 82.4 % in June 2014. In the Northwest and Southwest regions, dispensing registers were used in all the health facilities supervised in June and August 2014 compare with 0% in January 2014. Noticeable progress was made in the East region where the use of dispensing registers evolved from 33.3% in June 2014 to 100% in August 2014.

In Adamawa region, the drop in the use of dispensing registers from 100% in June 2014 to 66.7% in August 2014 was because the trained data reporting staff at the treatment center of Hôpital Protestant de Ngaoubela was transferred and the person appointed to replace him was not skilled enough to fill in the registers.

Figure 5 shows that the use of dispensing registers in Littoral and Centre regions is low: for instance, dispensing registers are not used in Hôpital Central Yaoundé, Hôpital General de Yaoundé, and Hôpital Laquintinie Douala.

The register provided by SIAPS for Hôpital Saint Luc de Mbalmayo was not delivered by the RTG Centre region.

Health Facilities with Dispensing Registers Up to Date

The lack of information on consumption from health facilities has led the CNLS to forecast needs based on distribution data rather than actual consumption. CNLS and SIAPS Cameroon have worked closely with the SIAPS West Africa Regional Project team to deploy an HIV Commodities Tracking Tool OSP-SIDA, which serves as an early warning system for monitoring stock status to support capture and aggregation of stock and patient data from peripheral and regional levels. To have quality data on consumption, SIAPS has made available dispensing registers to its 34 health facilities and is continuing to monitor data entry to ensure that reliable data on consumption can be available for OSP-SIDA and other purposes.

Figure 6 shows the percentage of health facilities with dispensing registers available and up to date, meaning that their consumption data are available and up to date from April to July 2014.

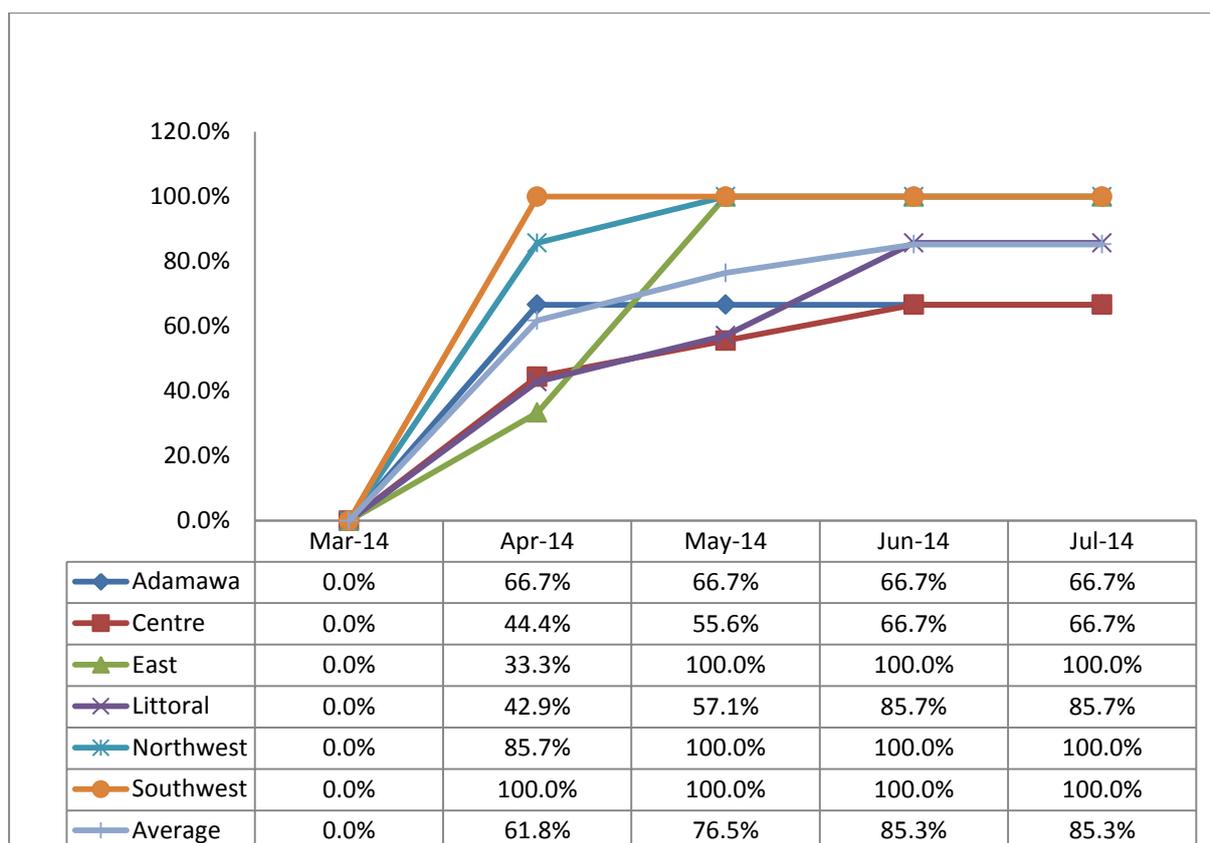


Figure 6. Percentage of health facilities with dispensing registers up to date, March–July 2014

In the East, Northwest, and Southwest regions, dispensing registers have been up to date from May to July 2014, meaning that in those regions, one can get the exact quantities of medicines dispensed to patients during that period.

Efforts should be put in place to ensure the other three SIAPS-supported regions have their dispensing registers up to date, and a scale-up plan should be explored to provide dispensing registers and related orientation to all the other health facilities in the country.

Use of Appropriate Tools to Report Stock and Patient Data

The key tools used for the management of patients and stock that have been targeted since quarter 2 supervision are ART register, dispensing register, stock cards, and CNLS monthly reporting tools known as “Monthly statistics on people living with HIV and AIDS.” These tools are crucial for the availability of stock and patient data at all levels for decision making.

Figure 7 shows the use of appropriate tools for reporting on stock and patients.

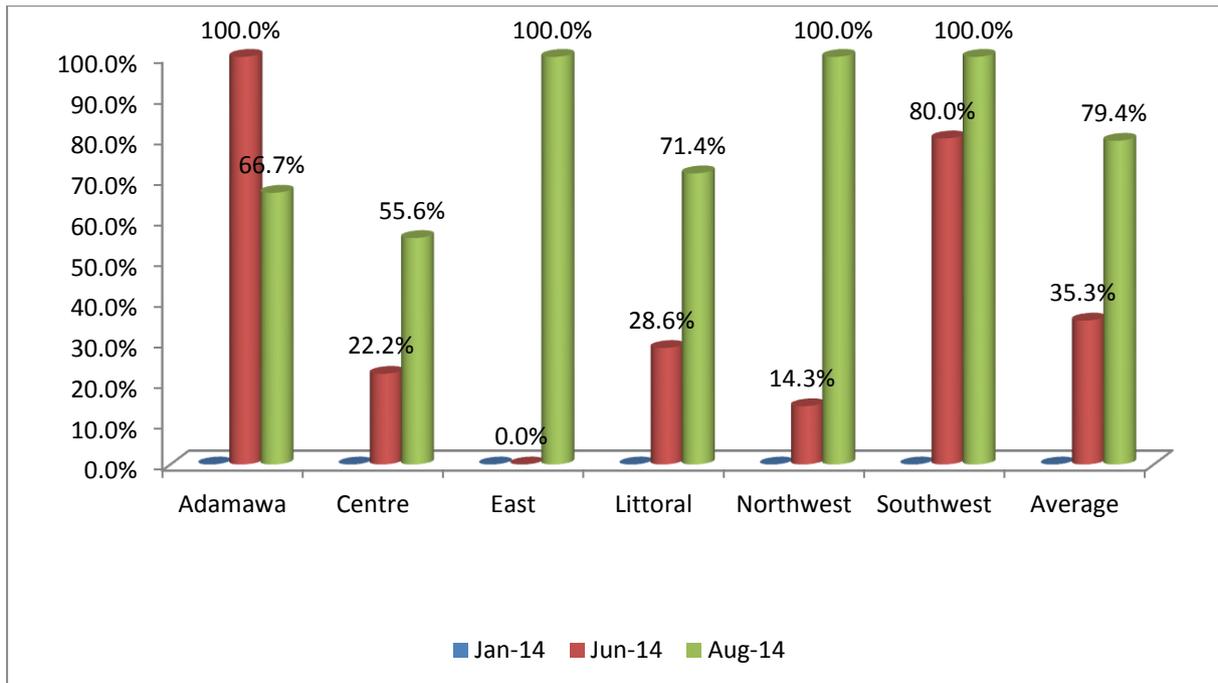


Figure 7. Percentage of health facilities that used CNLS-recommended tools to report patient and stock data, January–August 2014

Figure 7 shows that globally, the number of health facilities using appropriate CNLS tools for recording and reporting increased from 35.3% in quarter 2 (January–March 2014) to 79.4% in quarter 3 (April–June 2014).

In the East, Northwest, and Southwest regions, 100% of health facilities were using appropriate tools in the April–June quarter, compared with 0%, 14%, and 80%, respectively, in quarter 2 (January–March 2014).

In the Centre and Littoral regions, although there is improvement in the use of appropriate tools for recording and reporting, these two regions still have a low percentage of use of the tools. This is paradoxical because, as noted earlier, these are the regions with the highest volumes of patients in the country.

In the Baptist Hospital Mboppi, the ART register was not used because the personnel who were trained in using the register have resigned.

In Adamawa region, a drop in the use of appropriate tools for recording and reporting was noted because of Hôpital Protestant de Ngaoubela where the dispensing register is not used. In the Regional Hospital of Ngaoundéré, the ART register and the monthly reporting tools exist in a computerized form and are filled out electronically. The paper-based system should be used as backup when the electronic system collapses and when assigned staff leaves the facility.

Health Facilities with Up-to-Date Patient and Stock Records

Whether patient and stock records were up to date was evaluated based on stock cards, dispensing registers, and ART registers.

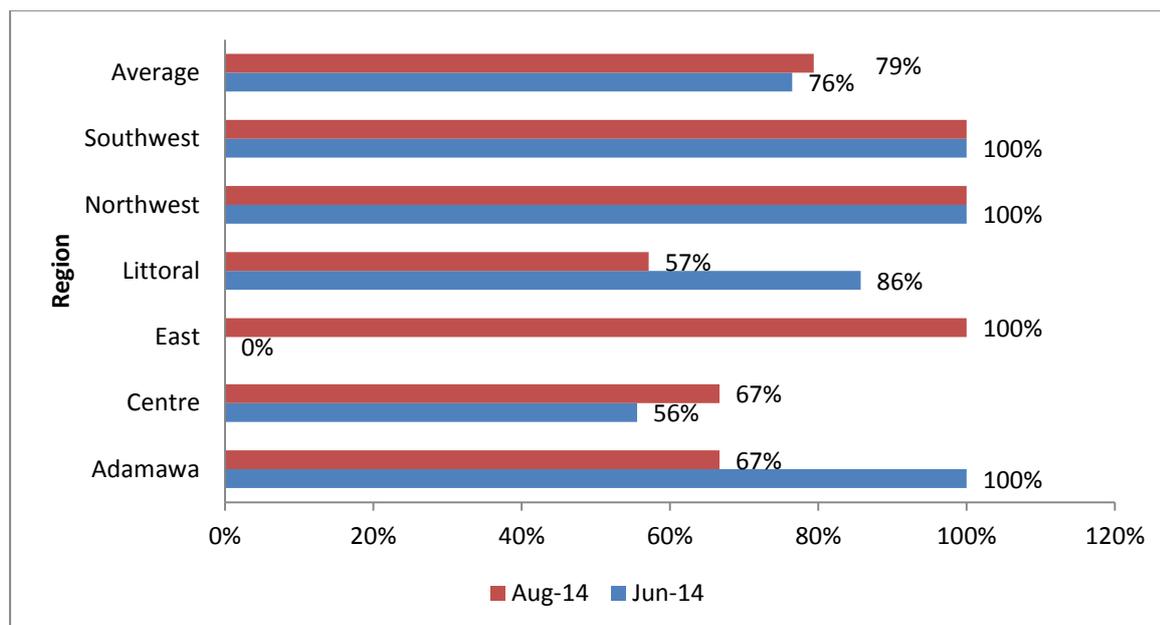


Figure 8. Percentage of SIAPS-supported ART health facilities with up-to-date patient and stock records

Figure 8 shows that an average of 79.4% of facilities had up-to-date patient and stock records in August 2014, compared with 76.5% in June 2014. In August 2014, the Northwest and the Southwest remained consistent with 100% as in June, whereas the East region improved from 0% in June 2014 to 100% in August 2014. In contrast, Adamawa and Littoral regions recorded a decline, respectively, from 100% to 66.7% and 85.7% to 57.1% from June to August 2014.

Storage Conditions and Practices

Proper store organization influences medicine quality, proper inventory management, and ease of moving around in the store. The pharmacy storage areas for all health facilities were assessed for the following 12 storage conditions and practices—

- Appropriate arrangement of pharmaceuticals medicines on pallets
- Appropriate arrangement of pharmaceuticals medicines on shelves
- Respect of distance between the medicines and the wall
- Visibility of expiry date
- Application of FIFO (first-in, first-out)/FEFO (first-expiry, first-out) rules
- Security of the storage area
- Ventilation
- Medicine not in direct contact with sunlight
- Existence of thermometer for monitoring room temperature
- Store temperature recorded morning and evening
- Existence of stock cards
- Stock cards up to date

Figure 9 indicates the percentage of facilities that were applying good practices for storage of medicines. The percentage of health facilities with good storage practices by region is shown in figure 10.

Overall, just 9% of the health facilities observed proper storage practices and conditions during the August support supervision, so there was no improvement compared with the same 9% observed in June 2014. The health facilities that observe proper storage practices are Mboppi Baptist Hospital, Mutengene Baptist Hospital, and Nkwen Baptist Hospital.

Adamawa, Centre, and East remain with 0% of health facilities observing proper storage practices, as was the case during the January and June 2014 support supervisions.

The 14% improvement in the Littoral region is from Mboppi Baptist Hospital.

The decrease observed in the Northwest region (from 29% to 14%) is because of Mbingo Baptist Hospital, where products were transferred to an inappropriate moldy space without windows and ventilation.

As in Mbingo Baptist Hospital, many other health facilities were identified where inadequate storage space is the major factor contributing to poor storage practices and conditions. These are Kumba District Hospital, CBC Tiko, Regional Hospital Annex of Buea, and Bonassama District Hospital. In Limbe Regional Hospital, HIV/AIDS commodities are stored in the office of the coordinators of the treatment center, which is not appropriate.

In the April–June 2014 quarter, 85% of RMSs observed good storage practices, compared with 71% in the January–March 2014 quarter.

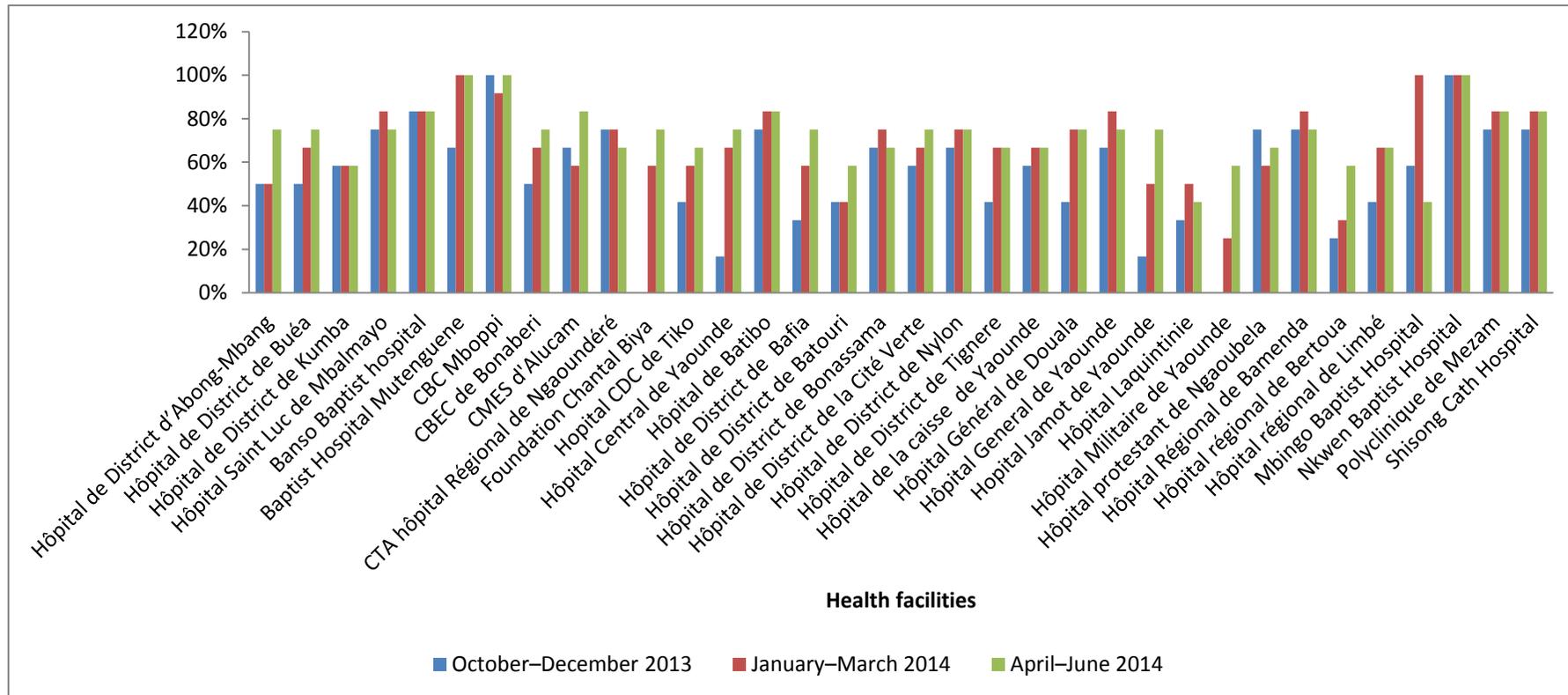


Figure 9. Percentage of good storage practices observed in SIAPS-supported health facilities, October 2013–June 2014

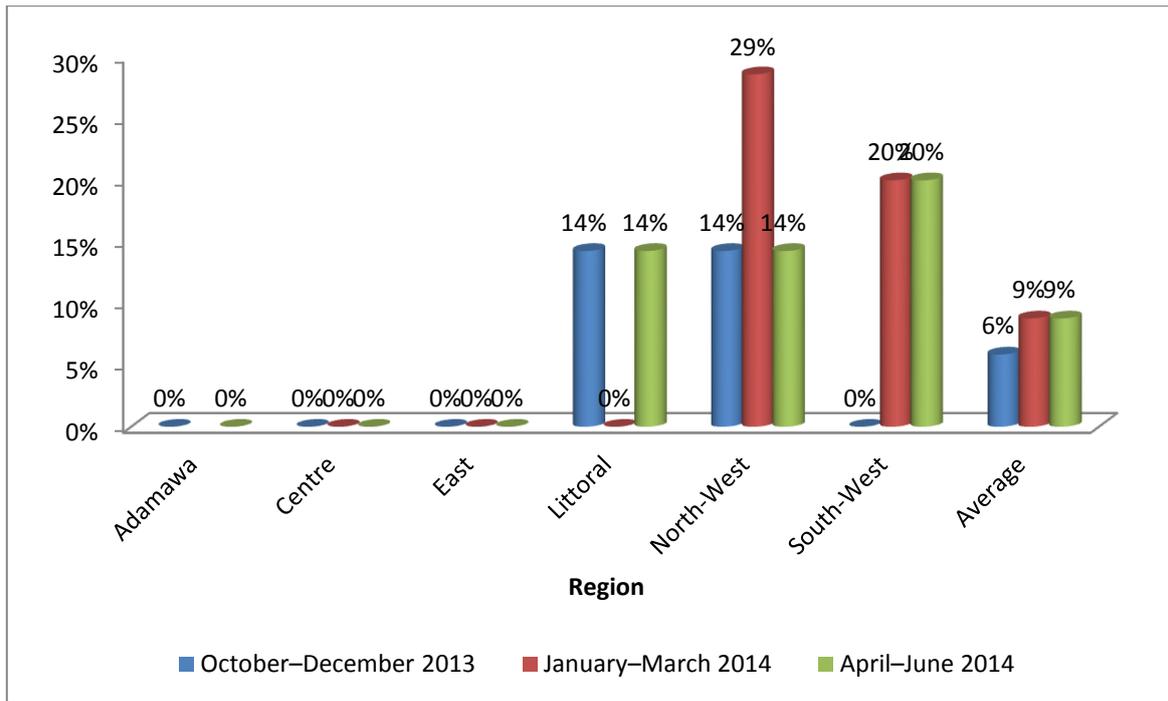


Figure 10. Percentage of health facilities with good storage practices, by region

Inventory Variation between Recorded and Physical Stock

To evaluate the correlation between the theoretical stock (records) and physical inventory (physical count), a set of products was selected in the pharmacy and counted. The values obtained were compared with those recorded on the stock cards. For each product where the theoretical stock matches the physical count, the health facility scored one, and zero when they are not matching. The total score was calculated as a percentage; figure 11 shows by health facility the percentage of stock records that correspond with physical count.

