Decentralized Drug Distribution in Cameroon: Final Report

Cameroon, like other countries in sub-Saharan Africa, has made strides against the HIV epidemic, reducing prevalence from 5.4 percent in 2004 to 3.4 percent in 2017 to 3.1 percent in 2019 (UNAIDS). Of the estimated 504,472 people living with HIV (PLHIV) in 2020, 424,421 (84%) were aware of their status and, of those, approximately 312,214 were on antiretroviral therapy (ART) in December 2019, representing 62 percent ART coverage and about 53 percent viral suppression. There are major gaps in the treatment cascade, with challenges in retaining clients on ART. Based on available data, retention has been suboptimal, with only 46 percent and 74 percent, respectively, of those initiated in FY18 and FY19 still on ART 12 months later (PEPFAR Cameroon COP, 2020).

To address retention and further improve HIV services, the Government of Cameroon, through the Ministry of Public Health (MOPH), adopted a community ART dispensation approach in 2016. The main objectives were to respond to the growing demand for antiretrovirals (ARVs), decongest high-volume health facilities, improve adherence, reduce transportation costs for clients, and optimize retention in care. This strategy was implemented following the World Health Organization (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS) guidelines advocating increased community involvement in HIV and ART service provision and was included in the national strategic plan for 2021–2023. The goals for the community-based ARV dispensing strategy were to improve retention from 60.4 percent at baseline (in 2016) to 90 percent in 2020 and to 95 percent by 2030. Three models of community ARV dispensation were adopted and implemented.

1. Community-based organizations (CBOs): This model aimed to bring ARVs closer to clients through existing community structures and included offering ART and psychosocial support to clients enrolled at selected hospitals. This model was designed to be implemented in urban areas. Since implementation, the number of clients receiving ARVs through CBOs in Cameroon has increased from approximately 7,665 in 2017 to 20,048 in 2020 with 98 participating CBOs.
2. Adherence clubs or support groups: These groups consist of two to 10 PLHIV clients receiving ARVs in the same health facility. Group members support each other to adhere to ART and members receive ARVs during group meetings.
3. Community ART groups (CAGs): These groups consist of six to 10 clients from the same treatment center who have developed a friendly relationship and agree to coordinate their ARV refill visit. Each month, a designated group member collects ARVs for the rest of the members when they visit the hospital for their ARV refill or clinical follow-up.

EpiC is a global cooperative agreement dedicated to achieving and maintaining HIV epidemic control. It is led by FHI 360 with core partners Right to Care, Palladium International, Population Services International (PSI), and Gobee Group. For more information about EpiC, including the areas in which we offer technical assistance, click here.

The Government of Cameroon set out to devolve 30 percent of all active clients to CBOs and retain them in care.

EpiC Support

In September 2020, the Meeting Targets and Maintaining Epidemic Control (EpiC) project received Headquarters Bridge Funding (HBF) to support decentralized delivery of ART in Cameroon. The goal of the EpiC activity was to support further decentralized drug distribution (DDD) of ARVs including through the private sector and to establish appropriate and sustainable mechanisms for referral linkages, quality control, support, and monitoring. The objectives of the EpiC activity were to support the NACC to:

1. Evaluate existing community ART dispensation models
2. Determine the feasibility of implementing the community pharmacy model for ARV dispensation
3. Provide recommendations for improving some of the existing community ART dispensation models following the evaluation
4. Update the community ART dispensation policy, systems, and tools based on the results of the evaluation

