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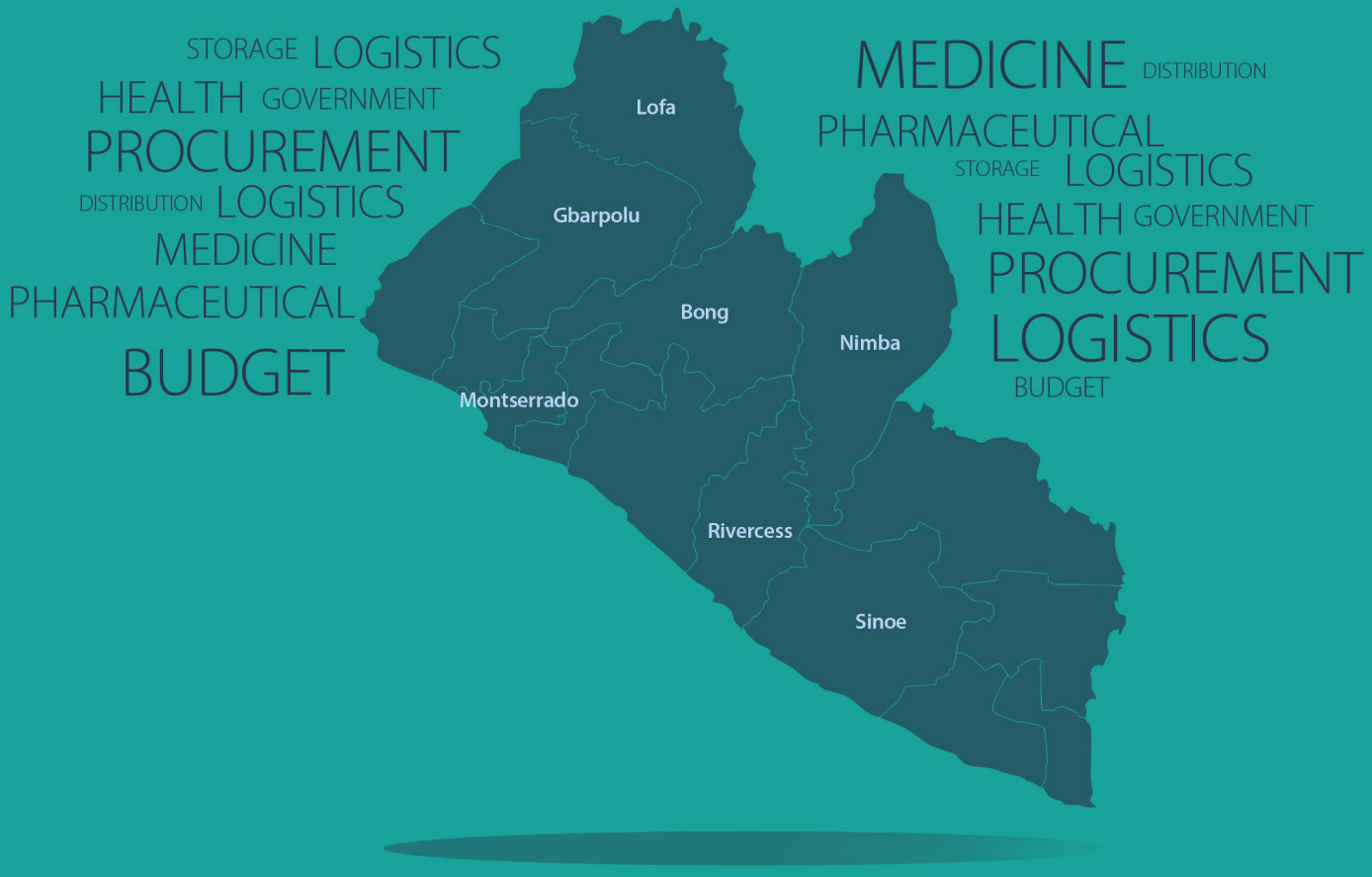
PHARMACEUTICAL FRAMEWORK CONTRACTING IN LIBERIA

A Knowledge and Learning Exploratory Study



GLOBAL FINANCING FACILITY

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April 2023

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CONTENTS

ACRONYMS

CMS	Central Medical Store
GFF	Global Financing Facility
LMHRA	Liberia Medicines and Health Products Regulatory Authority
LSCM	Logistics Supply Chain Management
MOH	Ministry of Health
PBF	Performance-Based Financing
PFC	Pharmaceutical Framework Contract
PPCC	Public Procurement Concessions and Contracts
RMNCAH-N	Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition
WHO	World Health Organization

ACKNOWLEDGEMENT

This study was conducted to facilitate knowledge and learning from a pharmaceutical framework contracting mechanism that has been in implementation in Liberia since July 2019. The intervention was implemented by the Liberia Ministry of Health at 63 clinics and three hospitals in three counties (Gbarpolu, Rivercess, and Sinoe) and at five hospitals in four counties (Bong, Lofa, Montserrado, and Nimba) through the performance-based financing scheme under the Health System Strengthening Project which was financed by the World Bank and Global Financing Facility (GFF). Sincere thanks and appreciation to the Ministry of Health for implementing the intervention, and for allowing key personnel who were involved in the implementation to participate in the study. The study was undertaken by Nagesh Borse and David Sumo (Consultants) with technical guidance from Munirat Ogunlayi (GFF Country Focal Point) and Petra Vergeer (GFF Portfolio Manager). Munirat Ogunlayi, Collins Chansa (Senior Health Economist), and Naasegnibe Kuunibe (Consultant) did the final analysis and content editing of the report. Graphics design and typesetting of the report were undertaken by Robert Waiharo (Consultant).