Overall, a drop of 14.7% occurred from quarter 2 (January–March 2014) to quarter 3 (April–June 2014). This was noticeable in the health facilities of the Littoral region (CEBEC Bonaberi, HD de Bonassama, HD de Nylon, Hôpital General de Douala, and Hôpital Laquintinie de Douala); Northwest region (Banso Baptist Hospital, HR Bamenda, Shisong Catholic Hospital, HD de Batibo, Mbingo Baptist Hospital); and Southwest region (Regional Hospital Annex of Buea, CDC Tiko, and DH de Kumba) in terms of number of stock cards matching with physical count.

The stock card balance matched physical counts (data not shown) in all the RMSs except that of the East region in the April–June quarter. In the East region, discrepancies existed between physical and theoretical stock for all the items present in the warehouse, and no good reason was provided to justify that result.

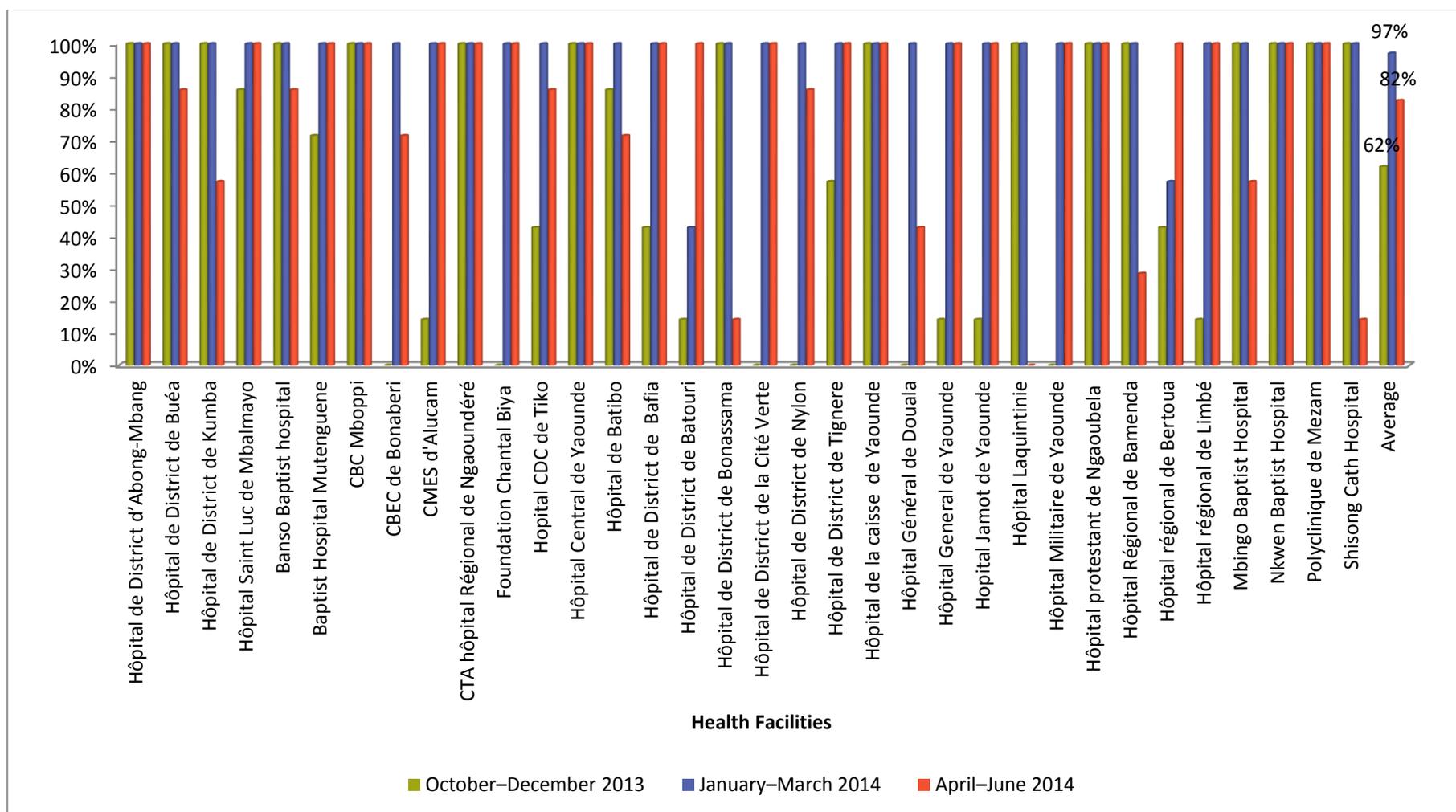


Figure 11. Percentage of stock records that match physical counts in 34 health facilities

Days Out-of-Stock of ARVs at ART Sites and Regional Medical Stores, January–June 2014

To determine the number of health facilities with stock-outs, the following products were considered as essential for the delivery of ART services: AZT/3TC/NVP 300/150/200 mg, AZT/3TC 300/150 mg, EFV 600 mg, TDF/3TC/EFV 300/300/600 mg, TDF/3TC 300/300 mg, NVP 200 mg, LPV/r 200/50 mg, and AZT/3TC/NVP 60/30/50 mg.

Figure 12 shows the percentage of health facilities with stock-outs of this preselected group of medicines for three days or more, from January to June 2014.

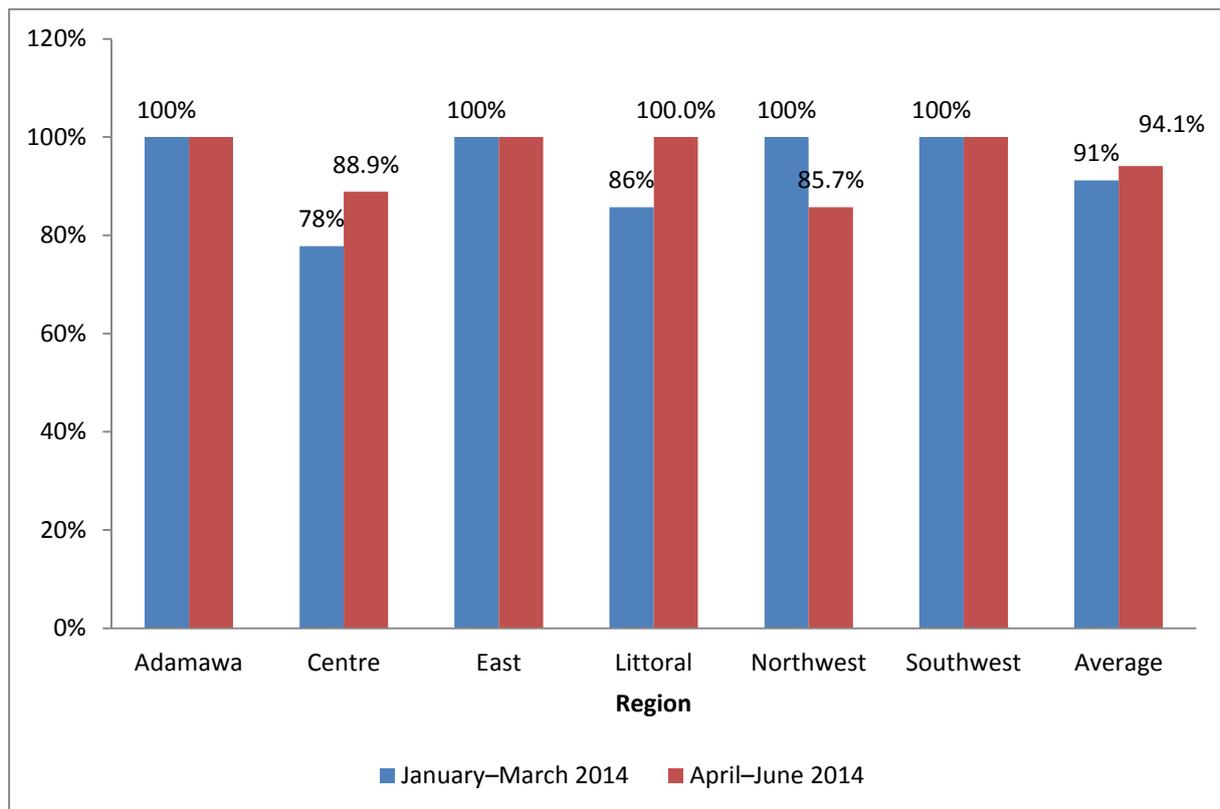


Figure 12. Percentage of health facilities with stock-outs of a preselected group of medicines for three days or more, January–June 2014

Figure 12 shows that at least one currently used ARV was out of stock for at least three days in 94.1% of the targeted health facilities between April and June 2014, compared with 91.2% between January and March 2014.

Figure 13 shows the number of days of stock-out of the preselected products. AZT/3TC (300/150) mg recorded the longest average number of days of stock-out (376 days), followed by AZT/3TC/NVP (300/150/200) mg (342 days), for the 34 targeted health facilities from April to June. This means an average of 11 and 10 days, respectively, per health facility.

In the RMSs the April–June 2014 quarter was characterized by long episodes of stock-outs of AZT/3TC/NVP and AZT/3TC (238 days and 252 days, respectively, in the six RMSs). This stock-out at the RMSs was a result of a long episode of stock-out registered at the central level because of suppliers' delays during this period.

During this quarter, only 7 days of stock-out for TDF/3TC/EFV and 20 days for TDF/3TC were registered in the six RMSs. TDF/3TC and TDF/3TC/EFV recorded respectively 75 and 34 days of stock-out in the targeted health facilities during the period from April to June 2014, as shown in figure 13, although these products were available at the central and regional levels during that period. This might be the consequence of the push supply system the country has been on since 2013 to manage episodes of stock-outs faced by the country since 2012.

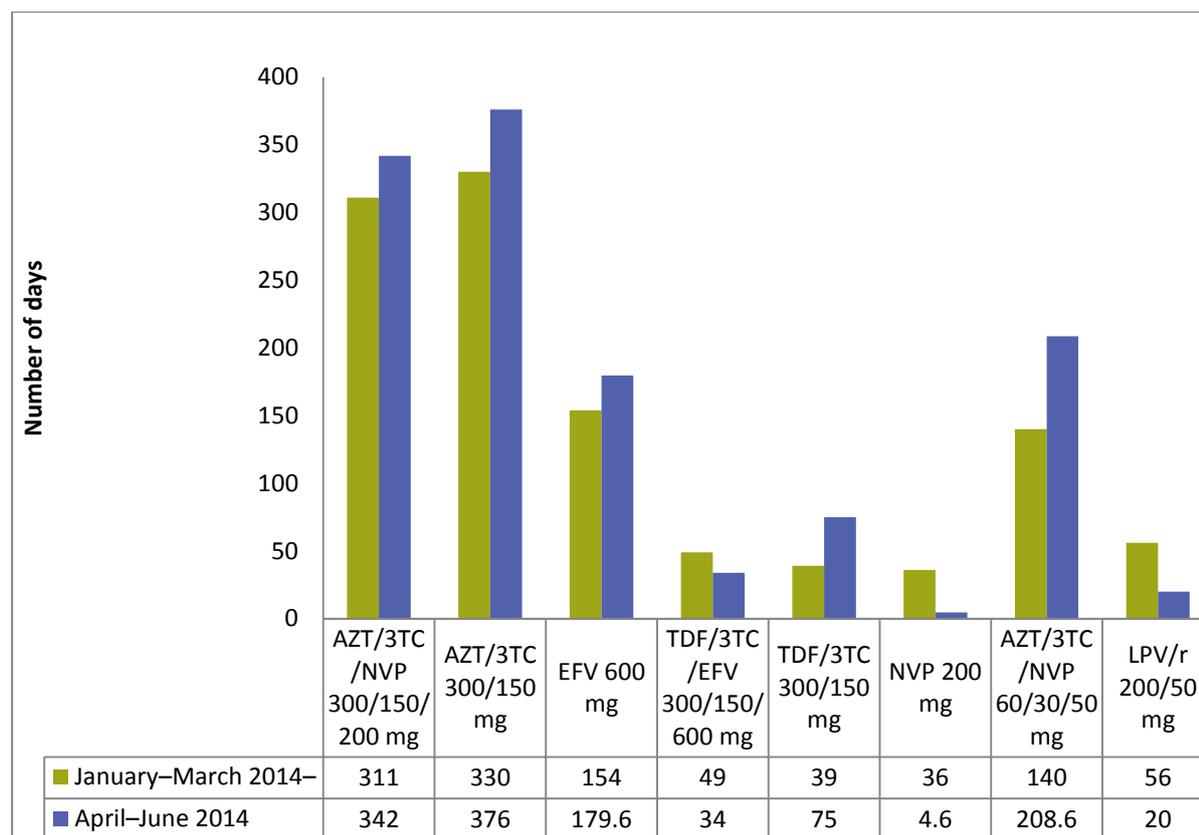


Figure 13. Number of days of stock-out at health facilities

HIV and AIDS Commodity Consumption Trends

*First-Line ARV Consumption Trend in Health Facilities***Table 2. Average Monthly Consumption of the Preferred First-Line ARV in the 34 Health Facilities Visited, October–December 2013, January–March 2014, and April–June 2014**

Region	Health facility	AZT/3TC/NVP 300/150/200 mg			AZT/3TC 300/150 mg			EFV 600 mg			TDF/3TC/EFV 300/300/600 mg			TDF/3TC 300/300 mg			NVP 200 mg			AZT/3TC/NVP (60/30/50 mg)		
		Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14
Adamawa	CTA HR Ngaoundéré	1,001	272	439	439	211	0	144	249	148	164	641	1,012	285	445	401	170	407	123	0	0	71
	HD de Tignère	121	146	155	31	2	0	1	0	0	0	2	20	0	0	0	29	0	0	4	0	3
	Hôpital protestant de Ngaoubela	393	0	250	95	89	17	173	70	138	428	191	280	118	0	167	33	33	55	5	50	4
Subtotal Adamawa		1,514	417	844	565	303	17	317	319	286	592	834	1,312	404	445	568	232	440	178	9	50	78
Centre	Hôpital Saint Luc de Mbalmayo	207	135	58	50	5	0	89	60	21	416	203	194	89	86	343	50	117	123	0	10	13
	Fondation Chantal Biya	0	357	91	0	56	88	0	43	77	0	101	133	0	35	143	0	23	213	0	230	116
	Hôpital Central de Yaoundé	304	3,267	870	253	1325	354	37	87	309	854	2,632	4223	3	514	1,227	233	1,389	1,155	25	0	0
	HD de Bafia	390	369	214	31	175	100	23	63	65	188	170	335	62	145	248	20	249	352	0	20	6
	HD de la Cité Verte	212	311	288	232	0	81	219	13	33	1,410	521	182	120	94	587	31	31	193	0	0	0
	Hôpital de la caisse de Yaoundé	1,427	796	464	141	499	71	225	25	88	1,797	1,282	1,459	349	0	2,033	140	1,173	1,807	67	129	67
	Hôpital General de Yaoundé	458	656	268	205	65	127	129	93	30	1,016	756	1,053	255	432	797	98	200	613	8	14	4
	Hôpital Jamot de Yaoundé	968	587	127	515	77	27	382	168	25	1,238	887	977	220	439	563	322	241	561	0	0	0
Hôpital Militaire de Yaoundé	0	0	736	0	0	0	0	0	0	280	0	934	361	0	821	141	0	300	1,512	0	3	0
Subtotal Centre		3,965	6,479	3,116	1,428	2,201	847	1,105	553	927	6,919	7,486	8,916	1,097	2,565	6,083	894	3,721	6,529	100	406	206