Accomplishments

OBJECTIVE 1. SUPPORT THE COUNTRY TO EVALUATE EXISTING COMMUNITY ART DISPENSATION MODELS

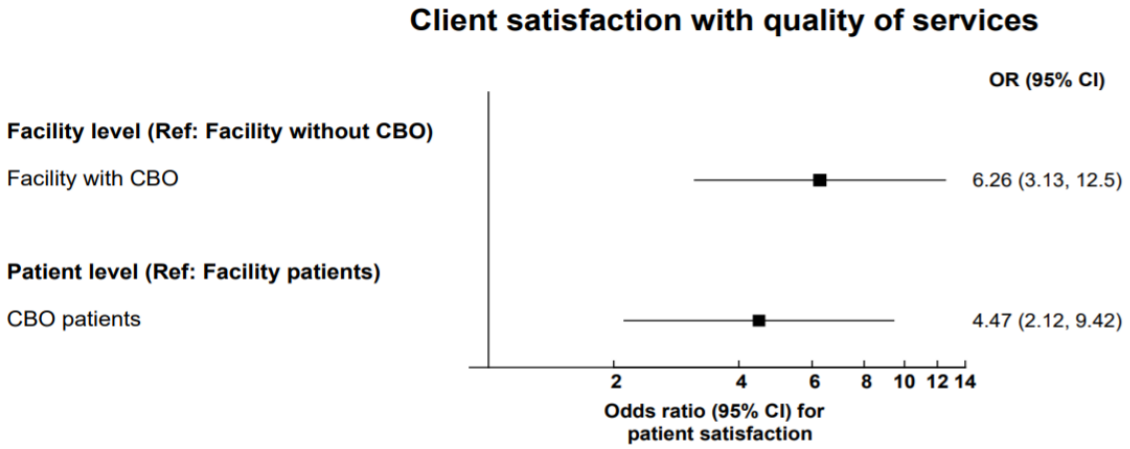
The EpiC team supported the National AIDS Control committee (NACC) to evaluate existing and prospective community ART dispensation models. This mixed-method evaluation covered 35 HIV care and treatment units (CTUs) and 50 CBOs distributed across the 10 regions of Cameroon. A total of 1,420 participants were interviewed: 497 service providers—394 (79.3%) CTU personnel, 103 (20.7%) CBO staff, and 923 patients—297 (32.2%) from CBOs, and 626 (67.8%) from health facilities. Overall, 8,467 individual patient records were examined for retention and viral suppression. For the qualitative component, 64 in-depth interviews (IDIs) and 31 focus group discussions (FGDs) were conducted with clients, CTU personnel, CBO personnel, and volunteers.

The findings from the evaluation revealed that the introduction of community ARV dispensation in Cameroon improved the quality of care in health facilities as assessed through waiting time and client satisfaction.

Waiting time, client satisfaction: In general, the introduction of CBOs was associated with shorter waiting times and higher satisfaction with HIV services. In health facilities affiliated with CBOs, clients who received HIV services from the facilities spent on average 37.5 minutes longer

waiting for HIV-related services than those who received services in affiliated CBOs (95% CI: 29.05–45.95, p-value <0.000). Clients in CBOs had 4.5 times the odds of satisfaction with HIV services compared to clients at health facilities (95% CI: 2.12–9.42, p-value <0.000) (Figure 1). Similarly, in a subset of six matched facilities (three affiliated with CBOs and three not), clients in HIV CTUs affiliated with CBOs had 6.26 times the odds of being satisfied with HIV services compared to their counterparts in CTUs without CBOs (95% CI: 3.13–12.5, p-value <0.000).

Figure 1. Plot of odds ratio of client satisfaction with quality of services



Retention: Retention improved when CBO dispensation was introduced. Retention was especially higher in health facilities linked to CBOs compared to hospitals that were not. At the individual level, clients who were assigned to CBOs had better retention than those at the same hospital who were stable but continued to receive refills in the hospital (Figure 2).

Viral suppression: Determining the effect of CBOs on viral suppression was difficult, in part due to limited availability of viral load testing. In general, viral suppression rates varied by year with significantly higher levels among clients in CBOs compared to those who received refills in the same heath facility in 2018 and 2020 but not in 2016, 2017, and 2019 (Table 1).