EXECUTIVE SUMMARY

Only 2.2 percent of Liberia's total annual public health spending is spent on essential medicines and medical commodities. This has been one of the main reasons for frequent stockouts of essential medicines and commodities at health facilities in Liberia. Studies have shown that stockouts not only pose a barrier to care but also increases the cost of care for patients seeking treatment, thus making it even more difficult to access timely and high-quality care.[1] This is especially true when the stockouts are coupled with an inefficient supply chain system that results in delayed or incomplete deliveries. In such cases, patients suffer from the lack of quality care and this can lead to poor health outcomes.

To increase the availability of essential medicines and medical commodities at health facilities in Liberia, the Ministry of Health (MOH) with support from the World Bank and Global Financing Facility (GFF), designed and implemented a Pharmaceutical Framework Contract (PFC) intervention through a public-private partnership arrangement. Implementation of the PFC mechanism commenced in July 2019 at 63 clinics and three hospitals in three counties (Gbarpolu, Rivercess, and Sinoe) and at five hospitals in four counties (Bong, Lofa, Montserrado, and Nimba) as part of the performance-based financing (PBF) scheme under the Health System Strengthening Project. Under the PFC mechanism, medicines and other medical commodities would be procured from approved private pharmacies to top up under-supplied medicines and medical commodities from the Central Medical Store (CMS).

It was envisaged that the PFC mechanism would contribute to the strengthening of the logistics and supply chain management (LSCM) cycle by defining appropriate requirements for the supply and delivery of quality essential medicines and other medical products, drug quantification needs, sourcing, planning, storage, and distribution. Following three years of implementation, an assessment of Liberia's PFC was conducted to gauge whether the objectives had been met. The main findings, lessons learned, and recommendations are provided below.

Findings

Through the PFC mechanism, County Health Teams and hospitals were able to procure essential drugs and medical commodities from approved vendors at fixed prices. The drugs and medical commodities which were procured were those that the CMS could not supply to the health facilities in part or in full. This mechanism allowed the County Health Teams and hospitals to complement their supply of essential drugs and medical commodities, and this contributed to a significant increase in the availability of drugs and medical commodities at the health facilities. Specifically, the percentage of health facilities with no stock-out of all tracer drugs and family planning commodities increased from an average of zero percent across the three counties at the start of the PFC mechanism in July 2019 to 83 percent on average in the third quarter of 2021. In other words, there was a persistent shortage of all tracer drugs and medical commodities at all health facilities for an entire year prior to the intervention, but after the intervention, the percentage of health facilities with all tracer drugs and medical commodities increased consistently. Secondly, the results also show that the PFC mechanism fostered the resilience of the health system because the disruption in the supply of drugs and medical commodities in the counties which were benefiting from the PFC mechanism was minimal during and after the COVID-19 outbreak in Liberia. Thirdly, by using the PFC mechanism, the procurement capacity at county level was enhanced.

[1] Martei, Y. M., Grover, S., Bilker, W. B., Monare, B., Setlhako, D. I., Ralefala, T. B., Manshimba, P., Gross, R., Shulman, L. N., & DeMichele, A. (2019). Impact of Essential Medicine Stock Outs on Cancer Therapy Delivery in a Resource-Limited Setting. Journal of global oncology, 5, 1–11. https://doi.org/10.1200/JGO.18.00230

Notwithstanding the above, there were some gaps during the process of implementation. Firstly, the roles of critical stakeholders [i.e. the Liberia Medicines and Health Products Regulatory Authority (LMHRA) and CMS] were not clearly defined. This led to a gap in monitoring and evaluation, and quality assurance. For example, there was inadequate evidence to prove that all medicines procured under the PFC agreements were LMHRA registered medicines. Secondly, while the PFC was designed to improve commodity security, in-country planning, execution, and overall implementation were weak. As such, there were some differences in the availability of tracer drugs and family planning commodities between counties. Thirdly, the cost of transporting medicines and commodities to remote facilities, especially in hard-to-reach counties, was not included in the contract agreements. Lastly, there was insufficient support to the LMHRA and CMS for them to effectively carry out their roles and responsibilities under the PFC arrangement.

Lessons Learned

By serving as a back-up support to the CMS, the PFC mechanism can help to fill gaps in the supply of drugs and medical commodities to health facilities and this can sustain the availability and access to drugs and medical commodities. Secondly, the PFC mechanism has an inherent absorptive capacity effect which can enable the health system to be resilient by allowing continued delivery of drugs and medical supplies when there is a crisis. Thirdly, by using the PFC mechanism, procurement capacity at the lower levels of the health system can be enhanced. However, effective collaboration and coordination amongst the implementing units are important for successful implementation of the PFC mechanism. Further, effective monitoring is vital to ensure compliance and to correct gaps during implementation. Regular monitoring and evaluation can also ensure that quality is maintained throughout the drug supply chain system.

Recommendations

a) Review the roles and responsibilities of each implementing entity throughout the LSCM cycle, particularly the role of LMHRA on quality assurance;

b) Enhance regulatory oversight through training, monitoring and evaluation of the performance of all the key implementers, and dissemination of roles and responsibilities of all parties to all institutions and health providers;

c) Design and regularly deliver a training program on the PFC mechanism and contract management. This should include modules on drug quantification, logistics planning, storage and distribution, quality assurance, post-market surveillance, and monitoring and evaluation;

d) Implement an appropriate Logistics Management Information System at county level linked to the electronic system at the CMS aimed at ensuring that medicines ordered from the suppliers are not available at the CMS;

e) The cost of transporting medicines and medical commodities to remote facilities, especially in hard-to-reach counties, should be considered and included in any future contract agreement;

f) Monitoring and evaluation plans should be developed on an annual basis and used to continually monitor the implementation of PFC agreements at county and health facility levels; and

g) Develop and evaluate supplier performance using indicators such as order fill-rate, on-time delivery, drug shelf-life, etc. Sanctions and/or penalties should be developed and applied to erring counties and suppliers.