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Region	Health facility	AZT/3TC/NVP 300/150/200 mg			AZT/3TC 300/150 mg			EFV 600 mg			TDF/3TC/EFV 300/300/600 mg			TDF/3TC 300/300 mg			NVP 200 mg			AZT/3TC/NVP (60/30/50 mg)		
		Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14
East	HD d'Abong-Mbang	570	425	477	111	79	0	68	20	0	240	170	257	41	68	93	119	116	77	19	9	5
	HD de Batouri	512	445	412	84	21	0	126	20	0	770	100	240	86	100	97	63	78	99	21	10	11
	HR de Bertoua	1,376	463	726	624	34	0	264	30	0	1,089	787	1,207	291	121	468	358	531	210	104	0	0
Subtotal East		2,459	1,334	1,615	818	134	0	457	69	0	2,099	1,057	1,703	418	289	658	540	725	386	144	19	16
Littoral	CBC Mboppi	1,538	562	401	390	386	45	216	136	3	1,211	661	912	66	648	630	232	612	630	23	20	29
	CBEC de Bonaberi	0	44	72	0	29	8	0	10	7	0	82	115	0	94	188	0	135	182	0	0	0
	CMES d'Alucam	162	17	7	46	45	2	25	13	1	141	38	177	14	10	5	0	24	1	6	26	2
	HD de Bonassama	1,129	398	418	217	209	56	203	57	19	1,277	795	1,141	59	282	276	50	276	257	2	10	5
	HD de Nylon	1,553	1,405	695	292	447	180	660	93	37	4,455	1,219	1,989	713	1	1,690	277	180	1,685	29	18	33
	Hôpital Général de Douala	0	452	373	0	157	245	0	77	51	0	588	680	0	354	546	0	211	468	0	13	9
	Hôpital Laquintinie	1,569	513	466	534	385	110	470	92	158	2,975	1,818	1,837	103	291	361	61	362	441	0	135	116
Subtotal Littoral		5,952	3,391	2,432	1,480	1,657	645	1,574	479	277	10,059	5,202	6,850	954	1,680	3,696	620	1,800	3,666	60	222	193
Northwest	Banso Baptist hospital	833	453	264	297	328	50	243	90	201	1,292	596	1,254	73	301	718	43	622	286	0	50	11
	Hôpital de Batibo	2,421	175	38	1,442	100	38	285	1	3	4,891	131	387	259	193	117	0	244	108	0	8	11
	HR de Bamenda	2,582	1,199	619	1,227	372	118	535	130	122	1,535	1,962	3,088	258	1,231	1,134	595	1,177	420	0	0	0
	Mbingo Baptist Hospital	453	200	55	165	73	50	90	105	45	554	177	674	20	261	157	96	222	132	0	40	11
	Nkwen Baptist Hospital	1,133	619	8	482	146	75	218	280	58	1,134	624	1,000	21	669	609	259	409	627	0	14	42
	Polyclinique de Mezam	522	337	98	376	69	16	96	1	0	745	297	591	67	308	337	212	323	259	0	0	8
	Shisong Catholic Hospital	375	540	246	252	335	55	151	45	3	686	872	518	212	291	590	178	434	600	0	54	17
Subtotal Northwest		8,319	3,524	1,328	4,240	1,423	403	1,618	652	431	10,837	4,658	7,511	910	3,254	3,661	1,382	3,432	2,432	0	166	99

Results

Region	Health facility	AZT/3TC/NVP 300/150/200 mg			AZT/3TC 300/150 mg			EFV 600 mg			TDF/3TC/EFV 300/300/600 mg			TDF/3TC 300/300 mg			NVP 200 mg			AZT/3TC/NVP (60/30/50 mg)		
		Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14
Southwest	HD de Buea	542	400	131	279	45	15	146	123	17	672	472	638	62	269	704	110	63	589	12	11	8
	HD de Kumba	754	609	267	640	0	36	276	112	95	1517	694	1,550	126	427	444	454	346	177	47	0	18
	Baptist Hospital Mutenguene	0	247	256	0	225	36	0	80	7	0	1,317	1,513	0	558	517	0	413	323	23	94	128
	Hôpital CDC de Tiko	386	311	302	79	67	57	79	13	63	227	390	479	71	156	227	72	147	217	9	19	9
	Hôpital régional de Limbé	920	931	585	237	18	25	198	183	1	2,156	840	1,357	198	746	989	140	382	232	29	56	0
Subtotal Southwest		2,602	2,499	1,541	1,234	3,55	168	698	511	183	4,572	3,712	5,537	457	2,155	2,881	775	1,351	1,538	121	180	164
Grand total		24,811	17,643	10,876	9,765	6,073	2,080	5,769	2,584	2,105	35,078	22,949	31,830	4,240	10,388	17,546	4,444	11,471	14,729	434	1043	756

Note: The average monthly consumption is obtained by dividing the sum of the consumption of the three months of each of the quarters by three.

It appears from table 2 that the average monthly consumption from October–December 2013 to April–June 2014 through January–March 2014 of the main first-line regimens varies in almost all the health facilities. For example, whereas the average monthly consumption of AZT/3TC/NVP decreases that of TDC/3TC/EFV increases. This goes in line with the strategy of CNLS to consider TDF/3TC/EFV as the preferred first-line regimen in the near future.

Table 3. Average Monthly Consumption of Selected Second-Line ARVs, Medicines for Opportunistic Infections, and Test Kits in the 34 Health Facilities

Region	Health facility	LPV/r 200/50 mg			ATV/r 300/100 mg			AZT/3TC/NVP 60/30/50 mg			LPV/r 80+20 mg/ml syrup			Co-trimoxazole 960 mg B/100			Co-trimoxazole 480 mg B/1000			Co-trimoxazole 120 mg B/1000			Determine B/100			Oraqquick B/100			
		Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	
Adamawa	CTA HR Ngaoundéré	52	55	35	0	0	0	0	0	71	0	0	0	0	0	0	161	78	24	0	2	0	0	0	0	0	0	0	0
	HD Tignère							4	0	3				0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	
	H Protestant Ngaoubela							5	50	4				0	12	0	1	9	0	0	0	0	0	0	0	0	0	0	
Subtotal Adamawa		52	55	35	0	0	0	9	50	78	0	0	0	0	12	0	165	87	24	0	2	0	0	0	0	0	0	0	
Centre	Hôpital St Luc Mbalmayo							0	10	13				0	0	0	22	14	0	18	10	0	0	0	0	0	0	0	
	Fondation Chantal Biya	0	92	78	0	30	0	0	230	116	0	9	0	0	6	0	0	77	0	0	63	0	0	0	0	0	0	0	
	Hôpital Central Yaoundé	4	379	226	0	22	23	25	0	0	0	0	0	0	0	0	18	213	2	0	0	0	0	0	0	0	0	0	
	HD Bafia	0	4	5	0	0	0	0	20	6				0	0	15	0	34	0	0	27	0	0	0	0	0	0	0	
	HD de la Cité Verte							0	0	0				0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	
	Hôpital caisse Yaoundé	178	156	286	0	0	0	67	129	67	0	119	0	0	0	0	23	0	16	3	0	9	0	0	0	0	0	0	
	Hôpital General Yaoundé	243	247	355	0	7	3	8	14	4	1	1	1	15	11	11	0	6	31	0	133	7	0	0	0	0	0	0	
	Hôpital Jamot Yaoundé	77	112	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HI Militaire Yaoundé	0	379	91	0	50	0	0	3	0	0	0	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Subtotal Centre		502	1,368	1,111	0	109	27	100	406	206	1	129	1	15	159	26	88	344	49	21	233	15	0	0	0	0	0	0	
East	HD d'Abong-Mbang							19	9	5				0	32	0	0	10	0	0	52	0	0	4	1	0	5	0	
	HD Batouri	3	3	0	1	0	0	21	10	11				0	12	9	18	9	5	0	9	10	0	0	1	0	0	0	
	HR Bertoua	173	21	33	65	0	0	104	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	0	0	0	0	
Subtotal East		176	24	33	67	0	0	144	19	16	0	0	0	0	44	9	69	19	5	0	61	10	0	4	2	0	5	0	

Results

Region	Health facility	LPV/r 200/50 mg			ATV/r 300/100 mg			AZT/3TC/NVP 60/30/50 mg			LPV/r 80+20 mg/ml syrup			Co-trimoxazole 960 mg B/100			Co-trimoxazole 480 mg B/1000			Co-trimoxazole 120 mg B/1000			Determine B/100			Oraquick B/100		
		Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14
Littoral	CBC Mboppi	65	68	55	0	0	5	23	20	29	1	21	5	0	123	47	68	29	2	0	515	74	0	0	0	0	0	0
	CBEC de Bonaberi							0	0	0				0	0	0	0	0	4	0	0	0	0	0	0	0	0	
	CMES d'Alucam	16	8	8	0	0	0	6	26	2				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HD Bonassama	32	37	34	0	0	0	2	10	5	0	0	0	0	0	0	10	11	16	0	0	0	0	0	0	0	0	0
	HD Nylon	317	165	186	0	0	0	29	18	33	3	0	39	0	3	603	28	33	0	0	180	156	0	0	0	0	0	0
	Hôpital Général Douala	0	247	342	0	0	0	0	13	9	0	1	0	0	0	0	0	7	6	0	0	0	0	0	0	0	0	0
	Hôpital Laquintinie	254	293	282	0	0	0	0	135	116	0	7	18	9	0	0	34	64	75	37	144	7	0	0	5	0	0	1
Subtotal Littoral	684	819	907	0	0	5	60	222	193	5	30	61	9	127	649	140	144	103	37	840	236	0	0	5	0	0	1	
Northwest	Banso Baptist Hospital	0	75	68	0	8	0	0	50	11	0	2	7	0	6	0	0	88	46	0	7	7	0	0	0	0	0	
	Hôpital de Batibo	285	18	16	27	0	0	0	8	11	0	0	0	0	0	27	17	0	3	0	0	0	0	0	0	0	0	
	HR de Bamenda	0	419	449	0	30	1	0	0	0	0	0	0	0	35	0	0	0	11	0	0	0	0	0	0	0	0	
	Mbingo Baptist Hospital	0	18	19	0	1	1	0	40	11	0	0	1	0	0	9	0	31	33	0	0	0	0	0	0	0	0	
	Nkwen Baptist Hospital	0	59	56	0	3	3	0	14	42	0	0	0	0	0	83	0	0	83	0	0	0	0	0	0	0	0	
	Polyclinique de Mezam	0	74	58	0	0	0	0	0	8	0	0	0	0	0	19	0	0	64	0	0	0	0	0	0	0	0	
	Shisong Catholic Hospital	0	46	47	0	0	0	0	54	17	0	2	2	0	0	0	0	27	23	0	6	10	0	0	0	0	0	
Subtotal Northwest	285	709	714	27	42	5	0	166	99	0	4	9	0	41	138	17	146	263	0	13	17	0	0	0	0	0		

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Region	Health facility	LPV/r 200/50 mg			ATV/r 300/100 mg			AZT/3TC/NVP 60/30/50 mg			LPV/r 80+20 mg/ml syrup			Co-trimoxazole 960 mg B/100			Co-trimoxazole 480 mg B/1000			Co-trimoxazole 120 mg B/1000			Determine B/100			Oraquick B/100			
		Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	
Southwest	HD Buéa	8	3	9	0	0	0	12	11	8	0	1	0	0	0	0	18	0	0	0	3	0	0	0	0	0	0	0	0
	HD Kumba	37	51	52	0	0	2	47	0	18	0	0	0	0	0	187	72	0	0	0	0	0	0	0	0	0	0	0	
	BH Mutenguene	0	189	0	0	6	14	23	94	128	0	4	0	0	0	0	53	67	0	0	0	0	0	0	0	0	0	0	
	Hôpital CDC de Tiko	0	5	8	0	0	0	9	19	9	0	0	0	0	0	80	8	15	0	0	0	0	0	0	0	0	0	0	
	HR Limbé	24	249	251	0	0	9	29	56	0	0	0	0	0	0	81	3	69	0	0	0	26	0	0	0	0	0	0	
Subtotal Southwest		69	497	320	0	6	25	121	180	164	0	5	0	0	0	348	155	152	0	0	3	26	0	0	0	0	0		
Grand Total		1,769	3,472	3,119	93	156	61	434	1,043	756	6	168	71	24	383	1,170	635	891	3,500	58	1,151	305	0	4	7	0	5	1	

These health facilities do not offer second-line ARVs.

Health facilities have no management tools to monitor the consumption of laboratory commodities. Moreover, these products are consumed in laboratories, and pharmacy attendants do not always have access to information about their management. In addition, CNLS reporting tools do not have fields for including information on lab commodities management.

Consumption Trend at Regional Medical Stores

Tables 4, 5, and 6 show the monthly consumption trends of ARVs and co-trimoxazole from the October–December 2013 to April–June 2014 quarters; one can observe the increase in the consumption of TDF/3TC/EFV and TDF/3TC and a decrease in the consumption of AZT/3TC/NVP and AZT/3TC.

Table 4. Monthly Consumption Trend of AZT/3TC/NVP and TDF/3TC/EFV, October 2013–June 2014

RMS	AZT/3TC/NVP 300/150/200 mg tab B/60									TDF/3TC/EFV 300/300/600 mg								
	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14
Adamawa	2,184	2,888	1,710	72	60	3,000	2,750	150	40	550	700	244	1,458	2,384	2,180	1,960	1,500	2,463
Centre	21,360	15,331	350	837	14,017	2,865	9,730	607	2,082	11,771	20,598	2,270	18,652	14,646	1,810	22,988	9,377	19,177
East	0	4,439	560	2,318	66	3,101	2,558	2,060	845	34	1,735	2,390	1,471	29	3,037	2,333	2,187	3,856
Littoral	17,281	12,191	0	218	3,521	4,879	0	0	0	9,694	6,333	10,529	9,089	13,211	1,382	10,704	11,930	26,306
Northwest	4,469	13,058	9,107	0	10,820	3,182	5,853	0	995	492	6,672	12,459	2,129	5,362	6,130	9,874	8,925	19,432
Southwest	6,355	8,023	0	51	7,308	5,961	3,957	0	517	3,336	4,130	642	11,246	4,220	3,780	7,370	7,278	10,186
Grand Total	51,649	55,930	11,727	3,496	35,792	22,988	24,848	2,817	4,479	25,877	40,168	28,534	44,045	39,852	18,319	55,229	41,197	81,420

Table 5. Average Monthly Consumption of Some Selected ARVs and Co-trimoxazole in the Six Regional Medical Stores Visited, October–December 2013, January–March 2014, and April–June 2014

RMS	AZT/3TC/NVP 300/150/200mg tab B/60			AZT/3TC 300/150 mg CP B/60			EFV 600 mg			TDF/3TC/EFV 300/300/600 mg			TDF/3TC 300/300 mg		
	Oct–Dec 13	Jan– Mar–14	Apr–Jun 14	Oct–Dec 13	Jan– Mar–14	Apr–Jun 14	Oct–Dec 13	Jan– Mar–14	Apr–Jun 14	Oct–Dec 13	Jan– Mar–14	Apr–Jun 14	Oct–Dec 13	Jan– Mar–14	Apr–Jun 14
Adamawa	1,691	1,044	980	717	416	89	367	350	45	498	2,007	1,974	629	534	717
Centre	12,230	5,906	4,140	6,216	477	2,452	2,168	375	3,957	11,546	11,703	17,181	5656	11,322	8,647
East	1,480	1,828	1,821	232	543	139	226	110	141	1,386	1512	2,792	724	711	784
Littoral	9,824	2,873	0	91	0	0	1,772	518	651	8,852	7,894	16,313	3179	4,051	4969
Northwest	5,842	4,667	2,283	3,907	1	1,172	2,959	33	474	6,541	4,540	12,744	2556	3,309	7839
Southwest	4,793	4,440	1,491	1,853	611	425	515	635	429	2,703	6,415	8,278	838	3,111	4465
Grand Total	35,860	20,759	10,715	13,015	2,047	4,277	8,007	2,021	5,697	31,526	34,072	59,282	13581	23,037	27,421

RMS	NVP 200 mg			LPV/r 200/50 mg tab B/120			AZT/3TC/NVP 60/30/50 mg dispersible tab		
	Oct–Dec 13	Jan–Mar– 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar– 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar– 14	Apr–Jun 14
Adamawa	539	1,040	589	0	227	20	0	137	145
Centre	6,289	7,119	3,940	1,446	1,875	1,923	0	0	0
East	492	844	609	61	41	70	0	61	55
Littoral	6,086	3,877	2,798	0	811	1,117	0	0	223
Northwest	2,668	2,646	4,996	0	1,343	1,105	0	261	960
Southwest	1,643	2,135	3,729	248	646	493	0	315	234
Grand Total	17,717	17,660	16,662	1,756	4,943	4,729	0	773	1,618

Table 6. Average Monthly Consumption of Co-trimoxazole and Test Kits in the Six Regional Medical Stores Visited, October–December 2013, January–March 2014, and April–June 2014

RMS	Co-trimoxazole 960 mg tab B/100			Co-trimoxazole 480 mg tab B/1000			Co-trimoxazole 120 mg tab B/1000			Determine B/100			Oraqik B/100		
	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14	Oct–Dec 13	Jan–Mar 14	Apr–Jun 14
Adamawa	0	0	0	11	97	229	0	17	0	0	5	114	0	248	700
Centre	48	4	0	1,602	74	0	0	122	0	0	2	68	0	7	20
East	0	115	0	71	116	155	0	715	0	0	45	109	0	63	12
Littoral	0	2,055	4,128	618	192	222	0	1,330	7,535	0	62	420	0	10	38
Northwest	0	1,262	2,453	265	459	0	0	459	1,592	0	60	19,858	0	4	2,378
Southwest	0	272	0	396	318	0	0	353	0	0	22	131	0	1	12
Grand Total	48	3,708	6,581	2,963	1,255	606	0	2,996	9,127	0	197	20,700	0	334	3,159

Availability of ARVs on Day of Visit at Regional Medical Stores and Health Facilities

Availability of ARVs on Day of Visit at Regional Medical Stores

Table 7. Stock on Hand in Regional Medical Stores on the Day of Visit

RMS	AZT/3TC/NVP 300/150/200 mg tab B/60	AZT/3TC 300/150 mg tab B/60	EFV 60 mg	TDF/3TC/EFV 300/300/600 mg	TDF/3TC 300/300 mg	NVP 200 mg	LPV/r 200/50 mg tab B/120	AZT/3TC/NVP 60/30/50 mg dispersible tab	Co-trimoxazole 960 mg tab B/100	Co-trimoxazole 480 mg tab B/1000	Co-trimoxazole 120 mg tab B/1000	Determine B/100	Oraqik B/100
Adamawa	3.1	12.5	32.2	2.0	2.2	3.6	9.9	16.1	0	0	0	0.9	0
Centre	0.1	1.8	2.3	1.5	0.3	3.1	0.1	0.0	0	0	0	1.2	0.3
East	0.8	12.8	13.8	1.1	3.2	13.2	5.4	9.9	0	0	0	0.2	0.2
Littoral	2.8	98.2	13.4	1.7	2.2	4.4	2.4	11.9	0	4.3	0.1	1.0	1
Northwest	0.1	2.2	5.5	0.3	0.9	1.5	1.1	1.8	0	0	14.2	0.4	0
Southwest	5.3	7.8	5.5	0.9	0.1	1.0	1.9	4.1	0	0	219	0.0	0.7
Grand Total	2.0	5.2	4.6	1.2	0.9	2.8	1.2	5.1	0	1.6	2.5	0.4	0

Table 7 gives the number of months of stock on hand (MoSoH) in the RMSs on the day of supervision. The average monthly consumption used is generated from the RMS distribution records for the January–March quarter, the April–June quarter, or both. For AZT/3TC products, the average monthly consumption gives 98.2 MoSoH in the Littoral region where consumption was found to be very low for the period January–June 2014 because of stock tensions. The RMS in the Littoral region on the day of visit had received from the Central Medical Stores 8,933 boxes as a result of arrival of a new AZT/3TC shipment in the country. High MoSoH for AZT/3TC was also found in other regions, such as Adamawa, East, and Southwest.