Figure 2. Plot comparing odds ratio of client retention at various times and ARV dispensation points

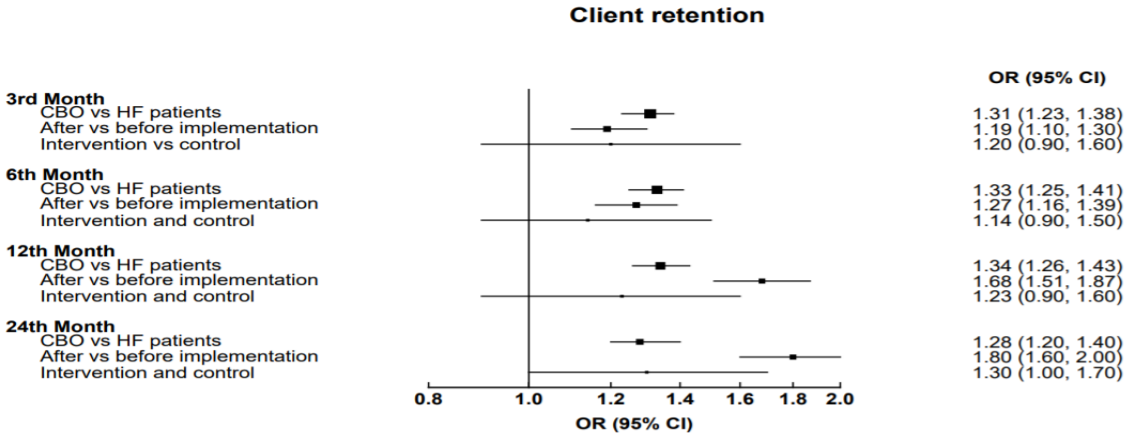
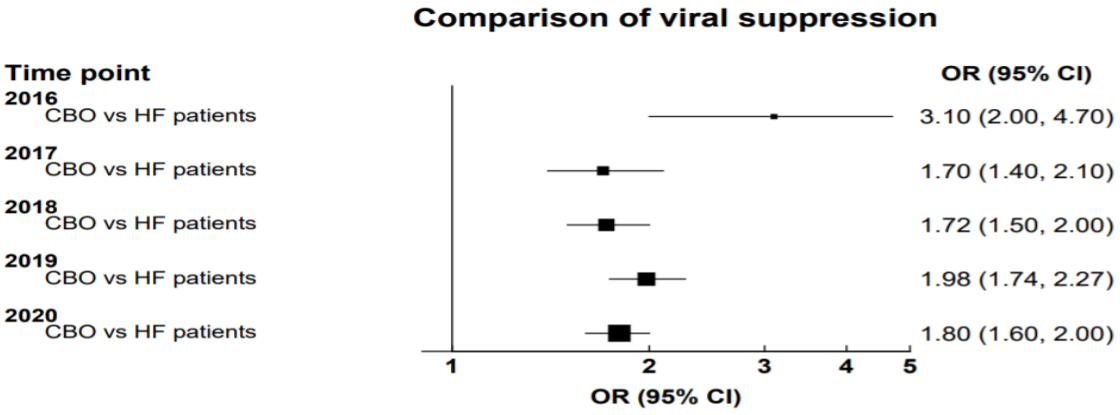


Table 1. Comparing viral suppression of CBO clients and HF clients

TIME POINT	FACILITY	VIRAL SUPPRESSION (%)	OR [CI]	P-VALUE
2016	CBO clients	97.8 (89/91)	3.1 [2 – 4.7]	0.25
	HF clients	93.55 (29/31)	1.00	
2017	CBO clients	96.31 (209/217)	1.7 [1.4 – 2.1]	0.45
	HF clients	94.62 (123/130)	1.00	
2018	CBO clients	98.55 (542/550)	1.72 [1.5 – 2]	0.00
	HF clients	92.4 (316/342)	1.00	
2019	CBO clients	97.44 (647/664)	1.98 [1.74 – 2.27]	0.16
	HF clients	90.2 (313/347)	1.00	
2020	CBO clients	95.12 (917/964)	1.8 [1.6 – 2.0]	0.02
	HF clients	92.27 (501/543)	1.00	