1 INTRODUCTION

1.1 Background

Liberia is a low-income country in West Africa with a GDP per capita (current US$) of US$675.70 in 2021.[2] In comparison to peer countries, Liberia's health and nutrition outcomes are poor with the maternal mortality rate at 742 deaths for every 100,000 live births being among the highest in the world. Some of the underlying causes of poor health and nutrition outcomes in Liberia are inadequate physical access to health facilities; insufficient and inequitably distributed health workers; limited availability of medical equipment; low access to quality and safe medicines; and insufficient and inefficient public spending on health. For example, on average, only 2.2 percent of the total public spending on health over the period 2014-2019 was spent on drugs, vaccines, and medical commodities.[3] This has contributed to frequent stockouts of essential medicines and medical commodities at health facilities throughout the country with only 35 percent of the health facilities in Liberia having at least one of the essential tracer medicines in 2017.[4] Limited availability of quality essential medicines and medical commodities at health facilities has led to the use of poor-quality medicines, lack of trust in public health services, and demoralization of health workers at government health facilities. Ultimately, this has contributed to poor health outcomes.

To assist Liberia in addressing these challenges, the World Bank and GFF have been supporting the Government of Liberia's efforts in scaling-up the provision of reproductive, maternal, newborn, child, and adolescent health and nutrition (RMNCAH-N) services. This includes investments in health infrastructure and training of health workers; procurement of medicines, vaccines, RMNCAH-N products, and other medical commodities; and support for a PBF scheme at 63 clinics and three hospitals in three counties (Gbarpolu, Rivercess, and Sinoe) and at five hospitals in four counties (Bong, Lofa, Montserrado, and Nimba) aimed at improving efficiency and effectiveness of service delivery. Further, as part of the PBF scheme, the MOH design and implemented the PFC mechanism in July 2019, and it has been in implementation through successive World Bank-supported projects.[5]

1.2 Pharmaceutical Framework Contracting Process

While funding for medicines and medical products is a challenge, the erratic supply of essential medicines and medical commodities can also be attributed to: (a) the centralized drug supply chain system, (b) poor forecasting due to poor understanding of actual demand, and (c) weak regulation, diversion, and corruption. To address some of these challenges, the MOH designed and implemented the PFC mechanism. The goal of the PFC mechanism is to increase the availability of essential medicines and medical commodities at health facilities in

[2] https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=LR

[3] World Bank. 2020. Draft Health Public Expenditure Review: Evaluating Domestic Resource Allocation and Spending in the Health Sector.

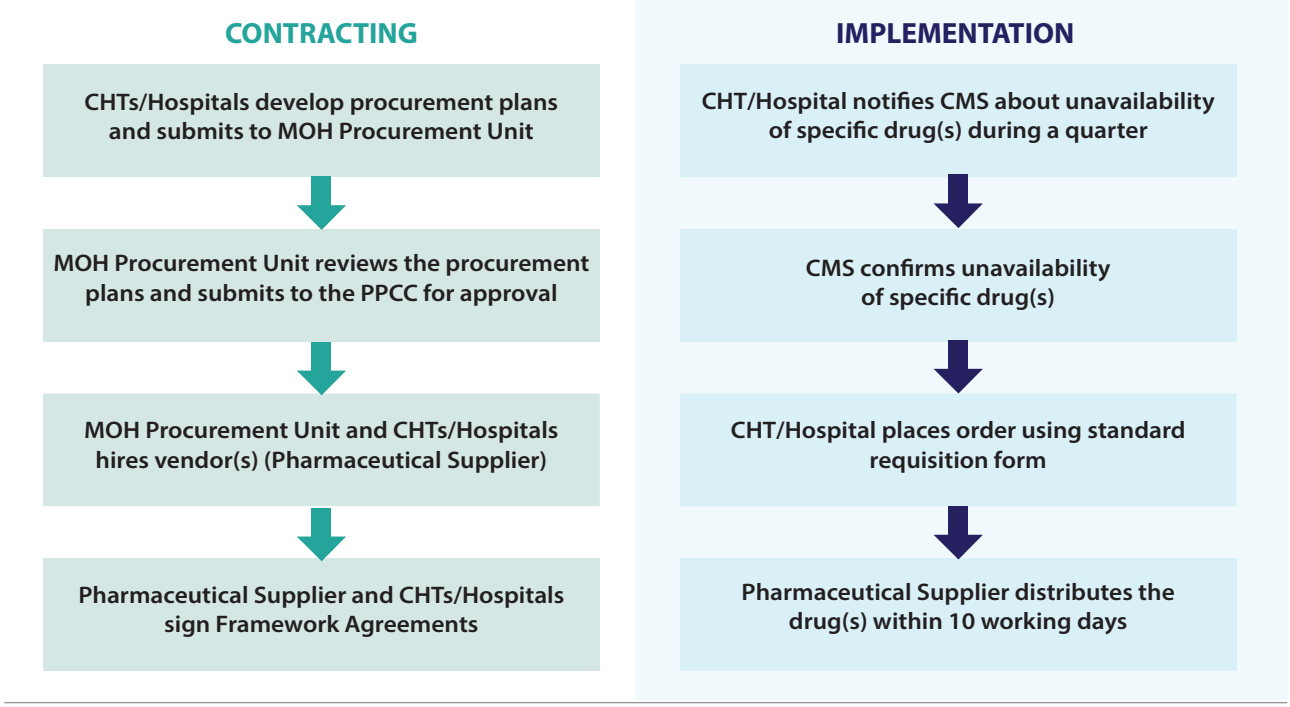
[4] Ministry of Health. 2018. Service Availability and Readiness Assessment, and Quality of Care Survey.

[5] The PFC mechanism was initially financed through the Health System Strengthening Project and currently through the Institutional Foundations to Improve Services for Health (IFISH) Project.

Liberia and to enhance the procurement capacity at subnational level. It is anticipated that the PFC mechanism can achieve this by strengthening regulatory frameworks; improving procurement, logistics, and supply chain management strategies and regulations; and eliminating barriers to equitable access to quality medicines and medical commodities.