For EFV 600 mg and NVP 200 mg, high MoSoH were recorded in the Adamawa, East, Littoral regions because of the very low consumptions of these isolated molecules from January to June 2014 as the program is gradually shifting to fixed-dose combinations.

Co-trimoxazole 120 mg is recording the highest MoSoH of respectively 219 and 14.2 MoSoH in the Southwest and Northwest regions. On the day of the visit this product had a shelf life of just one month. This is the consequence of the push mechanism that the central level used for the allocation of this product; the number of children under treatment in these regions is far below the shipments received.

AZT/3TC/NVP dispersible tablets also recorded high MoSoH on the day of the visit in Adamawa, East, and Littoral regions because the shipments received were higher than their respective normal consumption. This is also the consequence of the push mechanism.

From table 7, one sees that the median stock holding in the six RMSs for TDF/3TC/EFV and AZT/3TC/NVP are 1.2 and 2 MoSoH respectively. TDF/3TC/EFV is the preferred first-line regimen currently consumed in the country but has only 1.2 MoSoH in the RMS even though this sufficient product was available (more than 10 MoSoH).

Availability of ARVs on the Day of Visit at Health Facilities

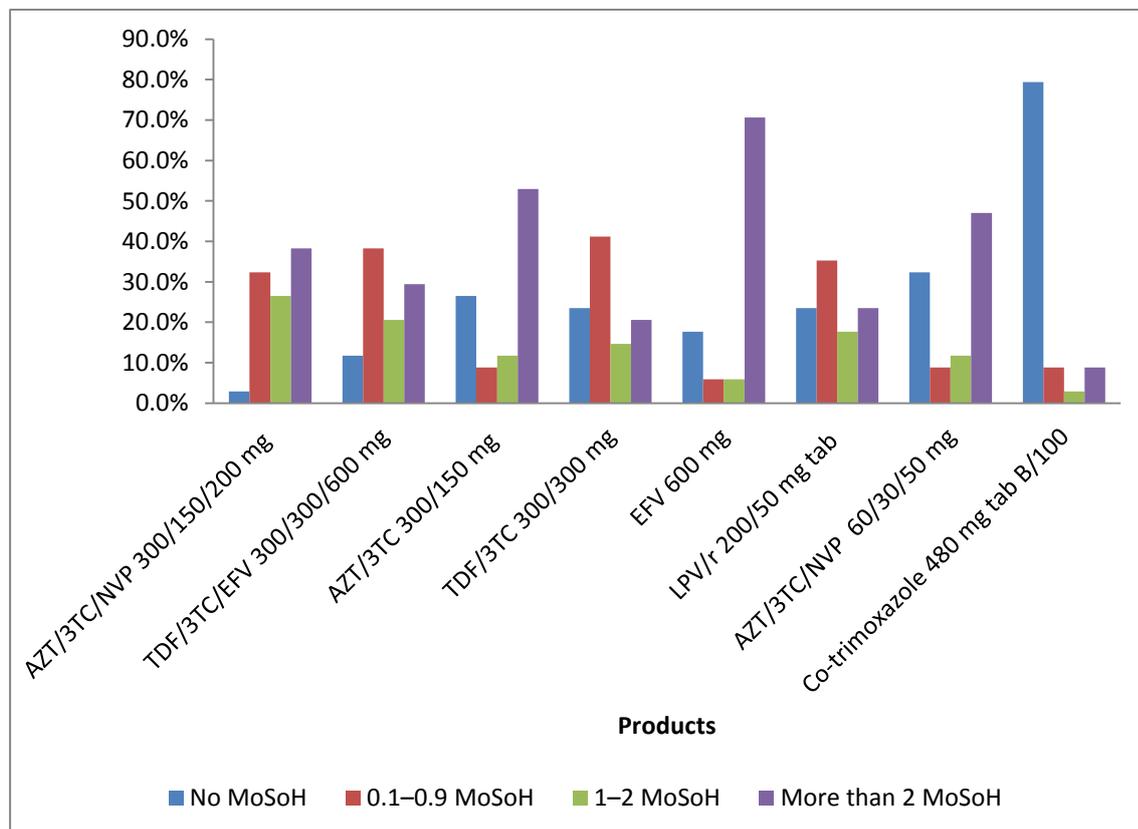


Figure 14. Percentage of health facilities with ARVs and medicines for opportunistic infections available the day of the visit

From all the above, it appears that some health facilities were stocking for more than two months, which is overstock in normal circumstances, whereas others were totally out of stock during our visit.

Also, some of the medicines which were out of stock on the day of the visit in health facilities were available in regional and central medical stores (TDF/3TC/EFV; TDF/3TC; LPV/r

200/50 mg) waiting to be distributed to the regions based on a distribution plan that has been regularly developed by CNLS with CENAME (the central medical store) since 2013 to minimize stock-outs or overstock in the regions.

It should be remembered that the average monthly consumption being used in this report is the average consumption of the three previous average monthly consumption months, which is linked to the availability of drugs during that period. For example, the average monthly consumption of AZT/3TC/NVP of Hôpital Central de Yaoundé was 3,267 boxes in the January–March 2014 quarter. The availability of this drug is 4.6 MoSoH; because there were not enough drugs available during the previous quarter and the health facilities consumed only 869 boxes, which was then considered as the average monthly consumption the day of the visit.

Figure 15 shows the percentage of health facilities with no MoSoH on the day of the supervision.

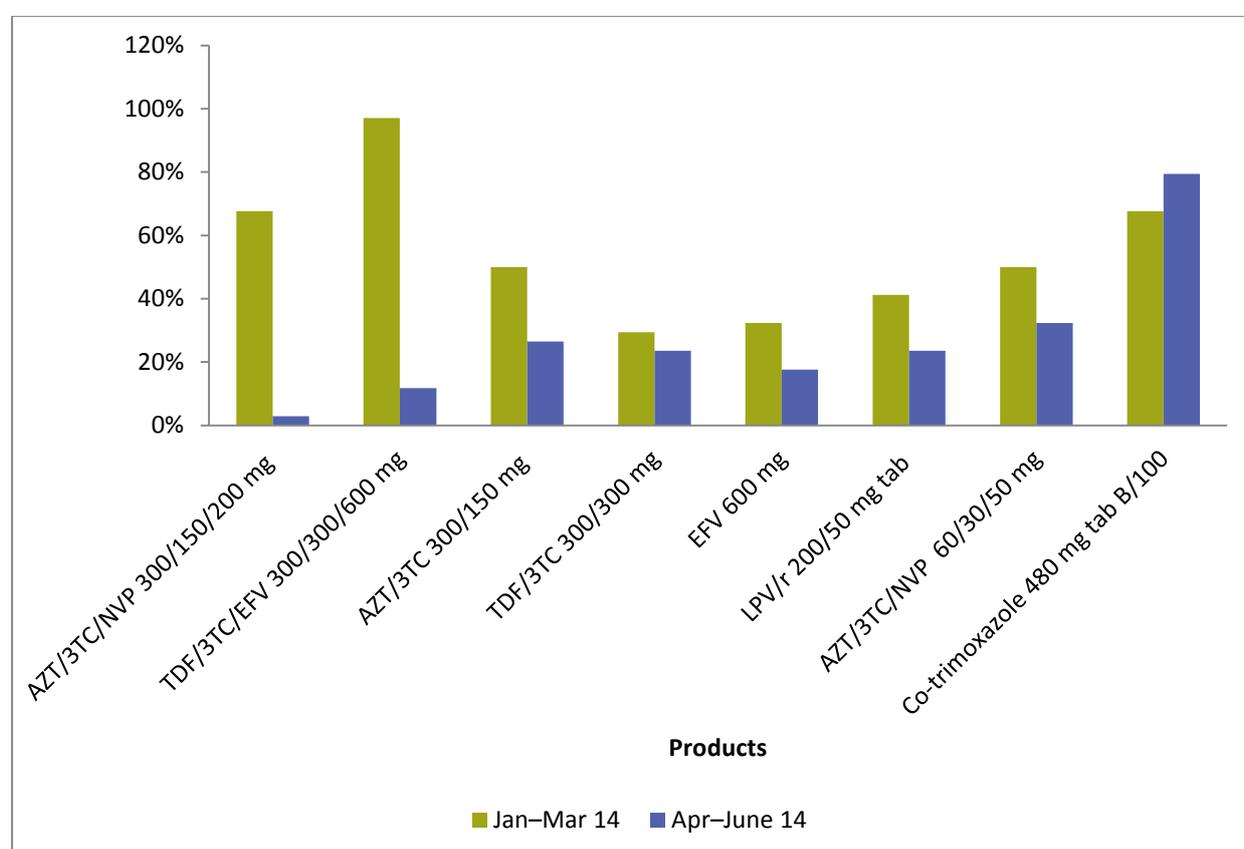


Figure 15. Percentage of health facilities with zero MoSoH from January–March to April–June quarter

According to figure 15, the percentage of health facilities with no MoSoH of ARVs on the day of visit has decreased between the quarter 2 supervision (January–March 2014) and quarter 3 supervision (April–June 2014), which indicates an improvement in the availability of ARVs in the country. In contrast, the number of health facilities with no MoSoH of co-trimoxazole increased from January–March 2014 to April–June 2014 quarter.

Figure 16 shows the percentage of health facilities with more than one MoSoH from January–March to April–June quarter.

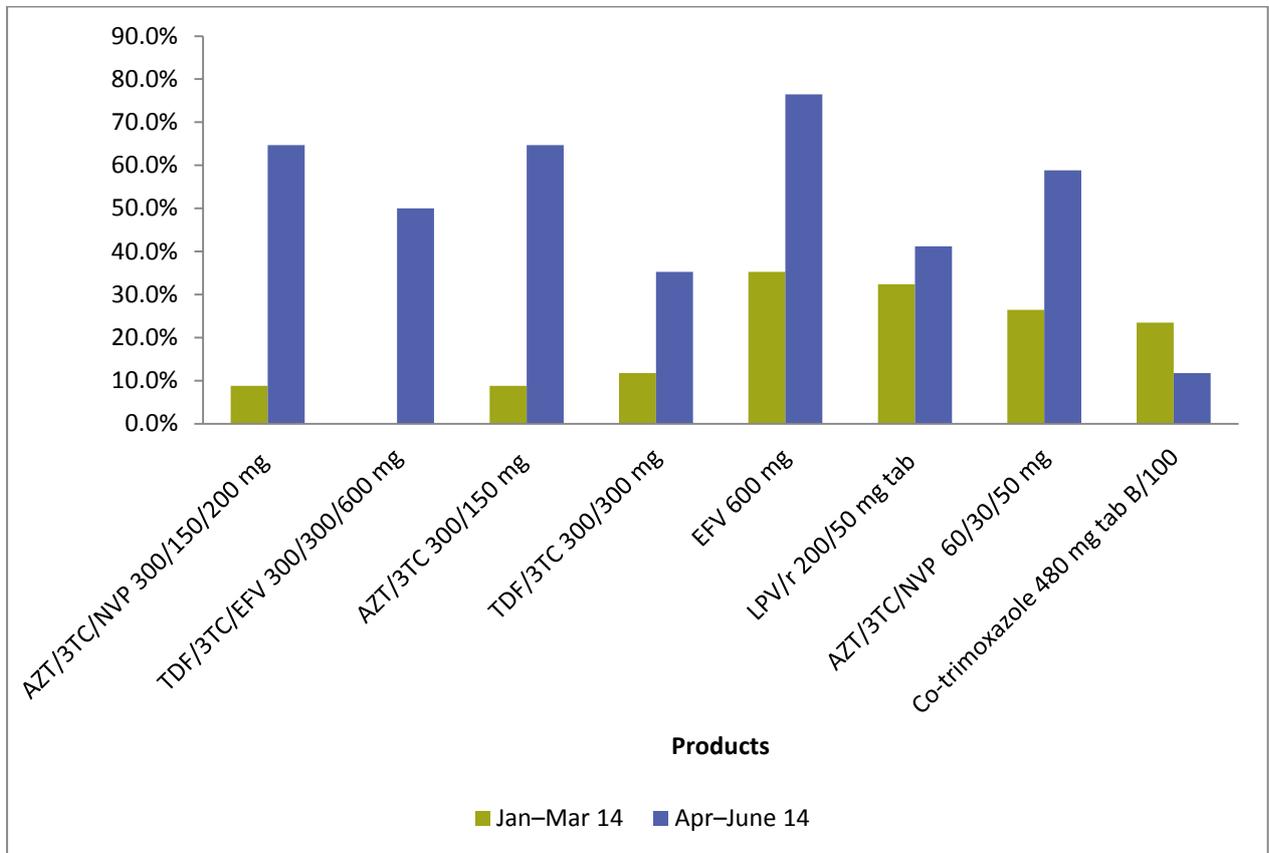


Figure 16. Percentage of health facilities with more than one MoSoH from January–March to April–June quarter

From this figure, the percentage of health facilities holding between one and two MoSoH of ARVs on the day of the visit has tremendously increased between quarter 2 (January–March) and quarter 3 (April–June), which demonstrates an improvement in the availability of medicines in the country.

Patient Information

Number of Patients Reported Receiving ARVs in the 34 Health Facilities in the Six SIAPS-Supported Regions

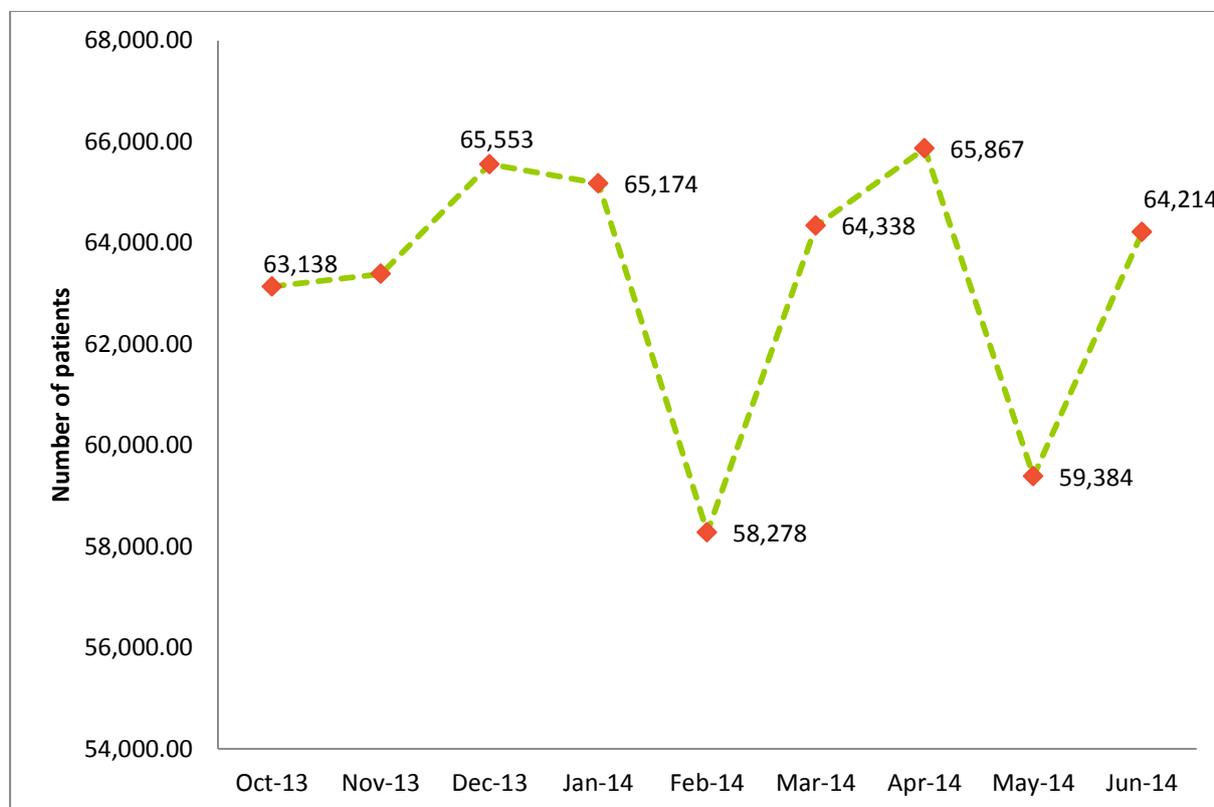


Figure 17. Trend of patients accessing treatment from October 2013 to June 2014 in the 34 targeted health facilities

From figure 17, it appears that the number of patients who received ART fluctuated between January and June 2014. The pattern may not be attributable to stock-outs because in quarter 2 (January–March 2014) availability of ARV stock in the country was not that bad in May 2014, in which a drop in the number of active patients was recorded (from 65,867 in April to 59,384 in May). This decrease in the number of active patients in May 2014 when availability of TDF/3TC/EFV nationwide was sufficient and AZT/3TC/NVP stock-outs occurred in most of the country’s health facilities indicates that not all existing patients on AZT/3TC/NVP were shifted to the available TDF/3TC/EFV. In addition, this decrease in the number of patients in May 2014 might be partially caused by erroneous data capture and poor reporting, as is discussed below.

Data Quality

In HIV/AIDS program management, a patient who misses treatment in a month is either recorded as either a defaulter or deceased. As the formula following shows, the numbers of defaulters within a month can be calculated. In normal circumstances, this calculated number should be equal to the number of defaulters that the health facility reports every month in the “Monthly patient global management report.”