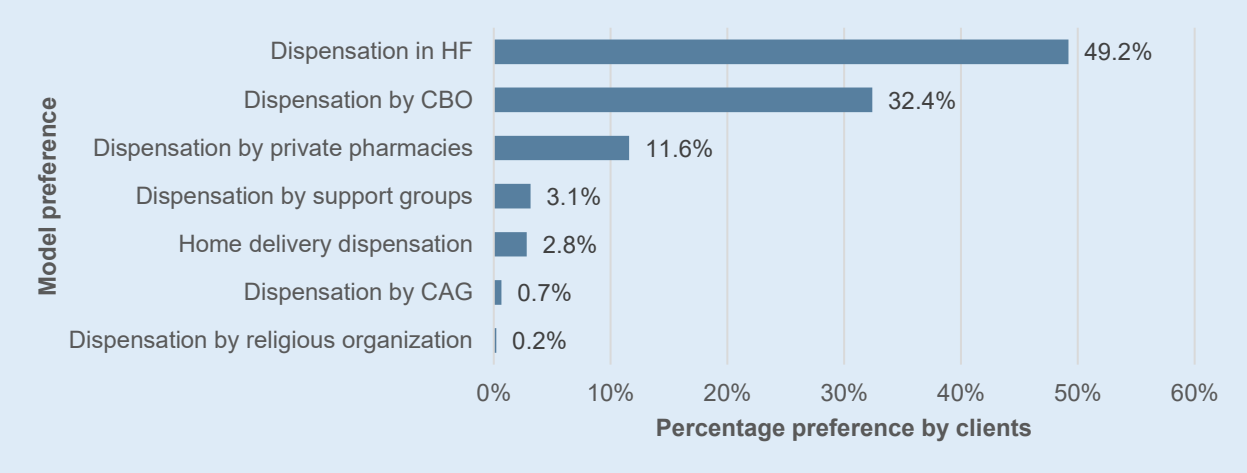
Figure 3. Comparison of viral suppression between CBO and health facility clients



Results of the Client Survey

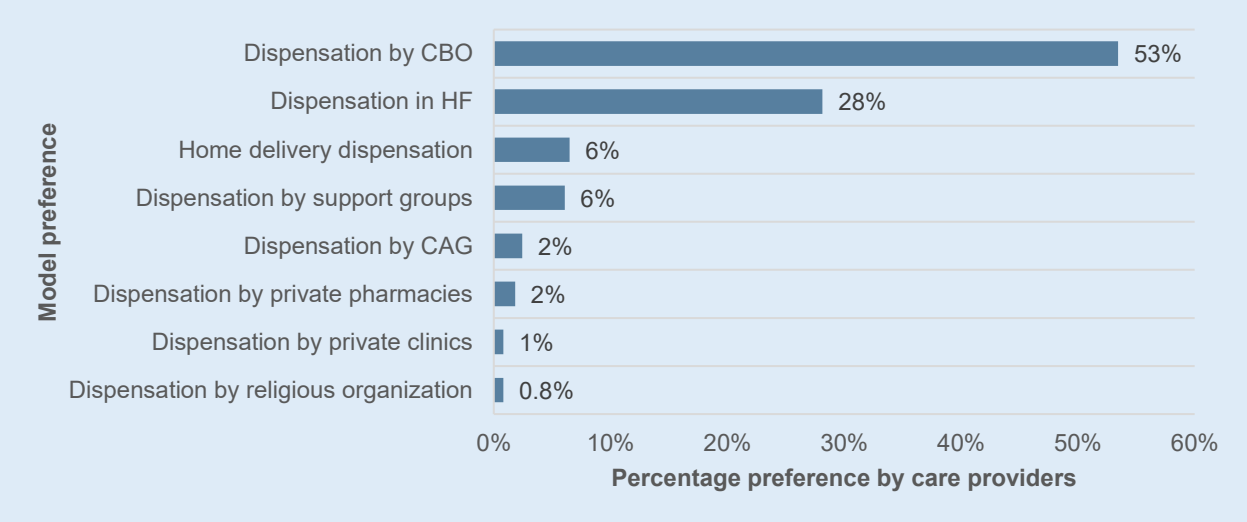
Client preferences for dispensation models: Overall, most clients surveyed preferred dispensation through health facilities (49%), followed by dispensation through CBOs (32%), private pharmacies (11.7%), support groups (3%), and home delivery (2.8%). There were notable regional variations in client preferences, with most in the northern regions (2/3) preferring health facility dispensation and most in the southern regions (4/7) preferring community dispensation.