The PFC was designed as a commodity security mechanism to enable health facilities in rural and remote areas to procure essential medicines before an imminent stockout at the health facility. Specifically, health providers were able to procure essential drugs and medical commodities from approved private wholesalers when they were undersupplied in the quarterly requisition process due to low availability at the CMS. Therefore, while the CMS was expected to have all the essential drugs and medical supplies all the time; the PFC mechanism was expected to fill the void if there were stock-outs or inadequate supplies. The aim was to have a consistent supply of essential drugs and medical supplies every quarter so that the patients could have access to quality medicines all the time. The source of funds for the PFC mechanism was the PBF grant. Health facilities would use part of their PBF grants to purchase drugs and medical commodities from approved pharmaceutical wholesalers at agreed/fixed prices. The PFC contracting and implementation processes are provided in Figure 1.

Figure 1: PFC Contracting and Implementation Processes



Source: Author's construction from the National PBF Manual. CHT = County Health Team

2 METHODOLOGY

A mixed-methods approach involving the use of qualitative and quantitative data was used to undertake the study. For the qualitative component, an expert on drug logistics and supply chain management was hired to conduct document reviews and in-depth interviews with all the key stakeholders involved in the implementation of the PFC mechanism. The interviews were conducted between November and December 2021 with key stakeholders at national level, and county and facility level managers from Gbarpolu, Rivercess, and Sinoe counties. The first part of the study was a comprehensive review of PFC agreements, operational manual and implementation guidelines, and roles and responsibilities of the various stakeholders. This was followed by a series of interviews and consultation meetings with key personnel at the MOH, members of County Health Teams, pharmaceutical wholesale suppliers, etc. See the key stakeholders and implementers who were interviewed in Table 1. To guide the data collection process, interview guides for each type of stakeholder were developed and used during the interviews. These are provided in Annex 3.

Through the qualitative part of the study, information on the implementation process, compliance, and performance was gathered. This included information on: (a) the procurement processes and compliance to the contract agreements; (b) quality of the collaboration between the MOH and the private wholesalers in the implementation of the PFC agreements; (c) impact of the intervention on attitude and practices of supply chain managers; and (d) health providers' perspective on the effectiveness of the PFC mechanism in increasing availability of medicines and medical commodities at facility level.

The information from the qualitative study was then combined with quantitative data from the PBF quarterly verification process. As part of the PBF verification system, an independent verification firm (CORDAID) used to assess the availability of essential medicines and medical commodities at the health facilities each quarter. In addition, CORDAID was also reviewing the performance of County Health Teams on the PFC agreements. Therefore, the last part of the study involved an analysis of quarterly data on the stock levels for essential medicines and medical commodities at the health facilities. This data covered a three-year period from quarter 4 (October to December) 2018 to quarter 3 (July to September) 2021.

Table 1: Key Stakeholders and Implementers Interviewed

No.	PFC Stakeholders	Official Responsibilities	Role in PFC Intervention
1.	MOH Administration/PBF Unit	Governance administrative policies	MOH policies on PFC implementation
2.	Procurement Unit, MOH	Procurement	Procurement of commodities using PBF funding
3.	Pharmacy Division, Supply Chain Unit, MOH	Supply chain policies and plans	Logistics and supply chain coordination for PFC implementation
4.	CMS	Storage and distribution of commodities	Facility stock level monitoring and supply coordination
5.	LMHRA	Regulation of medicines and health products	Ensure that only safe, efficacious, and quality medicines are supplied to health facilities
6.	PFC Suppliers i.e. Bunty Pharmaceuticals and B-Kay Pharmacy	Importers and distributors of pharmaceuticals	Contracted to supply registered medicines and medical commodities to counties and facilities in line with the PFC agreement
7.	County Health Teams supply chain authorities and procurement managers	Administer health policies in the county in line with the PFC agreement	Administer health policies in line with the PFC agreement
8.	Hospitals supply management staff and procurement officers	Administer health supply management policies at the hospital level	Oversee implementation of PFC in the hospitals

3 FINDINGS AND RECOMMENDATIONS

3.1 Compliance

Compliance under the PFC mechanism were evaluated by looking at inventory verification, county compliance, fixed-priced contract, quality assurance, and supplier selection. Details are presented below.

Inventory verification as a prerequisite for initiating a PFC agreement. Our findings show that during the PFC implementation period, two of the three counties placed their orders within the submission deadline per PFC policies.

PFC compliance at county level. Assessment of county procurement practices in compliance with the PFC policies shows that only one county performed better in procuring medicines. This implies that compliance with procurement practices was generally lacking.

Fixed-priced contract. One county (Rivercess) seemed to perform better in the procurement of medicines at the agreed fixed prices. The other two counties had limited records of procurements made using the fixed prices as in the PFC agreement. One county decided to procure medicines from an unknown source outside the framework agreement, using PFC funding.

> *"The County Health Officer preferred to procure drugs and medical commodities from Accra, Ghana at prices far less than the agreed prices under the PFC agreement."*

It was not clear if the procured drugs and medical commodities were all accounted for, and if the central MOH was aware of such practices. Further, it was unclear if the imported medicines from Ghana met quality standards.

Quality Assurance. There was no evidence of quality monitoring for the list of medicines procured. The County Pharmacists indicated that the PFC was unclear on specific quality control responsibilities for the MOH, county, and the wholesaler. However, it was assumed that all medicines are quality approved by the LMHRA before entry into the market and then to the counties. Only Sinoe county reported that the Pharmacist received confirmation of quality assurance for the medicines from the LMHRA for some of the products that had been supplied by the wholesaler. There were no other quality related records in any of the three counties. Interviews with the suppliers confirmed that the counties did not request quality control reports for the procured medicines. Follow-ups with the pharmacists in the counties revealed that most procurement activities were carried out by non-pharmacy staff who are not very conversant with quality control measures for medicines and medical commodities. This is a key concern because quality assurance of medicines is paramount in ensuring that patients access quality medicines.