The keys variables that can influence the number of person treated in a giving month are—

- The number of patients treated during the previous month
- The number of new patients initiated during the giving month
- The number of deceased patients registered during that month
- The number of defaulters registered during that month

To assess data quality, the number of defaulters reported was compared with the number of defaulters calculated. For the purpose of this data assessment, the month of May 2014 was targeted, and the following formula was used—

***Number of defaulters calculated in May =
Number of patients treated in May – Number of patients treated in April –
Number of new patients initiated in May –
Number of patients deceased in May***

For the April–June 2014 quarter, this indicator was crosschecked, using April and May 2014 reports. Figure 18 compares the number of reported defaulters with the number of calculated defaulters registered in May 2014. From figure 18, one can note that apart from Baptist Hospital Mutengene, where the number of defaulters calculated is equal to the number of defaulters reported by the facility in May 2014, large discrepancies exist between these two figures in all other health facilities.

For instance, Hôpital Laquintinie’s monthly report in April 2014 shows that 4,370 patients were treated. The May 2014 monthly report reveals that 2,429 patients were treated. In addition, 59 patients were initiated in May 2014 according to the same report. No deceased patients were reported during the same month. The number of defaulter should be $4,370 - 2,429 - 0 - 59 = 2,000$, but Hôpital Laquintinie reported zero defaulters in May 2014. In Hôpital Jamot of Yaoundé, calculations show that there were 597 defaulters in May 2014, but the hospital reported 1,810 defaulters in May 2014. In Mboppi Baptist Hospital, calculations show 967 defaulters, but the facility reported 253 defaulters in May 2014.

These discrepancies clearly demonstrate serious problems with health facilities’ data management (capturing and reporting).

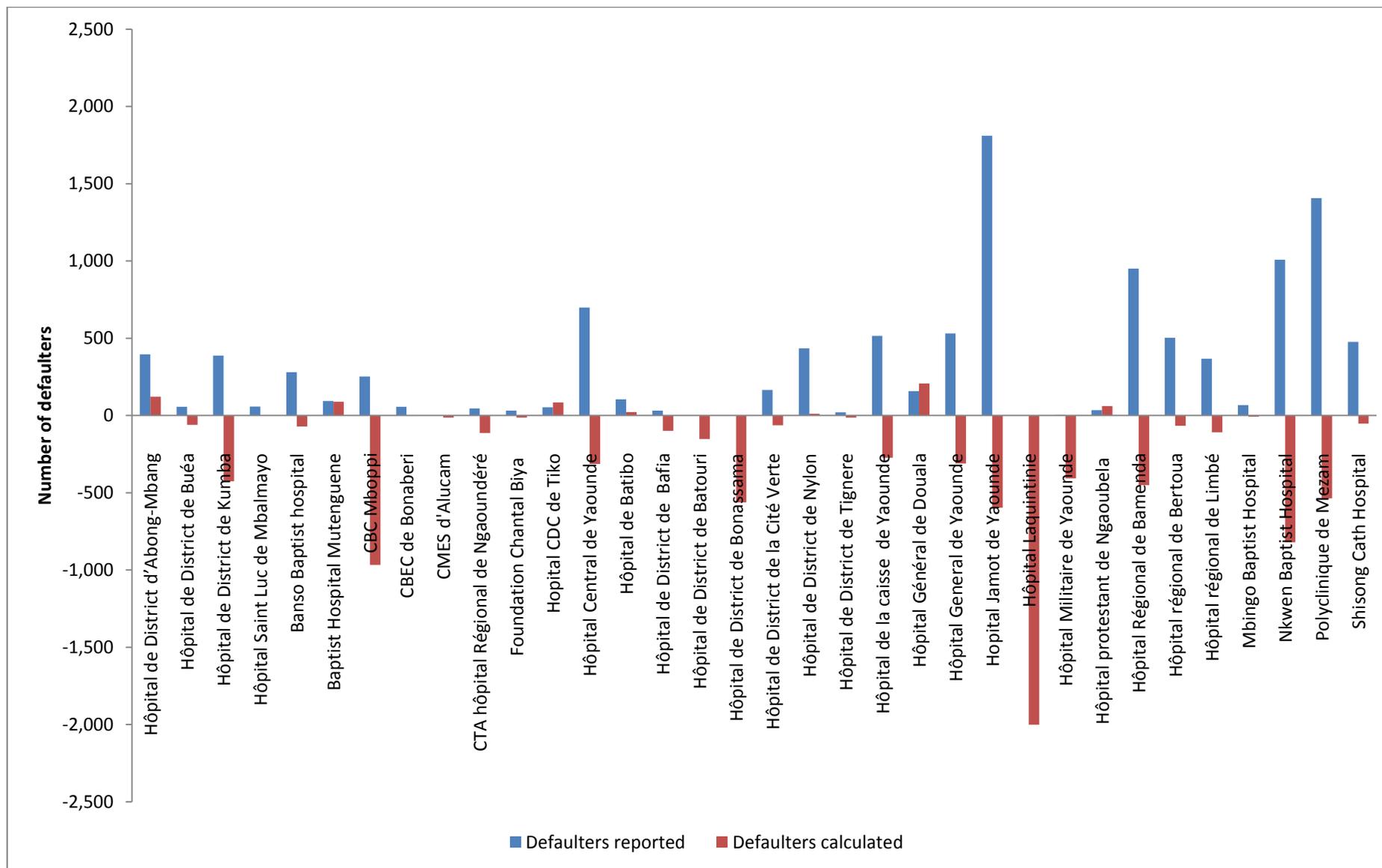


Figure 18. Comparison between the number of defaulters reported and the number of defaulters calculated in May 2014

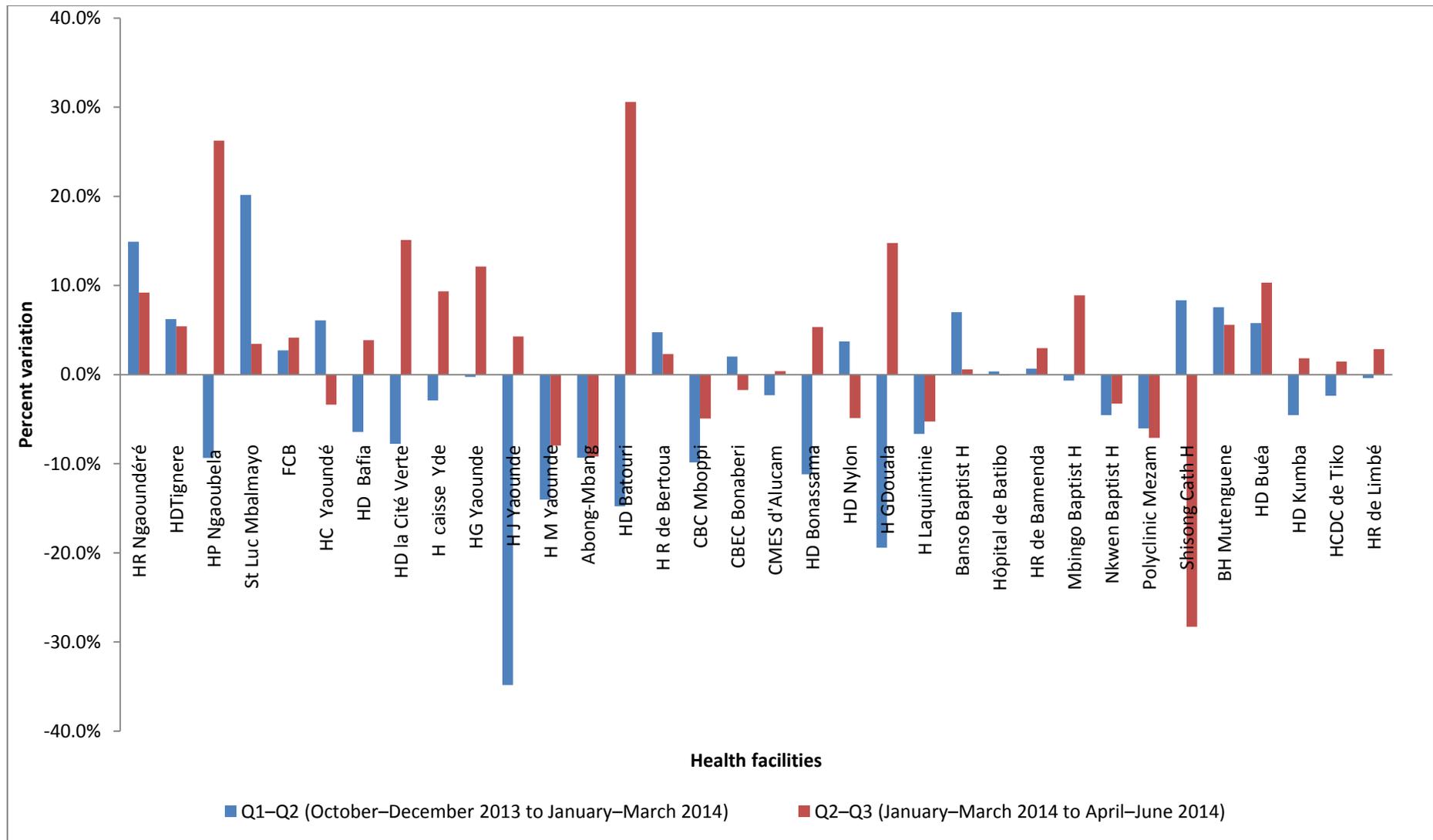


Figure 19. Percent variation in the number of patients recorded treated from Q1–Q2 and Q2–Q3

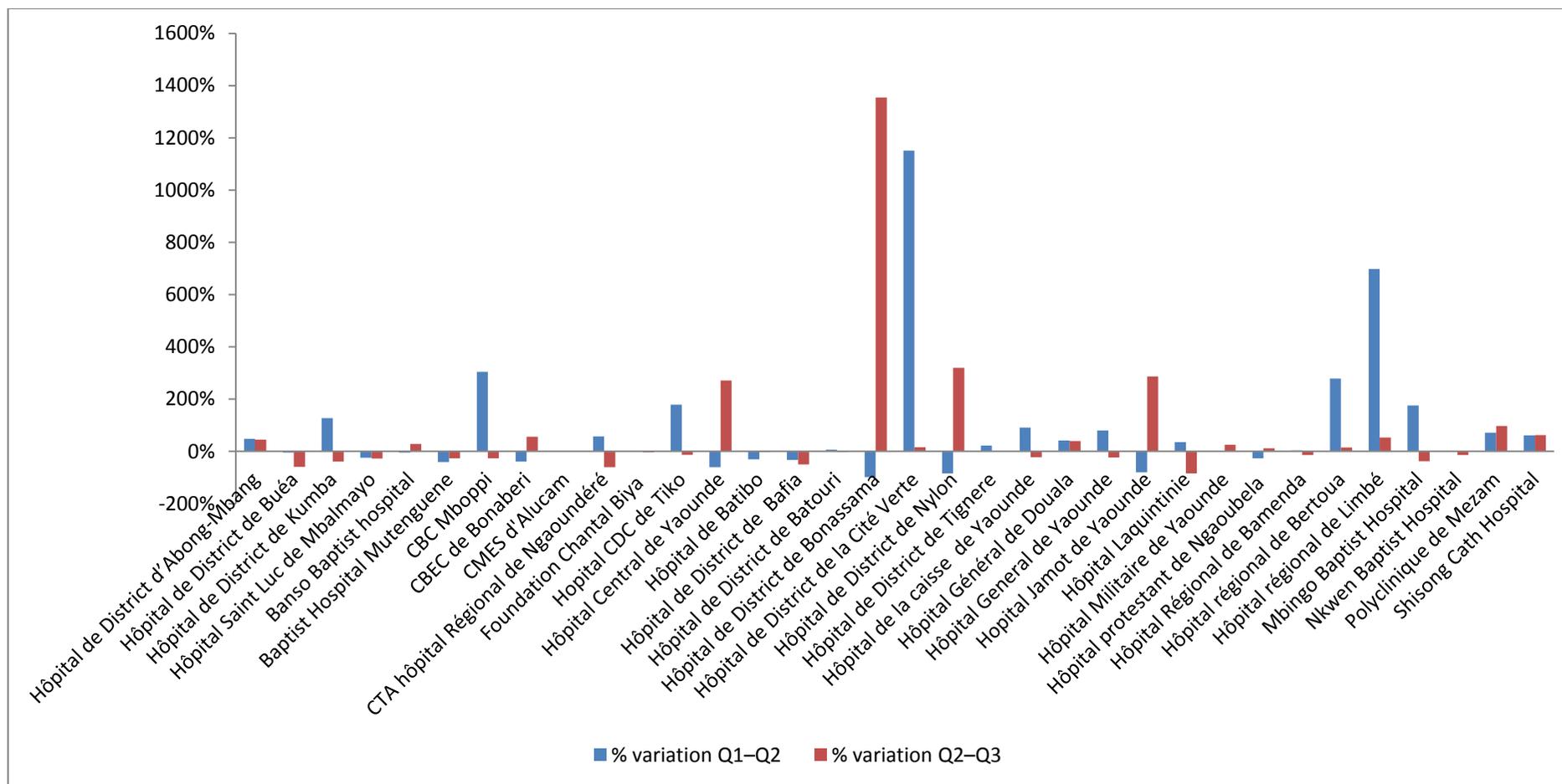


Figure 20. Percent variation in the number of patients defaulting from treatment, October–December 2013 to April–May 2014

From figure 20, it appears that the percent variation between Q1–Q2 (October–December 2013 and January–March 2014) and Q2–Q3 (January–March 2014 and April–June 2014) in the number of defaulting patients decreased in 64.7% (22/34) of health facilities supervised. This reduction was noticeable at Regional Hospital Annex Buea, Mbingo Baptist Hospital, and Regional Hospital Limbe. In contrast, the percent variation between Q1–Q2 and Q2–Q3 increased in 32.35% (11/34) of health facilities, especially at Hôpital Jamot de Yaoundé, Hôpital de District de Bonassama, and Hôpital de District de Nylon.

When the number of patients treated from one quarter to another increases in a given health facility, the number of defaulters during these same quarters should decrease. For example, Hôpital Laquintinie de Douala recorded only a 5.3% reduction in the number of patients treated from quarter 2 to quarter 3. During the same quarters, Hôpital Laquintinie recorded a 84% decrease in the number of defaulters. This finding again raises the issue of data quality.

New Patients Started on ART

In Cameroon, all patients declared eligible during a given month are supposed to start their treatment. Figure 21 gives an overview of the number of eligible and the number of new patients treated from October 2013 to June 2014.

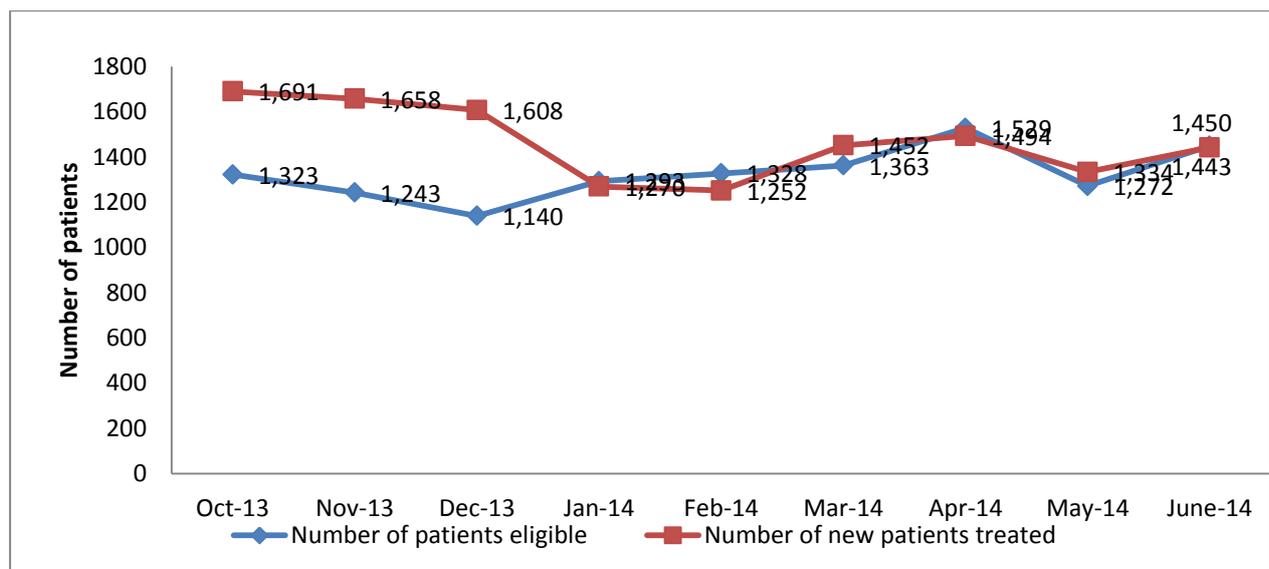


Figure 21. Trend of patients initiated on ART and eligible for ART, October 2013–June 2014

Figure 21 shows that the number of patients initiated on ART was higher than the number of patients eligible from October to December 2013. During this quarter, sufficient ARVs were available in Cameroon. In contrast, the number of patients initiated was almost equal to the number of patients eligible from January to June 2014, and the number of patients treated was higher, compared to the number of patients eligible from March to June 2014 when ARVs were relatively available. This means that the sustainable availability of ARVs will significantly increase the number of patients under treatment in Cameroon. After a long period of stock-out, the fact of having more patients initiated than eligible patients in a given month should be considered during the HIV and AIDS commodities quantification exercise.

Treatment Regimen Analysis

Regimen breakdown information is vital for informing, forecasting, quantification, procurement, distribution, and dispensing of HIV and AIDS commodities.

Distribution of First- and Second-Line Regimens

Figure 22 shows that overall the trends of adult and pediatric ART patients on first- and second-line regimens have been consistent from January to June 2014.