Figure 4. Distribution of client preferences for ARV dispensation models



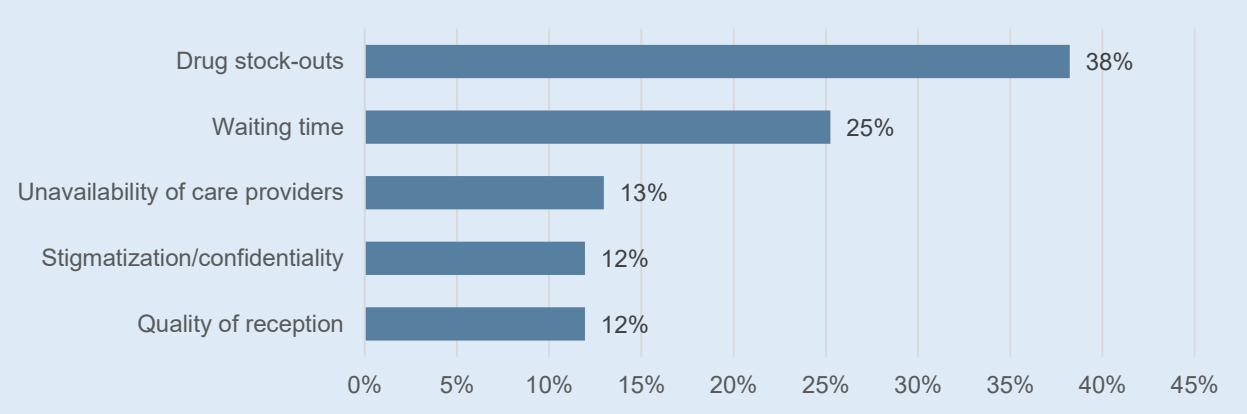
Health care worker preferences for different models: Among health care workers (HCWs), the majority (53.7%) preferred ART dispensation by CBO followed by health facility (28%), home delivery (6.5%), and support groups (6.1%). Only 1.8 percent of HCWs surveyed thought ARVs should be dispensed through private (community) pharmacies.

Figure 5. Distribution of health care worker preferences for ARV dispensation models



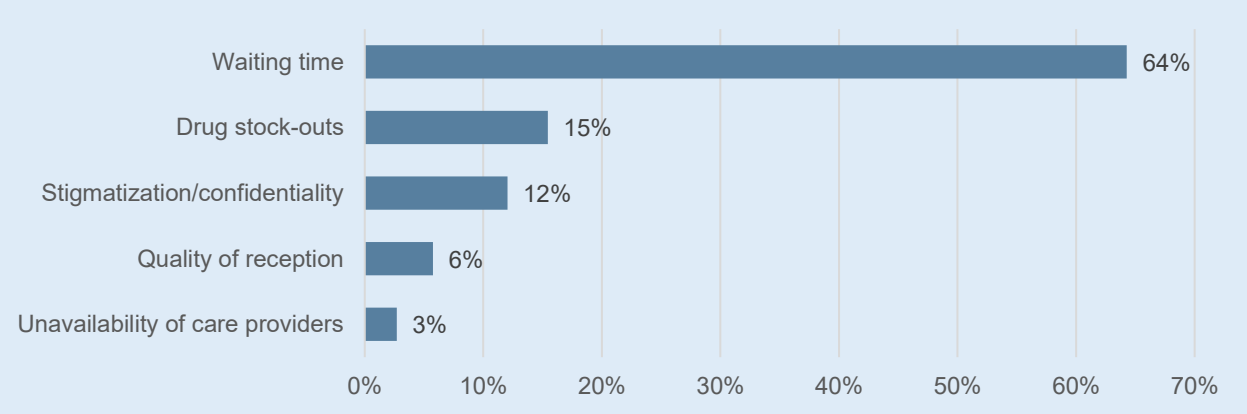
Client concerns with services in CBO and care and treatment centers: Among clients in CBOs, ARV stock-outs, reported by 38 percent of respondents, was the most common concern, followed by long waiting time, reported by 25 percent.