Supplier Selection. The selection of the suppliers was carried out through a bidding process. Only suppliers that met LMHRA's registration and licensure requirements were qualified to bid for the PFC agreements. This process promoted competition among the suppliers and provided an opportunity for quality service deliveries for the benefit of the patients. However, the COVID-19 pandemic negatively affected the global supply chain of pharmaceuticals which led to an increase in the cost prices at the level of the manufacturers and wholesalers. The additional cost could not be added on by the suppliers in Liberia because the PFC agreements already had prices fixed. The difference had to be borne by the suppliers.

3.2 Overall Performance

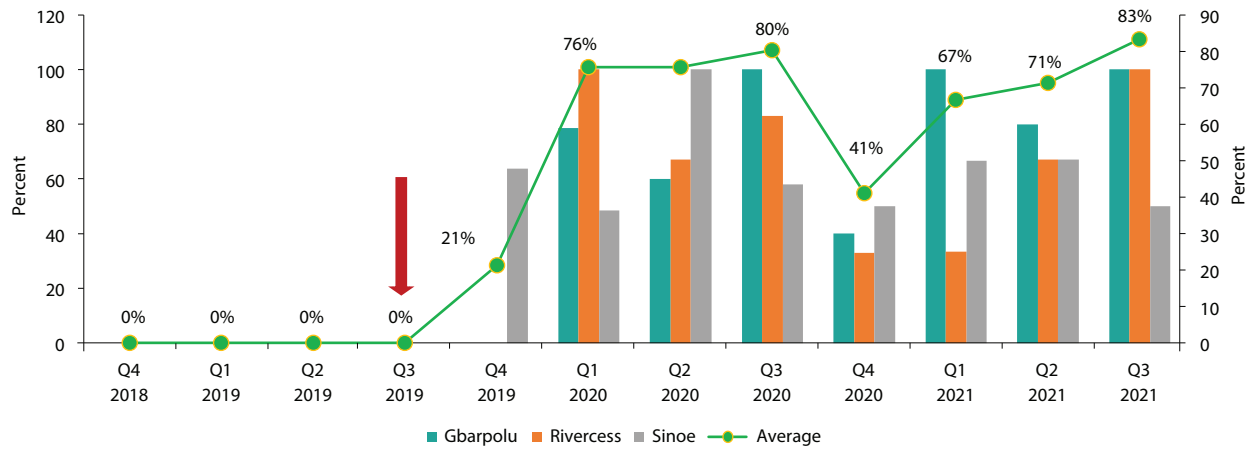
3.2.1 Quantitative Analysis

To assess the availability of essential medicines and medical commodities at the health facilities during the period under review, PBF data from the independent verification firm was used. The results show a significant increase in the availability of tracer drugs and medical commodities at health facilities after the introduction of the PFC mechanism. As shown in Figure 2, the percentage of health facilities with no stock-out of all tracer drugs and family planning commodities[6] increased from an average of zero percent across the three counties at the start of the PFC mechanism in July 2019 to 83 percent on average in the third quarter of 2021. In other words, there was a persistent shortage of all tracer drugs and medical commodities for four quarters (equivalent to a full year) at all the health facilities prior to the intervention, and after the intervention; there was a consistent increase in the percentage of health facilities with all the tracer items. This is except for quarter 4, 2020, when the percentage of facilities with no stock-outs dropped from 80 percent in quarter 3, 2020 to 41 percent in quarter 4, 2020. This could be attributed to the COVID-19 pandemic which negatively affected the global, national and facility level supply of essential medicines and medical commodities.

After quarter 4, 2020, there was a consistent increase in the availability of drugs and medical commodities at the health facilities. This suggests that the PFC mechanism fostered the resilience of the health system because the disruption in the supply of drugs and medical supplies in the counties which were benefiting from the PFC mechanism was minimal. In other words, the PFC mechanism had an inherent absorptive capacity effect which enabled the health system to continue delivering largely the same quantity of drugs and medical supplies during and after the COVID-19 outbreak in Liberia. However, the results in Figure 2 also show differences in the availability of tracer drugs and family planning commodities between counties. For instance, despite Gbarpolu county having lower stocks than Sinoe and Rivercess counties immediately after the PFC mechanism was introduced, it was the best performing county as compared to the other two countries during the period under review. This could be attributed to differences in the capacity to manage drugs logistics, and inadequate compliance to guidelines in the PFC agreements.

[6] At the clinics and hospitals, there are 29 and 44 tracer medicines, vaccines, and medical commodities. See Annex 1 and 2 for the full lists. No stock-out means that health facilities have all the tracer items. If any of the tracer items is unavailable, then there is a stock-out.

Figure 2: Health facilities with no stock-out of all tracer drugs and family planning commodities



Source: Author's construction from PBF quarterly verification data

3.2.2 Qualitative Analysis

According to various stakeholders who were interviewed, the PFC provided an opportunity to strengthen the last mile supply by facilitating the procurement of medicines to prevent stockouts. It was revealed that the PFC mechanism was a reliable source of drug supplies to health facilities. This assertion is reflected in the following statement from one of the stakeholders:

> *"Without the PFC, many facilities in the supported counties would not be functional because of the long waiting periods for the MOH's regular drug supplies to reach the counties. It is the PFC that is currently the most reliable means of getting drugs and medical commodities to the facilities to meet the needs of the people".*

The PFC mechanism also increased the confidence of the health providers at county level in procurement management. For example, two County Health Teams stated that decentralization of county-level procurement activities using the PFC mechanism had elevated their confidence. The MOH has acknowledged the positive contribution of the PFC mechanism in the National Health Sector Strategic Plan (2022-2026) and the National Health Policy (2022-2031).