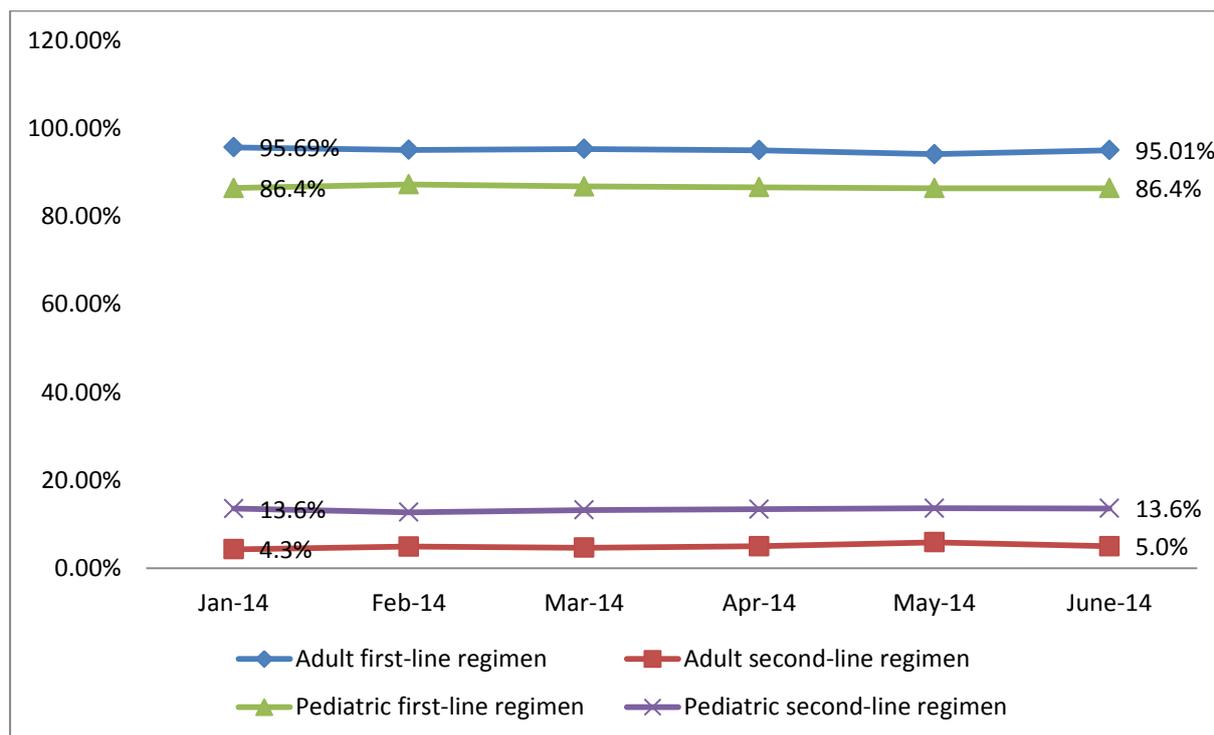


Figure 22. Distribution of first- and second-line regimens, January–June 2014

Global Distribution of Adult-First Line Regimen

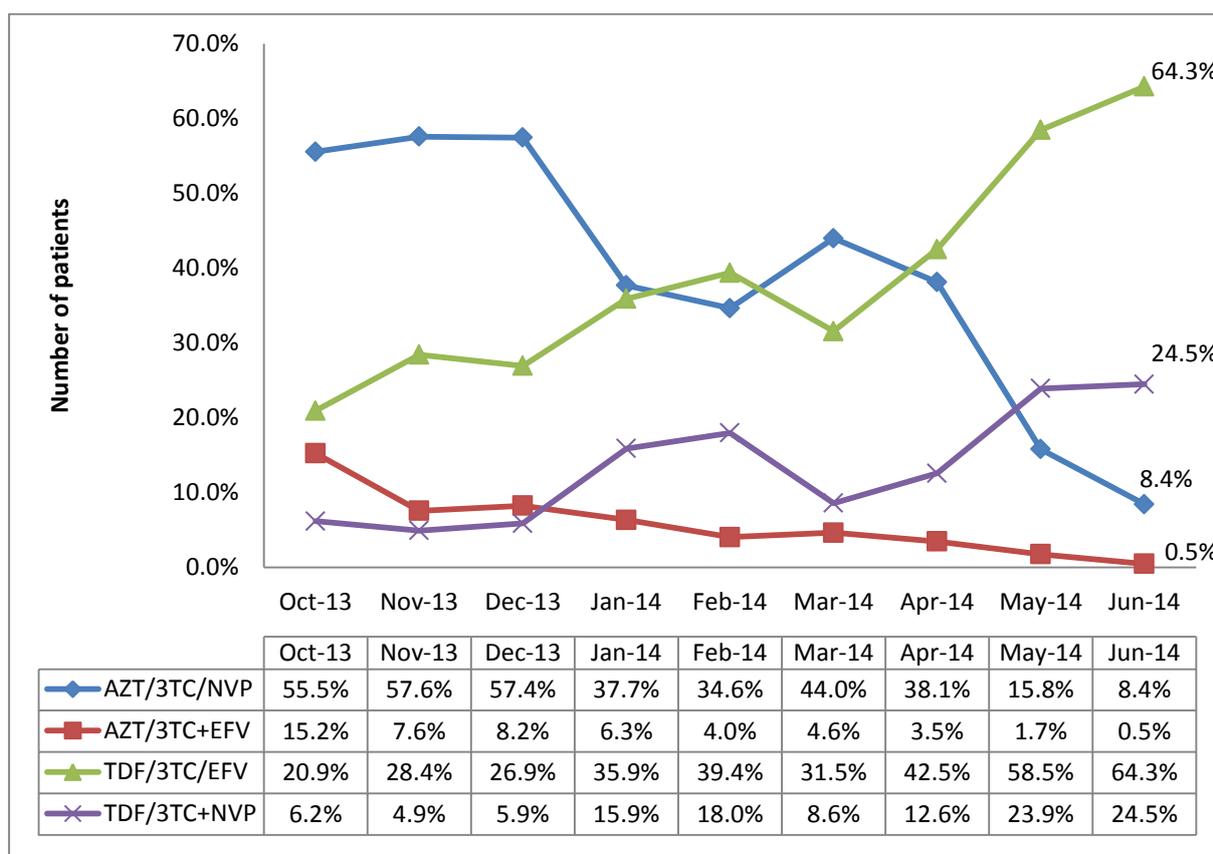


Figure 23. Trend of adult first-line national consumption, October 2013–June 2014

Overall, from October 2013 to June 2014, two main groups of first-line regimens (AZT/3TC- and TDF/3TC-based regimens) have been used in various proportions.

Figure 23 shows that the consumption of TDF/3TC-based regimens increased from 31.65% in October–December 2013 to 49.74% in January–March 2014 and 75.40% in April–June 2014, while the consumption of AZT/3TC-based regimens decreased from 67.17% in October–December 2013 to 43.77% in January–March 2014 and 22.60% in April–June 2014. The country had faced many episodes of AZT/3TC/NVP and AZT/3TC stock-outs, and patients on those regimens who could not get their medicines were shifted to TDF/3TC-based regimens. In addition, all new patients, including PMTCT Option B+ patients, are initiated on TDF/3TC-based regimens.

The pattern in June 2014 in figure 23 almost mirrors the program goal adopted as from January 2015 (90% first-line patients on TDF/3TC-based regimens and the remaining 10% on AZT/3TC-based regimens). The Global Fund to Fight AIDS, Tuberculosis and Malaria’s New Funding Model quantification, recently conducted for Cameroon, considered the preceding proportions.

To maintain this consumption trend, the program should officially communicate with health facilities on it.

Distribution of First-Line Adult Regimens in the Centre Region

In the Centre region during the review period, one can notice a sharp decrease in the consumption of AZT/3TC-based regimens from 58.82% in October–December 2013 to 51.19% in January–March 2014 and 22.85% in April–June 2014. At the same time, the consumption of TDF/3TC-based regimens increased from 39.76% in October–December 2013 to 47.12% in January–March 2014 and 75.00% in April–June 2014.

The consumption trends observed in Centre region reflect the global trend.

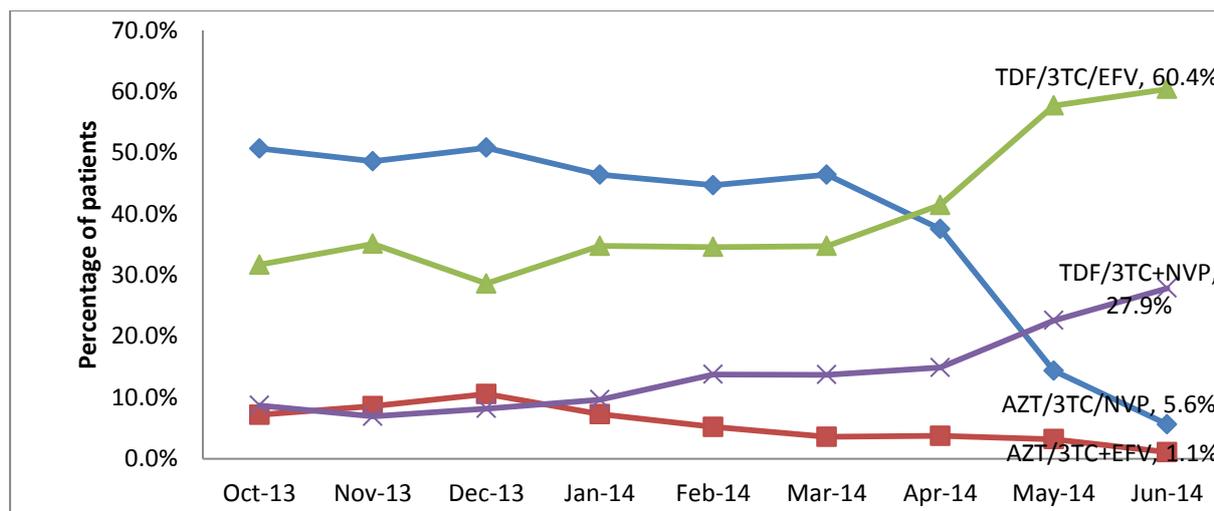


Figure 24. Patients on adult first-line regimens in the Centre region, October 2013–June 2014

Distribution of First-Line Adult Regimens in the Littoral Region

As in the Centre, in the Littoral region, one can notice a sharp decrease in the consumption of AZT/3TC-based regimens from 65.12% in October–December 2013 to 39.24% in January–March 2014 and 23.38% in April–June 2014. At the same time, the consumption of TDF/3TC-based regimens increased from 33.95% in October–December 2013 to 41.98% in January–March 2014 and 75.70% in April–June 2014.

The number of patients on TDF/3TC-based regimens is 94.4% in June 2014; this percentage is already higher than the 90% proportion that CNLS is targeting for 2015.

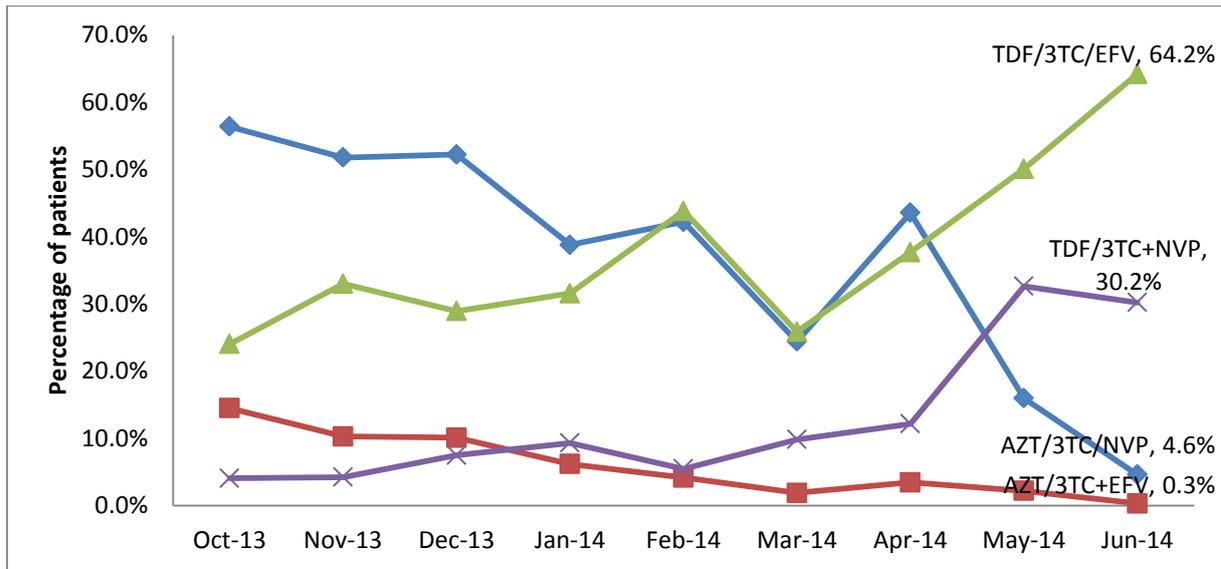


Figure 25. Patients on adult first line in the littoral region Oct 2013 to June 2014

Distribution of First-Line Adult Regimens in the Adamawa Region

In the Adamawa region, the consumption of AZT/3TC-based regimens decreased from 88.17% in October–December 2013 to 36.67% in January–March 2014 and 35.49% in April–June 2014, while the consumption of TDF/3TC-based regimens increased from 9.52% in October–December 2013 to 58.75% in January–March 2014 and 64.13% in April–June 2014.

The proportion of the patients on TDF/3TC/EFV shown in June 2014 is exactly the proportion recorded on AZT/3TC/NVP in October 2013 in the Adamawa region.

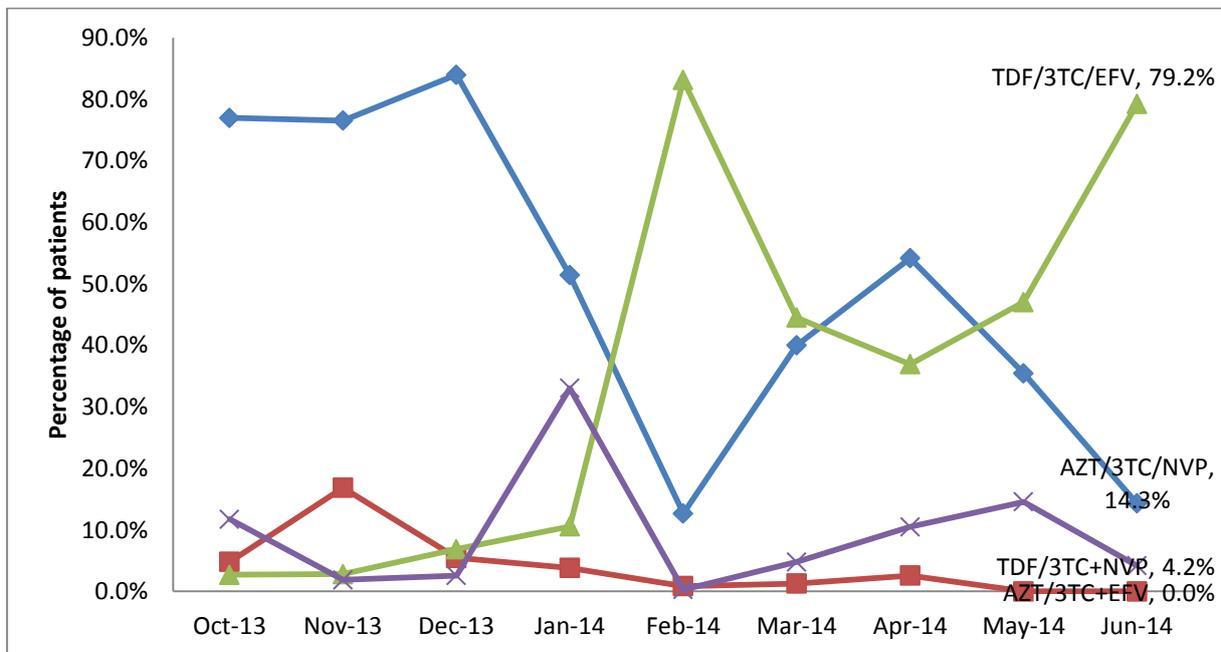


Figure 26. Patients on adult first-line regimens in the Adamawa region, October 2013–June 2014

Distribution of First-Line Adult Regimens in the Northwest Region

In the Northwest region, the consumption of AZT/3TC-based regimens decreased from 77.02% in October–December 2013 to 42.68% in January–March 2014 and 17.37% in April–June 2014, while the consumption of TDF/3TC-based regimens increased from 21.08% in October–December 2013 to 58.35% in January–March 2014 and 81.25% in April–June 2014.

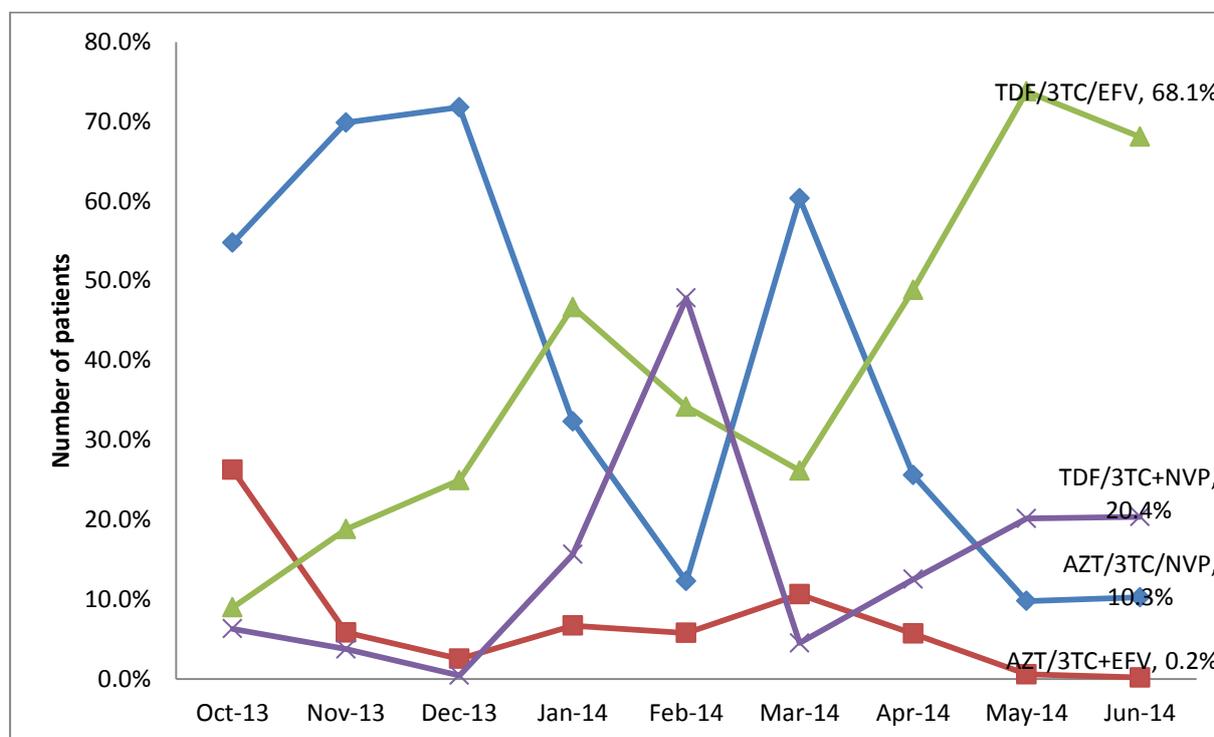


Figure 27. Patients on adult first-line regimens in the Northwest region, October 2013–June 2014

Distribution of First-Line Adult Regimens in the Southwest Region

In the Southwest region as presented in figure 28, the consumption of AZT/3TC-based regimens decreased from 71.60% in October–December 2013 to 38.56% in January–March 2014 and 17.54% in April–June 2014 while the consumption of TDF/3TC-based regimens increased from 26.28% in October–December 2013 to 59.12% in January–March 2014 and 79.47% in April–June 2014.