Figure 6. Distribution of CBO client concerns



On the other hand, among facility (CTU) clients, long waiting time was the predominant concern, reported by 64 percent of respondents, with only 15 percent reporting ARV stock-outs as a concern.

Figure 7. Distribution of CTU client concerns



Reported benefits and barriers to CBO dispensation: Most participants affirmed that CBO dispensation led to a reduction in client waiting time, more personalized follow-up, good client reception, perceived stigma reduction, and more privacy, confidentiality, accessibility, and flexibility. In addition, participants thought CBO dispensation led to less-congestion in health facilities and potentially reduced exposure to infections. Stakeholders from different regions had preferences for different models. For example, clients in the northern regions preferred health facility ART pickup over community ART pick-up, which was the preferred model in the

Northwest region. Respondents had favorable opinions of the dispensation of ART via private pharmacies (mostly for urban participants), faith-based organizations, support groups, and home delivery.

Through the interviews and FGDs, several barriers to ARV dispensation by CBOs were identified, including lack of political will, stock-outs of ARVs, lack of support for and training of CBO staff, distrust of CBOs by facility staff, poor sensitization of clients, staffing shortages, and concerns about confidentiality and stigma. Box 1 provides strategies to address these barriers and improve community dispensation.

Box 1. Proposed strategies to improve community dispensation

- Improving training for CBO staff and building capacity of CBOs as well as supervision of CBOs
- Improving financing of CBO activities, improving logistical support to CBOs, recruiting more competent staff for CBOs
- Increasing the number of CBOs
- Strengthening collaboration between health facilities and CBOs
- Providing a more comprehensive package of services at the CBO level to address other needs
- Sensitizing clients in health facilities on CBO dispensation and other models

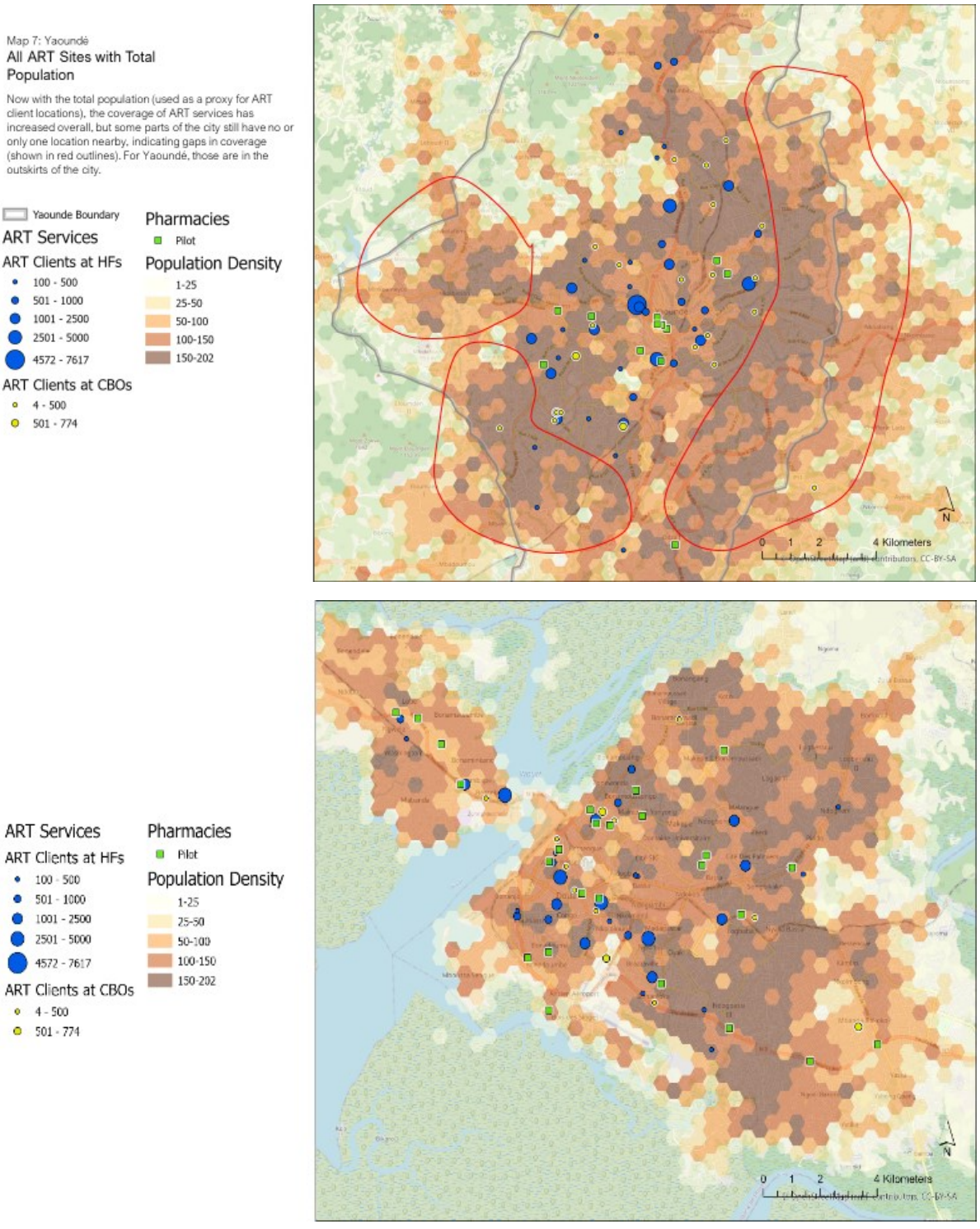
OBJECTIVE 2. DETERMINE THE FEASIBILITY OF IMPLEMENTING THE COMMUNITY PHARMACY MODEL FOR ARV DISPENSATION