Despite its success, several challenges were experienced during implementation. These are presented in Table 2. Most of the counties could not provide evidence of compliance to the PFC guidelines while in other cases the implementation fell short of required standards. Implementation challenges could be attributed to inadequate clarity and awareness by the different stakeholders on the roles and responsibilities of each party. This led to a gap in monitoring and evaluation, and quality assurance. For example, there was inadequate evidence to prove that all medicines procured under the PFC agreements were LMHRA registered medicines. Further, the cost of transporting medicines and commodities to remote facilities, especially in hard-to-reach counties, was not included in the contract agreements. Lastly, there was insufficient support to the LMHRA and CMS for them to effectively carry out their roles and responsibilities under the PFC arrangement.

Table 2: Implementation Gaps

Contract Terms	Implementation Gap
Regulatory Oversight Section 3.1.1.d states that all medicines ordered and supplied under this agreement shall be LMHRA registered medicines.	There was insufficient evidence to prove that all medicines procured under the PFC agreements were LMHRA registered medicines.
Quality Control for the PFC Section 6 provides the roles and responsibilities of LMHRA in quality assurance is defined.	LMHRA confirmed that the implementation of the PFC agreement did not provide clear responsibilities for assuring supplier and medicine quality.
Shelf-Life All medicines procured should have two-year shelf-life.	Several medicines which were supplied fell below the two-year shelf-life requirement.
On-site delivery Section 3.1.1.g in the PFC agreement calls for the supplier to deliver the medicines to the counties/facilities.	Interviews with the suppliers and some county team members show that on most occasions, the members of the county health teams went to collect the supplies. One several occasions, the supplier reimbursed transportation costs in cash to the county health teams.
Transportation Section 3.1.1.h in the PFC agreement requires that the means of transport for medicines meet all the regulatory requirements for safe transportation of the products from heat and dust.	A supplier did not do the last-mile delivery. Instead, the goods were picked up in county-owned vehicles, which are unsuitable for medical transportation.
Visual Inspection, Quality Testing, and Approval Section 3.2.4.2 states that "Products purchased are subject to the team's reasonable inspection, testing, and approval by the appropriate personnel of the team at the delivery point."	There was no evidence that the team performed any visual inspections or tested any of the products for quality.
Post-Market Surveillance In line with the Terms of Reference for the supplier, post-market surveillance activities were supposed to be regularly undertaken.	Post-market surveillance and quality checks were not undertaken.

3.3 Recommendations

Despite its success, several challenges were experienced during implementation of the PFC mechanism. Therefore, before contemplating a scale-up, it would be necessary to **review and revise the roles and responsibilities of each implementing entity throughout the LSCM cycle (especially the role of LMHRA)**; and develop a clear roadmap for implementation. Some of the specific recommendations are:

a) Enhance regulatory oversight through training, monitoring and evaluation of the performance of all the key implementers, and dissemination of roles and responsibilities of all parties to all institutions and health providers;

b) Design and regularly deliver a training program on the PFC mechanism and contract management. This should include modules on drug quantification, logistics planning, storage and distribution, quality assurance, post-market surveillance, and monitoring and evaluation;

c) Implement an appropriate Logistics Management Information System at county level linked to the electronic system at the CMS aimed at ensuring that medicines ordered from the suppliers are not available at the CMS;

d) The cost of transporting medicines and medical commodities to remote facilities, especially in hard-to-reach counties, should be considered and included in any future contract agreement;

e) Monitoring and evaluation plans should be developed on an annual basis and used to continually monitor the implementation of PFC agreements at county and health facility levels; and

f) Develop and evaluate supplier performance using indicators such as order fill-rate, on-time delivery, drug shelf-life, etc. Sanctions and/or penalties should be developed and applied to erring counties and suppliers.

Annex 1: List of Tracer Drugs and Medical Commodities for Clinics

1.	Artemether 80mg/ml,1ml
2.	AS/AQ (2-11 months)
3.	AS/AQ (1-5 years)
4.	AS/AQ (6-13 years)
5.	AS/AQ (14 years and above)
6.	Malaria Rapid Diagnostic Test
7.	Medroxyprogesterone 150mg (Deo Provera), Inj
8.	Oxytocin 10MIU, ml
9.	Bioline
10.	Tenofovir + Lamivudine + Efavirenz 300mg + 300mg + 60mg tabs
11.	Unigold
12.	HIV Determine ½ Test Kits
13.	Rifampcin 150mg, Isoniazid 75mg, Ethambutol 275mg, Pyrazinamide 400mg
14.	Rifampcin 150mg, Isoniazid 75mg
15.	Pentavalent Vaccine
16.	Carbamazepine 200mg
17.	Phenobarbital 100mg Tabs
18.	Tetracycline 1% Eye Ointment, 5g tube
19.	Oral Rehydration Salts 20.5g/l (Regular)
20.	Amoxicillin 200mg tabs
21.	Folic Acid 5mg tabs
22.	Cotrimoxazole 400mg-80mg tabs
23.	Ferrous Sulphate 200mg-Folic Acid 0.25mg
24.	Paracetamol 500mg tabs
25.	Paracetamol 100mg tabs
26.	Examination Gloves (Nitril)
27.	Mebendazole 100mg tabs
28.	Zinc Sulphate 20mg tabs
29.	Sulfadoxine 500mg-Pyrimethamine 25mg