As with the Littoral region, the proportion of patients on TDF/3TC-based regimens in the Southwest region is 94.5% in June 2014, higher than the 90% proportion that CNLS is targeting for 2015.

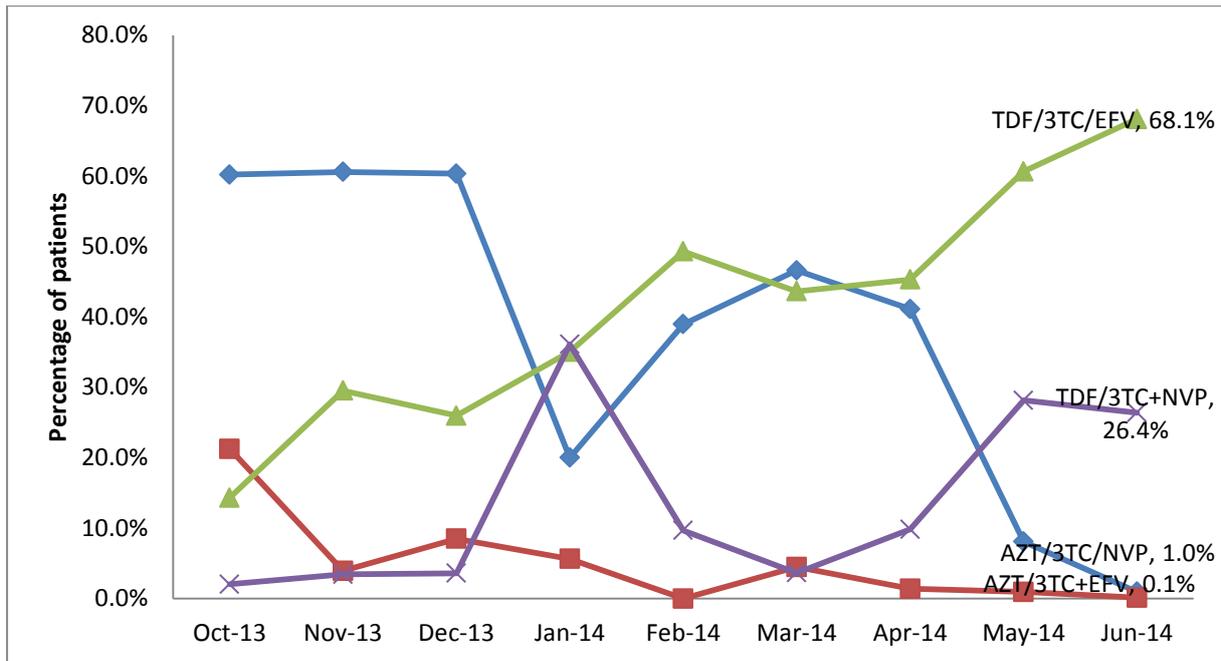


Figure 28. Patients on adult first-line regimens in the Southwest region, October 2013–June 2014

Distribution of First-Line Adult Regimens in the East Region

In the East region, the consumption of AZT/3TC-based regimens decreased from 61.55% in October–December 2013 to 43.25% in January–March 2014 and 44.74% in April–June 2014 while the consumption of TDF/3TC-based regimens increased from 34.11% in October–December 2013 to 30.89% in January–March 2014 and 56.31% in April–June 2014.

The East region registered the highest proportion (42%) of patients on AZT/3TC-based regimens in June 2014.

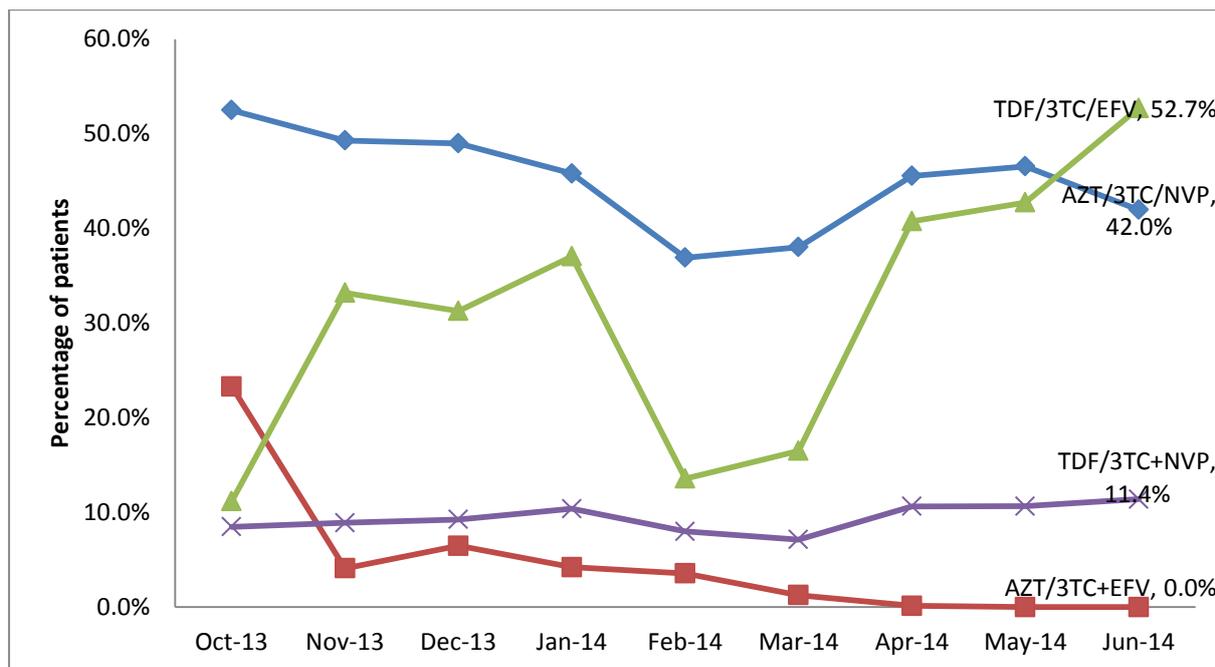


Figure 29. Patients on adult first-line regimens in the East region, October 2013–June 2014

SIAPS ACTIONS

During this period, SIAPS staff performed the following activities—

- Trained the data manager of CBC Mboppi on the use of the ART register
- Monitored the updating and use of dispensing registers, ART registers, and stock cards, and emphasized to all stakeholders the importance of keeping management tools up to date
- Mentored one storekeeper in each RMS and one pharmacy attendant of each of the 34 health facilities in observing good storage practices and good dispensing practices
- Monitored whether dispensing registers, ART registers, and stock cards were kept updated in the 34 health facilities
- Advocated for the reallocation and rearrangement of medicines in the new space provided by the administration of Mbingo Baptist Hospital for HIV and AIDS commodities
- Recommended that stock of co-trimoxazole 120 mg tablets close to expiry in the RMSs of the Northwest and Southwest regions should be redistributed
- Together with laboratory staff in Centre Médical des Entreprises de la Sanaga Alucam and Hôpital Laquintinie de Douala, opened stock cards for the management of rapid test kits
- Provided to health facilities a dashboard reflecting their performance from the previous support supervision

RECOMMENDATIONS

CNLS with the support of SIAPS should take the following actions—

- Continue to support CNLS in printing and disseminating recommended tools at health facilities.
- Empower health facility staff on the use of these tools.
- Develop online or digital versions of LMIS tools that can be printed out on demand.
- Disseminate to health facilities the recently developed Standard Operating Procedure manual for the management of HIV and AIDS commodities.
- Implement as soon as possible the EDT (Electronic Dispensing Tool) to improve data capture in high-burden health facilities.
- Mentor health facility staff on data management during support supervision.
- Support quarterly and annual review meetings at regional level to improve data management and data quality.
- For health facilities where inadequate storage space has been identified as the major contributory factor in failure to observe good storage practices, RTG/CNLS should work with the hospital to increase the storage capacities of these health facilities.
- Continue advocating to the administrative authority of health facilities for separation of the dispensing point and storage area where they are in same room.
- Target and train or mentor via supportive supervision statisticians and pharmacy attendants who lack skill or are performing poorly in inventory management.
- Send stock cards to the RTG/CNLS of Southwest region for distribution to regional health facilities that need them (Regional Hospital Annex Buea, CDC Tiko, and Regional Hospital Limbe).
- Reestablish the pull supply system of commodities to RMSs and health facilities, replacing the current push system in place because the country has now enough ARVs.
- Work with staff in health facilities, especially at Hôpital Laquintinie de Douala, Hôpital General de Douala, and Hôpital Central de Yaoundé, on the timeliness and completeness of reports.
- Continue to provide supervision feedback to administrative authorities of all supervised health facilities as early as possible.
- Establish management and reporting tools for HIV and AIDS laboratory commodities.

- SIAPS should provide shelves, thermometers, and pallets to health facilities and continue mentoring storekeepers and pharmacy attendants for the improvement of commodities storage conditions.

The Regional Medicine Stores, RTG, and GTC/CNLS should—

- Conduct proper analysis on data from health facilities and take necessary precautionary actions to avoid potential stock-outs or overstock in the future and avoidable expiries.
- Review the stock position of AZT/3TC/NVP and AZT/3TC in each region and at CENAME (central medical stores) and take necessary precautionary actions to avoid potential stock-outs and switching of patients from one regimen to another.

The Regional Medicine Stores should—

- Train another storekeeper in HIV and AIDS commodities management in the Northwest RMS.
- Use of stock cards for laboratory commodities management in the Northwest RMS.

RTG/CNLS should ensure the following actions are taken—

- All the technical staff at CNLS regional office should carry out monthly data verification exercises to ensure accurate and consistent data are reported to national level.
- The technical staff of CNLS at regional level Littoral should investigate reasons for the significant drop in the number of active patients at Laquitinie Hospital in May 2014.
- RTG/CNLS for Centre region should provide dispensing registers to Hôpital Saint Luc Mbalmayo, Hôpital General Yaoundé, and Hôpital Central de Yaoundé.
- Regional staff should monitor all HIV and AIDS management activities at health facility level.

Health facilities should—

- Identify and train through supportive supervision pharmacy staff lacking the skills required on HIV and AIDS drugs and data management
- With the support of the coordinator of the treatment center, carry out monthly data verification exercises to ensure accurate and consistent data are reported to regional level
- Use the International Nonproprietary Name of medicines on the stock cards and for all other purposes

- Ensure coordinators and pharmacists follow up on pharmacy staff by ensuring reports are submitted to RTG on or before the fifth of the month following the reporting month.
- Have pharmacy staff and treatment center coordinators investigate reasons for the drop in the number of active patients, especially in May 2014, and take all necessary precautionary actions
- Hold storekeepers and pharmacy attendants accountable on HIV and AIDS commodities they manage
- Properly fill in stock cards as recommended (Hôpital Militaire de Yaoundé, Hôpital Laquintinie de Douala, and Hôpital General de Douala)
- In RH Bamenda, the ART register and dispensing register, respectively, should be used for the management of pediatric patient and consumption.
- The management of Hôpital CEBEC de Bonaberi should solve personnel issues to avoid strike action.
- In Kumba district hospital, stock cards should be kept close to the products

ANNEX A. HEALTH FACILITIES SUPERVISED IN MAY AND JUNE 2014

Region	Facility name	Date of supervision	Supervisors	
			SIAPS	CNLS
Adamawa	GTR	01/09/2014	Jean Dongang	
	CAPR	02/09/2014		
	CTA de Ngaoundéré	02/09/2014		Dr Kob David
	UPEC Tignère	04/09/2014		Mr Dongmo Gustave
	UPEC Ngaoubela	03/09/2014		
East	GTR	18/08/2014	Jean Dongang	Mr TSIMI Janvier
	CAPR	19/08/2014		
	HR de Bertoua	21/08/2014		
	HD d'Abong-Mbang	20/08/2014		
	HD de Batouri	22/08/2014		
Centre	GTR	08/09/2014	Jean Dongang, Dr Kaptue	Mr Jean de Dieu Anoubissi
	CAPR	08/09/2014		
	Hôpital Central de Yaoundé	09/09/2014		
	Hôpital St Luc de Mbalmayo	17/09/2014		
	HD de BAFIA	18/09/2014		
	Hôpital Général Yaoundé	15/09/2014		
	Hôpital de la caisse	15/09/2014		
	Fondation Chantal Mbya	17/09/2014		
	HD la Cité Verte	12/09/2014		
	Hôpital Jamot de Yaoundé	17/10/2014		
	Hôpital Militaire de Yaoundé	11/10/2014		
11		5		
Littoral	GTR	18/08/2014	Catherine Tadzong, Dr Kaptue	Dr Edimo, Minkemdeffo Dupont
	CAPR	18-19/08/2014		
	Hôpital Laquintinie	18-19/08/2014		
	CMES d'Alucam	20/08/2014		
	HD de Nylon	20/08/2014		
	CBC Mboppi	21/08/2014		
	Hôpital Général de Douala	21/08/2014		
	HD Bonassama	22/08/2014		
	Hôpital CEBEC Bonabéri	22/08/2014		
7				
Southwest	GTR Sud-Ouest	08/09/2014	Dr Kaptue	Mr Amanye Botiba, Mne Nana Sandrine, Dr Tchatchoua Gilbert
	CAPR Sud-Ouest	08/07/2014		
	HR de Limbé	08/09/2014		
	HD de Kumba	09/09/2014		
	Baptist Hospital Muntengene	09/09/2014		
	HD de Buéa	10/09/2014		
	Hôpital CDC de TIKO	10/09/2014		
7				
Northwest	GTR	01/09/2014	Catherine Tadzong	Dr Edimo S. Valery
	CAPR	01/09/2014		Mr Essomba Thade
	HR de Bamenda	01/09/2014		Dr Tayong
	Banso Baptist Hospital	02/09/2014		

Region	Facility name	Date of supervision	Supervisors	
			SIAPS	CNLS
	Shisong Catholic Hospital	02/09/2014		
	Mbingo Baptist Hospital	03/09/2014		
	Nkwen Baptist Hospital	03/09/2014		
	Polyclinique de Mezam	04/09/2014		
	Hôpital de Batibo	04/09/2014		
	9			

ANNEX B. NUMBER OF PATIENTS TREATED IN THE 34 TARGETED HEALTH FACILITIES, OCTOBER 2013–JUNE 2014

Regions	Health Facilities	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14
Adamawa	HR Ngaoundéré	1,310	1,494	1,513	1,611	1,651	1,698	1,784	1,761	1,872
	HD Tignere	121	152	144	145	151	147	153	155	159
	HP Ngaoubela	382	539	448	449	325	467	464	557	546
Subtotal		1,813	2,185	2,105	2,205	2,127	2,312	2,401	2,473	2,577
Centre	St Luc Mbalmayo	476	446	522	680	485	570	589	607	599
	FCB	936	936	945	953	968	973	995	1003	1,016
	HC Yaoundé	7,442	6,478	7,482	7,579	7,517	7,612	7,412	7,230	7,301
	HD Bafia	960	1,014	1,007	961	958	870	1,015	941	941
	HD la Cité Verte	1,103	1,113	1,098	1,110	910	1,037	1,177	1,156	1,186
	H caisse Yaoundé	3,805	3,848	4,092	3,814	3,713	3,877	4,213	4,063	4,194
	HG Yaoundé	1,927	1,803	1,987	1,883	1,958	1,861	2,235	1,960	2,199
	H J Yaoundé	2,532	2,172	2,557	1,257	1,394	2,082	1,583	1,032	2,320
	H M Yaoundé	1,735	1,735	1,735	1,465	1,494	1,516	1,503	1,132	1,484
Subtotal		20,916	19,545	21,425	19,702	19,397	20,398	20,722	19,124	21,240
East	Abong-Mbang	1,002	1,002	1,036	933	846	978	725	890	889
	HD Batouri	623	634	592	599	263	714	732	616	710
	H R de Bertoua	2,280	2,164	2,312	2,620	1,961	2,496	2,349	2,370	2,521
Subtotal		3,905	3,800	3,940	4,152	3,070	4,188	3,806	3,876	4,120
Littoral	CBC Mboppi	2,482	2,485	2,454	2,620	1,337	2,734	2,667	1,772	1,923
	CBEC Bonaberi	397	395	395	404	399	408	389	398	403
	CMES d'Alucam	263	278	278	263	253	284	277	263	263
	HD Bonassama	1,955	1,955	2,053	2,081	1,584	1,631	2,054	1,532	1,993
	HD Nylon	3,512	3,499	3,480	3,742	3,343	3,797	3,506	3,562	3,284
	HG Douala	2,047	2,047	2,357	2,016	1,263	1,920	1,915	2,133	1,919
	H Laquintinie	4,170	41,70	2,972	3,959	3,700	2,902	4,370	2,429	3,206
Subtotal		14,826	14,829	13,989	15,085	11,879	13,676	15,178	12,089	12,991
Northwest	Banso Baptist Hospital	1,902	1,932	1,852	2,022	2,007	2,055	2,072	2,035	2,013
	Hôpital de Batibo	540	556	513	561	518	536	529	559	526
	HR de Bamenda	4,488	4,383	4,653	4,571	4,596	4,448	4,777	4,395	4,847
	Mbingo Baptist Hospital	852	852	885	907	777	888	917	923	961
	Nkwen Baptist Hospital	1,353	2,456	2,358	2,478	1,436	1,974	2,196	1,400	2,100
	Polyclinic Mezam	794	1,246	1,378	943	833	1,436	1,174	655	1,155
	Shisong Cath Hospital	2,283	2,327	2,392	2,421	2,569	2,596	2,053	2,032	1,354
Subtotal		12,212	13,752	14,031	13,903	12,736	13,933	13,718	11,999	12,956
Southwest	BH Mutenguene	2,059	1,895	2,148	2,185	2,194	2,184	2,226	2,362	2,341
	HD Buéa	1,111	1,111	1,250	1,205	1,161	1,307	1,336	1,314	1,402
	HD Kumba	2,320	2,320	2,546	2,550	2,103	2,207	2,401	2,014	2,571
	HCDC de Tiko	1,110	1,110	1,069	1,091	1,029	1,091	1,029	1,145	1,084
	HR de Limbé	2,866	2,839	3,050	3,096	2,582	3,042	3,050	2,988	2,932
Subtotal		9,466	9,275	10,063	10,127	9,069	9,831	10,042	9,823	10,330
Grand Total		63,138	63,386	65,553	65,174	58,278	64,338	65,867	59,384	64,214