As part of the evaluation of existing community dispensation models, the EpiC team also assessed the feasibility of implementing the private pharmacy model.

Results of the Pharmacy Survey

Capacity and willingness of private pharmacies to dispense ARVs: Of about 400 registered pharmacies in Cameroon, about 250 are based in urban and peri-urban areas of the two largest cities of Douala and Yaoundé. Among pharmacies surveyed in the Center and Littoral regions, 87 percent (69/79) were willing to dispense ARVs, and 55 percent (45/82) had the capacity and necessary staffing and material resources to start ARV dispensation. However, they required further training in adverse drug effects (39.6%), counseling (28.1%), referral (17.7%), and stigmatization and confidentiality (14.4%). While there appears to be a significant concentration of HIV-positive clients in the urban and peri-urban areas of Yaoundé and Douala, as illustrated in Figure 8, HIV treatment centers, CBOs, and some pharmacies appear to be concentrated in the urban areas, leaving a significant ART access gap for clients in the peri-urban areas. However, many pharmacies are also located in these peri-urban areas and could help meet the ART needs for these clients.

Figure 8. Map illustrating concentration of pharmacies, ART clients in CBOs and health facilities, and population density in Yaoundé and Douala



OBJECTIVE 3. SUPPORT THE NACC TO IMPLEMENT SOME OF THE COMMUNITY ART DISPENSATION MODELS THAT WILL BE RETAINED FROM THE EVALUATION

The EpiC team collaborated with NACC, the United States Agency for International Development (USAID), the National Order of Pharmacists in Cameroon, civil society organizations, and other stakeholders to pilot the models deemed acceptable from the evaluation, including the pharmacy model. As part of this effort, the EpiC Cameroon team drafted and shared a pharmacy model piloting plan with three different user fee-based scenarios and provided technical assistance to the Pharmacy Board and Syndicate to estimate the real cost of delivering ARV via pharmacies in Cameroon. Results of the assessments were presented to the MOH, and the private pharmacy model was approved for operation in Cameroon in a meeting convened by the minister of public health on April 30, 2021. EpiC Cameroon continues to facilitate discussions on the user fee policy to be adopted by the technical working group (TWG) for the private pharmacy dispensation (PPD) of ARVs in Cameroon. Decisions will be made after a site visit by some members of the TWG during which pharmacists will select their preferred user fee scenario. In addition to the PPD, based on increasing interest from USAID, FHI 360/EpiC headquarters shared with the USAID/Cameroon Mission an estimate for the cost of introducing the automated ARV dispensation model.