Annex 2: List of Tracer Drugs and Medical Commodities for Hospitals

1.	Paracetamol 500 mg tab
2.	Acetyl salicylic Acid (Aspirin) 300 mg tab
3.	Oxytocin 10IU/ml vial
4.	Ferrous Sulfate 325 mg tab
5.	Penicillin V 250 mg tab
6.	Amoxicillin 250, 500 mg tab
7.	Ampicillin 500, 1000 mg vial
8.	Gentamicin 40, 80 mg/ml vial
9.	Metronidazole 500mg/100ml vial
10.	Co-trimoxazole 480 mg tab
11.	Quinine hydrochloride 300 mg/ml vial
12.	ORS sachet
13.	Ringers lactate 1L (Min stock = 5L; MAC applies only when higher than 5L)
14.	Dextrose 5% 1L (Min stock = 5L; MAC applies only when higher than 5L)
15.	Hydralazine 25mg tab /20mg powder for injection
16.	Diazepam 5mg/10mg tab
17.	Magnesium Sulphate 50% injectable
18.	Artesunate 60mg vial injectable
19.	Ketamine 50mg /ml
20.	Lidocaine or Bupivacaine for spinal anesthetic
21.	Artemether 80mg/ml
22.	Azithromycin 250mg,500mg
23.	Azithromycin 250mg 1mg/ml
24.	Calcium gluconate 100mg/ml,10ml amp
25.	Ceftriaxone 250mg/1g vial
26.	Diclofenac 25mg/3ml
27.	Furosemide 20mg/ml, amps 2ml
28.	Furosemide 40mg Tablets
29.	Glucose (dex) 50%-sol con 20ml, 50ml
30.	Methyldopa 250mg tab
31.	Prednisolone 5mg Tablets
32.	Salbutamol 2mg inj
33.	Salbutamol 4mg Tablets
34.	Sodium Chloride 0.9% 500ml, 1000ml
35.	Water for injection, amps 10ml
36.	Water for injection, amps 5ml
37.	Phenobarbital 100mg
38.	Carbamazine 200mg
39.	Tetracycline eye ointment
40.	Gentamicin eye ointment
41.	Cloxacillin 500mg
42.	Atropine 1mg
43.	Bupivacaine 5mg
44.	Nifedipine 50mg

Annex 3: Interview Guides for Key Stakeholders

INTRODUCTION

Hello, my name is _____. I have been hired to document the implementation and lessons learnt from the Pharmaceutical Framework Contracting (PFC) mechanism. I would like to take up some of your time to ask you a few questions on how the implementation of the PFC.

Name of Interviewee: _____

Position: _____

Duration of service: _____

PFC Responsibilities: _____

A. Ministry of Health (MOH) Administration

1. What are the challenges with pharmaceutical procurement and supply chain in Liberia? Legal? Financial? Policy? Others?
2. Do you think the PFC was a right intervention? Why?
3. What were the challenges in implementing the framework?
4. Did one county implement it better than the others? How?
5. Do you think the PFC should be scaled-up nationwide? If so, why?
6. What challenges do you anticipate in implementing the PFC nationwide? Legal? Financial? Policy?
7. What improvements need to be made/gaps need to be fulfilled for better availability of quality drugs? And storage at health facility?
8. Has the PFC helped to lessen stockout of medicines at the health facilities? If so, how?
9. What informed the decision of the MOH to adopt the PFC?
10. State three aspects of the PFC that worked well?
11. What are the two main challenges with the implementation of the PFC?
12. If you could change any aspect of the PFC, what would you change? Why would you make that change?
13. What recommendation would you make to improve the PFC and its implementation?

B. MOH Procurement Unit

1. How did the MOH select the supplier? Is there any report?
2. As per the agreement, it mentions the supplier is Public Procurement Concessions and Contracts (PPCC) pre-qualified? What does it mean?
3. What criterial was the PPCC using to pre-qualify pharmaceutical suppliers in Liberia?
4. What standards are there at PPCC for pharmaceuticals?
5. Did all items supplied come from the list? How were they verified?
6. Did the agreement contain a list of fixed prices and products that is referred to in 3.2.2 of the contract? Can we see the list?

7. What method was used to ensure the prices are fixed?
8. Were there any delays in delivering these orders? If so, what were the reasons stated?
9. Was any purchase order cancelled/terminated? If yes, what was the reason?
10. Why were the contracts only for one year, and why were the orders only done quarterly?
11. If a health facility or county run out of a commodity during a quarter, was the PFC able to help with alleviating the stock out?
12. State three aspects of the PFC that worked well?
13. What are the two main challenges with the implementation of the PFC?
14. If you could change any aspect of the PFC, what would you change? Why would you make that change?
15. What recommendation would you make to improve the PFC and its implementation?

C. Pharmacy Division/Supply Chain Unit, MOH

1. What is the pharmacy division's understanding of the PFC and its implementation?
2. How did the MOH select the supplier?
3. What was the pharmacy division's role in the selection process?
4. What policy at the MOH supported the PFC?
5. Why was the contract only for one year, and why were the orders quarterly?
6. If a health facility runs out of a commodity during a quarter, was the PFC able to alleviate a stockout?
7. How did the pharmacy division ensure that only unavailable items (not at the CMS) were procured by Country Health Teams and health facilities?
8. Why are good distribution practices and other stricter distribution methods not mentioned in the agreement?
9. Are there guidelines on pre-qualification for pharmaceutical suppliers within pharmacy division, LMHRA, or CMS?
10. Are there guidelines on pre-qualification for pharmaceutical suppliers at the MOH pharmacy division or CMS?
11. State three aspects of the PFC that worked well?
12. From the prospective of the pharmacy division, what are the two main challenges with the contract implementation?
13. If you could change one aspect of the framework contract, what would you change? Why would you make that change?
14. What are the challenges with pharmaceutical procurement and supply chain in Liberia? Legal? Financial? Policy? Others?
15. Do you think the PFC was a right intervention? Why?
16. State the challenges in implementing the PFC?
17. Did one county implement it better than the others? How?
18. Do you think the PFC should be implemented nationwide? If so, why?
19. What challenges do you anticipate in implementing the PFC nationwide? Legal? Financial? Policy?
20. What improvements need to be made for better availability of quality drug supply? And storage at health facility?