**ANNEX C. NUMBER OF ABSENTS FROM OCTOBER 2013 TO JUNE 2014 IN
THE 34 TARGETED HEALTH FACILITIES**

Region	Health facilities	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	June-14
Adamawa	HR Ngaoundéré	136	93	103	72	98	353	104	46	56
	HD Tignère	12	26	20	32	11	28	26	20	26
	HP Ngaoubela	56	66	29	0	0	111	49	34	41
Subtotal		204	185	152	104	109	492	179	100	123
Centre	St Luc Mbalmayo	84	100	114	60	92	73	62	58	44
	FCB	32	31	39	35	34	36	37	31	33
	HC Yaounde	97	964	41	32	62	341	292	698	627
	HD Bafia	145	65	90	136	49	16	17	32	52
	HD la Cité Verte	3	11	31	15	251	297	209	166	275
	H caisse Yaoundé	356	362	103	446	597	528	274	515	441
	HG Yaoundé	0	480	335	466	428	574	255	530	335
	H J Yaoundé	1,587	1,615	1,638	0	462	526	1,271	1,810	745
H M Yaoundé	8	0	0	1	4	3	5	4	1	
Subtotal		2,312	3,628	2,391	1,191	1,979	2,394	2,422	3,844	2,553
East	HD Abong-Mbang	184	174	186	173	392	239	350	395	423
	HD Batouri	71	76	0	131	0	26	86	0	68
	HR de Bertoua	107	ND	211	142	772	289	438	502	443
Subtotal		362	250	397	446	1164	554	874	897	934
Littoral	CBC Mboppi	107	107	53	12	922	145	189	253	351
	CBEC de Bonaberi	34	35	111	41	35	34	66	56	50
	CMES d'Alucam	0	0	0	0	0	0	0	0	0
	HD Bonassama	188	476	96	11	0	0	160	0	0
	HD Nylon	864	631	759	0	55	309	384	434	712
	H G Douala	36	31	47	93	0	68	67	157	0
	H Laquintinie	1,512	2,838	622	1,678	2,128	2,927	1,073	0	0
Subtotal		2,741	4,118	1,688	1,835	3,140	3,483	1,939	900	1,113
Northwest	Banso Baptist Hospital	219	192	260	153	227	260	215	281	323
	Hôpital de Batibo	154	178	233	185	112	95	128	104	154
	HR de Bamenda	863	1,115	815	918	946	1,041	760	950	775
	Mbingo Baptist Hospita	35	25	53	45	167	100	71	68	57
	Nkwen Baptist Hospita	1,213	165	341	207	1,176	331	277	1,008	194
	Polyclinic Mezam	703	179	66	460	570	595	887	1,406	906
	Shisong Catholic Hospita	5	120	364	361	208	220	338	477	469
Subtotal		3,192	1,974	2,132	2,329	3,406	2,642	2,676	4,294	2,878

Region	Health facilities	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	June-14
Southwest	BH Mutenguene	207	39	68	122	163	15	31	56	36
	HD Buéa	264	16	28	64	494	143	25	387	21
	HD Kumba	265	349	221	184	153	160	154	93	121
	HCDC de Tiko	25	28	36	24	111	113	89	54	74
	HR de Limbé	53	47	ND	11	484	303	315	368	538
Subtotal		814	479	353	405	1405	734	614	958	790
Grand Total		9,625	10,634	7,113	6,310	11,203	10,299	8,704	10,993	8,391

ND = no data available.

ANNEX D. CONSUMPTION TRENDS OF THE TWO PREFERRED FIRST-LINE ARVS IN THE TARGETED HEALTH FACILITIES, OCTOBER 2013–JUNE 2014

Region	Health Facilities	AZT/3TC/NVP (300/150/200 mg) tab B/60									TDF/3TC/EFV (300/300/600 mg)								
		Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14
Adamawa	HR Ngaoundéré	1,000	1,404	598	41	8	766	883	435	0	39	25	100	175	1,317	430	573	650	1,812
	HD Tignère	178	0	184	177	75.5	184	198	156	111	0	0	0	3	4	0	13	18	30
	H P Ngaoubela	400	400	378	0	0	0	339	223	188	210	91	127	413	51	108	270	433	137
Subtotal Adamawa		1,578	1,804	1,160	218	83.5	950	1,420	814	299	249	116	227	591	1,372	538	856	1,101	1,979
Centre	H St Luc Mbalmayo	140	290	190	240	72	93	90	53	30	0	224	192	248	138	224	128	193	261
	F Chantal Biya				219	212	640	180	52	41				64	45	195	0	216	184
	H Central Yaoundé	632	279	0	4,043	3,047	2,712	2,404	5	200	172	403	279	2,712	2,376	2,808	2,592	4,380	5,697
	HD Bafia	400	385	385	667	145	295	316	309	18	112	74	2	27	219	263	248	261	495
	HD de la Cité Verte	295	40	300	306	448	180	260	348	256	384	522	504	320	800	444	310	98	138
	H caisse Yaoundé	2,251	2,022	9	1,435	752	200	783	168	442	847	950		1,340	1,256	1,249	1,422	1,398	1,556
	HG Yaoundé	690	684		615	643	711	560	240	5	406	610		727	814	726	1,013	1,019	1,126
	HJ Yaoundé	1,047	1,137	719	0	746	1,015	380	0	0	298	439	501	1,737	448	477	432	999	1,500
HM Yaoundé				0	0	0	2,160	0	48				328	653	1,820	0	837	246	
Subtotal Centre		5,315	4,547	1,413	7,285	5,993	5,753	7,043	1,122	1,010	2,219	2,998	1,286	7,255	6,611	7,982	6,017	9,208	10,942
East	HD d'Abong-Mbang	571	656	484	315	481	480	340	520	570	96	144	0	260	0	250	150	300	320
	HD Batouri	316	568	653	286	120	930	397	402	436	165	278	327	100	37	162	286	204	230
	HR Bertoua	901	1,835	1,392	683	317	389	870	800	509	379	279	431	765	417	1,179	1,184	1,046	1,390
Subtotal East		1,788	3,059	2,529	1,284	918	1,799	1,607	1,722	1,515	640	701	758	1,125	454	1,591	1,620	1,550	1,940
Littoral	CBC Mboppi	1,564	1,557	1,492	46	520	1,120	1,114	88	0	140	737	334	720	507	757	330	870	1,537
	CBEC de Bonaberi				0	9	124	150	65	0				28	92	127	94	121	129
	CMES d'Alucam	163	162	162	0	25	26	13	1	8	50	45	46	0	94	20	352	15	164

Annex D

Region	Health Facilities	AZT/3TC/NVP (300/150/200 mg) tab B/60									TDF/3TC/EFV (300/300/600 mg)								
		Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14
	HD de Bonassama	1,214	1,000	1,174	149	732	313	1,207	48	0	435	351	491	903	505	977	802	561	2,059
	HD Nylon	1,602	1,515	1,543	0	3,045	1,169	1,641	444	0	1,585	1,450	1,420	837	1,029	1,792	1,687	1,500	2,779
	HG Douala				189	677	490	722	393	4				616	571	577	567	571	902
	H Laquintinie	1,589	1,624	1,495	630	92	816	877	39	483	657	835	1,483	778	2,604	2,073	1,566	1,550	2,394
Subtotal Littoral		4,568	4,301	4,374	968	4,571	2,814	4,460	925	495	2,727	2,681	3,440	3,134	4,803	5,439	4,974	4,197	8,298
Northwest	Banso Baptist H	1,470	1,028	0	0	0	1,360	688	104	0	0	705	587	576	575	636	1,091	1,156	1,516
	Hôpital de Batibo	3,479	3,785	0	126	77	323	115	0	0	2,432	2,459	0	140	120	133	124	526	510
	HR de Bamenda	2,289	3,251	2,205	4	453	3,140	1,177	540	139	360	669	506	2,471	2,343	1,071	2,469	2,327	4,468
	Mbingo Baptist H	455	542	363	0	305	295	146	4	16	0	269	285	254	196	81	400	776	845
	Nkwen Baptist H	749	1,581	1,069	7	337	1,513		0	15	2	737	395	1,343	276	253	480	1,417	1,103
	Polyclinic Mezam	246	835	484	17	0	994	294	0	0	17	422	306	512	278	100	551	660	561
	Shisong Cath Hospital	88	750	288	800	0	820	230	507	0	0	324	362	1,784	422	410	420	353	781
Subtotal Northwest		8,776	11,772	4,409	954	1,172	8,445	2,650	1,155	170	2,811	5,585	2,441	7,080	4,210	2,684	5,535	7,215	9,784
Southwest	HD de Buéa	456	661	509	0	448	752	389	0	5	154	358	160	461	449	506	654	738	521
	HDKumba	1,097	705	460	288	1,040	500	800	0	0	356	799	362	1,155	423	503	1,391	1,259	2,000
	B H Mutenguene				0	160	580	660	0	108				808	1,672	1,470	1,320	1,790	1,430
	Hopital CDC de Tiko	390	404	363	0	379	555	456	450	0	27	118	82	277	413	481	353	473	612
	RH Limbé	1,028	868	865	0	691	2,103	1,648	108	0	226	954	976	1,243	600	676	925	1,458	1,687
Subtotal Southwest		2,971	2,638	2,197	288	2,718	4,490	3,953	558	113	763	2,229	1,580	3,944	3,557	3,636	4,643	5,718	6,250
Grand Total		48,725	55,451	31,649	21,992	28,794	45,349	39,667	12,240	7,121	18,195	27,352	18,410	43,310	39,194	41,212	43,199	53,444	74,063

 No data

**ANNEX E. CONSUMPTION TRENDS OF SELECTED PRODUCTS AT THE REGIONAL MEDICAL STORES,
OCTOBER 2013–JUNE 2014**

RMS	AZT/3TC/NVP 300/150/200 mg			AZT/3TC 300/150 mg			EFV 600 mg			TDF/3TC/EFV 300/300/600 mg			TDF/3TC 300/300 mg			NVP 200 mg			LPV/r 200/50 mg tab B/120			AZT/3TC/NVP 60/30/50 mg	
1,691	1,044	980	717	416	89	367	350	45	498	2,007	1,974	629	534	717	539	1040	589	0	227	20	0	137	145
12,230	5,906	4,140	6,216	477	2,452	2,168	375	3,957	11,546	11,703	17,181	5,656	11,322	8,647	6,289	7,119	3,940	1,446	1,875	1,923	0	0	0
1,480	1,828	1,821	232	543	139	226	110	141	1,386	1,512	2,792	724	711	784	492	844	609	61	41	70	0	61	55
9,824	2,873	0	91	0	0	1,772	518	651	8,852	7,894	16,313	3,179	4,051	4,969	6,086	3,877	2,798	0	811	1,117	0	0	223
5,842	4,667	2,283	3,907	1	1,172	2,959	33	474	6,541	4,540	12,744	2,556	3,309	7,839	2,668	2,646	4,996	0	1,343	1,105	0	261	960
4,793	4,440	1,491	1,853	611	425	515	635	429	2,703	6,415	8,278	838	3,111	4,465	1,643	2,135	3,729	248	646	493	0	315	234
35,,860	20,759	10,715	13,015	2,047	4,277	8,007	2,021	5,697	31,526	34,072	59,282	13,581	23,037	27,421	17,717	17,660	16,662	1,756	4,943	4,729	0	773	1,618

RMS	Co-trimoxazole 960 mg tab			Co-trimoxazole 480 mg tab			Co-trimoxazole 120 mg tab			Determine B/100			Oraqik B/100		
	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14	Oct-Dec 13	Jan-Mar 14	Apr-Jun 14
Adamawa	0	0	0	11	97	229	0	17	0	0	5	114	0	248	700
Centre	48	4	0	1,602	74	0	0	122	0	0	2	68	0	7	20
East	0	115	0	71	116	155	0	715	0	0	45	109	0	63	12
Littoral	0	2,055	4,128	618	192	222	0	1,330	7,535	0	62	420	0	10	38
Northwest	0	1,262	2,453	265	459	0	0	459	1,592	0	60	19,858	0	4	2,378
Southwest	0	272	0	396	318	0	0	353	0	0	22	131	0	1	12
Grand Total	48	3,708	6,581	2,963	1,255	606	0	2,996	9,127	0	197	20,700	0	334	3,159

ANNEX F. AVAILABILITY (MOSOH) OF ARVS AND MEDICINES FOR OPPORTUNISTIC INFECTIONS IN THE 34 TARGETED HEALTH FACILITIES THE DAY OF THE VISIT

Regions	Health facilities	AZT/3TC/NVP 300/150/200 mg tab B/60	AZT/3TC 300/150 mg tab B/60	EFV (600 mg)	TDF/3TC/EFV 300/300/600 mg	TDF/3TC 300/300 mg	NVP 200 mg	LPV/r 200/50 mg tab B/120	21ATV/r 300/100 mg tab B/30	AZT/3TC/NVP 60/30/50 mg dispersible tab	LPV/r 80+20 mg/ml syrup	Co-trimoxazole 960 mg tab -B/100	Co-trimoxazole 480 mg tab B/100	Co-trimoxazole 120 mg tab B/1000	Determine B/100	Oraqick B/100	
		MoSoH															
Adamawa	CTA HR de Ngaoundéré	0.8	0.0	0.6	0.0	0.0	2.6	2.9	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	
	Hôpital de District de Tignère	0.8	0.0	0.0	10.3	0.0	0.0	0.0	0.0	3.0		0.0	0.0	0.0	0.0	0.0	
	Hôpital protestant de Ngaoubela	1.5	0.0	3.8	0.5	0.7	11.1	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	
Centre	Hôpital Saint Luc de Mbalmayo	2.9	0.0	5.8	2.8	1.4	1.4	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	
	Fondation Chantal Biya	7.0	3.8	1.4	1.6	2.1	0.3	0.4	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	
	Hôpital Central de Yaoundé	4.6	2.4	5.3	1.4	4.0	4.6	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Hôpital de District de Bafia	2.5	0.9	2.3	2.8	2.1	1.3	0.8	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	
	Hôpital de District de la Cité Verte	3.3	4.3	2.1	6.9	1.8	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Hôpital de la caisse de Yaoundé	0.0	0.0	7.6	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	18.5	89.1	0.0	0.0
	Hôpital General de Yaoundé	2.2	2.8	29.3	1.0	0.3	0.5	0.4	4.5	4.5	4.5	0.8	0.0	0.0	0.0	0.0	
	Hopital Jamot de Yaoundé	7.4	44.9	46.3	2.3	0.7	1.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Hôpital Militaire de Yaoundé	0.4	180	0.1	0.0	4.5	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
East	Hôpital de District d'Abong-Mbang	0.6	0.0	0.0	0.5	0.9	1.2	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.1	0.0	
	Hôpital de District de Batouri	0.3	0.0	0.0	0.3	0.5	0.5	0.0	0.0	1.7	0.0	2.2	0.0	4.2	19.5	0.0	
	Hôpital régional de Bertoua	0.2	0.0	0.0	0.1	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Regions	Health facilities	AZT/3TC/NVP 300/150/200 mg tab B/60	AZT/3TC 300/150 mg tab B/60	EFV (600 mg)	TDF/3TC/EFV 300/300/600 mg	TDF/3TC 300/300 mg	NVP 200 mg	LPV/r 200/50 mg tab B/120	21ATV/r 300/100 mg tab B/30	AZT/3TC/NVP 60/30/50 mg dispersible tab	LPV/r 80+20 mg/ml syrup	Co-trimoxazole 960 mg tab -B/100	Co-trimoxazole 480 mg tab B/100	Co-trimoxazole 120 mg tab B/1000	Determine B/100	Oraqick B/100
		MoSoH														
Littoral	CBC Mboppi	0.4	1.5	26.1	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CBEC de Bonaberi	1.4	4.3	5.6	4.5	0.1	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
	CMES d'Alucam	42.7	27.0	90.0	0.9	6.4	91.5	10.4	0.0	61.0	0.0	0.0	92.5	0.0	0.0	0.0
	Hôpital de District de Bonassama	1.9	2.0	8.5	0.7	1.5	1.6	1.7	0.0	9.4	0.0	0.0	0.9	0.0	0.0	0.0
	Hôpital de District de Nylon	0.6	1.5	3.0	1.7	0.9	1.7	0.5	0.0	0.3	0.5	0.5	0.0	0.0	0.0	0.0
	Hôpital Général de Douala	1.2	0.5	3.9	2.3	0.4	5.2	3.2	0.0	13.2	0.0	0.0	18.2	0.0	0.0	0.0
	Hôpital Laquintinie	1.7	3.1	2.7	1.1	0.4	1.7	1.1	0.0	0.2	8.2	0.0	1.2	63.0	1.8	8.5
Northwest	Banso Baptist Hospital	3.0	19.6	2.6	0.8	1.2	2.1	0.9	0.0	18.8	0.0	0.0	0.0	0.9	0.0	0.0
	Hôpital de Batibo	1.4	9.4	97.9	1.7	2.7	1.9	4.7	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
	Hôpital Régional de Bamenda	1.7	0.0	4.1	0.1	0.8	3.8	0.9	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mbingo Baptist Hospital	0.7	10.3	3.1	0.8	0.1	1.6	1.2	0.0	7.1	1.5	0.0	0.1	0.0	0.0	0.0
	Nkwen Baptist Hospital	12.9	9.7	10.4	0.7	0.0	0.4	1.6	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
	Polyclinique de Mezam	1.0	12.0	0.0	2.2	0.0	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Shisong Cath Hospital	3.0	15.4	385	3.6	0.1	1.1	2.5	0.0	25.2	25.2	0.0	0.0	0.6	0.0	0.0
Southwest	Hôpital de District de Buéa	0.8	4.6	4	2.6	0.0	0.0	2.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
	Hôpital de District de Kumba	4.1	1.5	1	1.1	1.4	2.3	2.1	3.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Baptist Hospital Mutenguene	2.3	2.7	146	0.3	2.3	1.5	0.0	2.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
	Hôpital CDC de Tiko	0.5	0.6	0	0.0	0.2	0.7	0.9	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
	Hôpital régional de Limbé	1.5	5.1	261	0.4	0.5	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0