D. Central Medical Store

1. What do you know about the PFC?
2. How did the MOH select the supplier? What was the role of the CMS during the selection process?
3. How did the CMS ensure that only items not available items at the CMS were procured by Country Health Teams and health facilities?
4. Do you have guidelines on pre-qualification processes for pharmaceutical suppliers at the CMS?
5. State three aspects of the PFC that worked well?
6. What are the two main challenges with the implementation of the PFC?
7. If you could change any aspect of the PFC, what would you change? Why would you make that change?
8. What are the challenges with pharmaceutical procurement and supply chain in Liberia? Legal? Financial? Policy? Others?
9. Do you think the PFC was a right intervention? If so, why?
10. What were the challenges in implementing the PFC?
11. How was the PFC implemented across the three counties? Did the counties face some challenges? What were those challenges?
12. Did one county implement it better than another? If so, how?
13. Would you suggest any changes in future implementation?
14. Do you think the PFC can be implemented countrywide? If so, why?
15. What challenges do you anticipate in implementing the PFC nationwide? Legal? Financial? Policy?
16. What improvements need to be made for better storage and availability of medicines at health facilities?

E. LMHRA

1. 1.What do you know about the PFC at the MOH?
2. How did the MOH select the supplier?
3. Was LMHRA involved in selecting suppliers? If so, what role did it play?
4. Do you have guidelines on pre-qualification processes for pharmaceutical suppliers at LHRMA? If so, can we get a copy?
5. Why are good distribution practices/cold chain management and stricter distribution methods not mentioned in the agreement?
6. What applicable registrations/licenses were held by the supplier?
7. What is the applicable law in Liberia for pharmaceutical wholesalers/distributors or importers?
8. There is a mention of LMHRA registered medicines in the contract? How did the Country Health Teams ensure that each item supplied is registered?
9. Do the LMHRA register pharmaceutical wholesalers/distributors or importers for specific medicine or supply? *For example, Amoxycillin can be a registered medicine by Company A. However, that doesn't mean Company B can supply Amoxycillin to the country. Company B has to be registered as an Amoxycillin supplier in that country. One must be more specific in registering products by strength, forms (tablet vs. solution), and flavors.*
10. Is the current supplier pre-qualified by LMHRA or other pharmaceutical authorities as per World Health Organization (WHO) guidelines for pharmaceutical procurement?
11. The agreement has no language around pharmaceutical standards, quality, or LMHRA pre-qualification of suppliers. Is that acceptable?

12. Did the agreement address the problem of post market surveillance?
13. What is a reasonable inspection? Why is there no risk-based sampling or product testing in the agreement as per WHO guidelines?
14. Why are the Country Health Teams' specifications of the product mentioned in 5.1? Why is the LMHRA or stricter specification per product defined for such procurement?
15. State three aspects of the PFC that worked well?
16. What are the two main challenges with the implementation of the PFC?
17. If you could change any aspect of the PFC, what would you change? Why would you make that change?

F. Hospitals and County Health Teams (Gbarpolu, Rivercess and Sinoe)

1. Was the PFC framework clearly understood at this level?
2. Who was responsible for PFC procurement at your site?
3. Was there any training or document used for PFC?
4. How many PFC supported procurements were undertaken? What were the commodities supplied under the PFC? Collect more details quantity, amount, delivery time etc.
5. How did suppliers get selected?
6. How many transactions took place and for what commodities? Please provide details on how the PFC was used in your county
7. Was it easy for suppliers to supply within 10 days?
8. How many stock outs were reported during the PFC?
9. How did the payment structure work?
10. Was the supplier paid on time?
11. Did any supplier withdraw from the PFC?
12. Did all items supplied come from the list prepared by the county? If so, how was it verified?
13. Did the agreement contain fixed prices? What method was used to set the prices?
14. How did the County Health Team or the hospital confirm the quality of the medicines received from the supplier?
15. Why was the contract only for one year, and orders quarterly?
16. Were there previous contracts? How many?
17. Were there any reports of product failure from this county on the supplied products?
18. Were there any delays in delivering orders?
19. What was done when a supplier failed to deliver a commodity?
20. Was there any issue in executing the agreement? Delays in receiving goods? Price per agreement? Or any other matters not covered here?
21. Did the County Health Team cancel/terminate any purchase order? If yes, what was the reason?
22. State three aspects of the PFC that worked well?
23. What are the two main challenges with the implementation of the PFC?
24. If you could change any aspect of the PFC, what would you change? Why would you make that change?
25. What recommendation would you make to improve the PFC and its implementation?

G. Supplier (Pharmaceutical Wholesaler)

1. Was the PFC clearly understood and signed?
2. Was the supplier (vendor) a registered and certified pharmaceutical distributor in line with WHO standards? What standard of certification was used?
3. Was the supplier registered with LMHRA, CMS, PPCC, etc.? Is there any evidence to verify this?
4. How was the supplier selected?
5. Is there any history of previous performances of similar nature?
6. How many counties and health facilities were serviced by the supplier?
7. How many purchase orders were processed by the supplier per quarter? Please provide a breakdown by year and quarter.
8. Were they imported or domestically manufactured products?
9. Were those manufacturers pre-qualified/approved suppliers of these products by LMHRA or other authorities? Any evidence?
10. Were all the items on the agreed list registered and approved for distribution?
11. Did the supplier manage to deliver within the stipulated ten days? If not, why?
12. What transport means did the supplier use to deliver?
13. What percentage of orders were delivered? (I see that the invoice mentions 2-3 weeks)
14. How were the deliveries certified on reception? Is there a reception report?
15. Were there any delays in delivering these orders?
16. How easy/difficult was it for the supplier to manage the prices and delivery time?
17. Were there any delays in making payments? If so, what were the reasons?
18. How did the supplier feel about their overall experience with the PFC?
19. What improvements can be made to run these agreements smoothly?
20. State three aspects of the PFC that worked well?
21. What are the two main challenges with the implementation of the PFC?

H. Non-PFC participating Institutions Hospitals, Clinics and Wholesales (Control)

1. What do you know about PFC?
2. Do you think it is a good intervention? Why?
3. What could be some of the challenges in implementing PFC?
4. How can it be implemented at your health facility?
5. Could you suggest anything that you would like to see in any future implementation?
6. Do you think PFC should be implemented countrywide? If so, why?
7. What challenges do you anticipate in implementing PFC nationwide? Legal? Financial? Policy?
8. What improvements need to be made for better availability of medicines? And storage at health facilities?

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