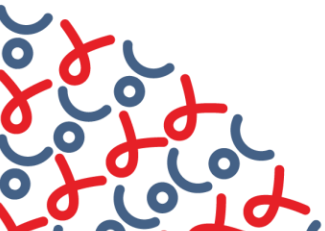
OBJECTIVE 4. SUPPORT THE NACC TO UPDATE THE COMMUNITY ART DISPENSATION POLICY, SYSTEMS, AND TOOLS BASED ON THE RESULTS OF THE EVALUATION

EpiC Cameroon is continuing to provide ongoing support to the NACC consultant to update the national policy on community dispensation. Along with a copy of the evaluation report, recommendations were provided to the NACC consultant—including the need for multiple models and for the clients to choose the model of ARV pick-up that fits their needs—to inform policy updates. Inputs will continue to be provided to the team throughout the process.

Stakeholder engagement

Since the start of the project in September 2020, numerous stakeholder engagement sessions have taken place with NACC, civil society organizations (ReCap+, humanity first, Horizon Femmes, and Coalition Social), health facility staff, patients, care providers, CBOs, the National Order of Pharmacists in Cameroon, and the Department of Pharmacies, Drugs, and Laboratories (DPML—La Direction de la Pharmacie, du Médicament et des Laboratoires).

USAID and NACC were engaged from the beginning of the project through virtual and in-person meetings to develop the scope of work and objectives of the DDD activities. Together with the NACC, the EpiC Cameroon team led the evaluation by drafting an evaluation protocol that was validated and finalized by the above-mentioned stakeholders in a three-day workshop in Mbalmayo in October 2020. After data collection in December, a four-day workshop was held to analyze the collected data and to commence the drafting of the evaluation report. An advocacy



meeting was organized in February 2021 with selected civil society organizations, NACC, and DPML during which the summary of the evaluation results was presented. Stakeholders expressed overall acceptance of the need to introduce ART dispensation through community pharmacies.

Business case development

To further strengthen acceptance of PPD, EpiC engaged the National Order of Pharmacists in Cameroon to present the evaluation results and explain how pharmacies will benefit from the PPD model. Afterward, the pharmacists expressed overwhelming support for the model but also indicated the need for a minimal compensation for services. A group of four people, including two EpiC Cameroon team members, evaluated the direct costs of implementing this model at pharmacies. The direct cost was estimated at about 279,200 Central African CFA francs (US$500) per quarter, which is the amount proposed to be offered to each pharmacy to cover the user fee over a six-month period in one scenario. Collaboration is ongoing with the National Order of Pharmacists and other stakeholders to reach a consensus on the user fee scenario that is most suitable.

Lessons learned

The challenges faced during implementation provided lessons for future work:

- The terms of reference commissioning the evaluation of the community ART dispensation strategy in Cameroon were not explicit, and the evaluation objectives changed during the drafting of the evaluation protocol. A large amount of time was spent reviewing and updating the evaluation protocol. We suggest that in the future, the NACC team provide more detailed terms of reference when commissioning such an evaluation.
- A mixed-methods explanatory sequential approach might have been a more appropriate methodological approach if time and resources had permitted. However, our results were significant enough to draw some conclusions.
- During the data collection process, we faced poor cooperation from some sites in providing data. This posed challenges to collecting data for all indicators. Addressing this challenge in the future will require engaging implementing partners (IPs), having more effective communication with hospital leadership, and gaining stronger commitment from the regional technical group for AIDS leadership.
- Given that the original funding for the Cameroon EpiC project did not include support for an evaluation, we believe that the funding was insufficient to conduct the evaluation seamlessly. We propose that HIV/AIDS projects should incorporate a well-thought-out and costed evaluation component into their budget.
- Political will and context are key to introducing new ARV dispensation strategies like PPD in the context of Cameroon, even with the willingness of and perceived benefits to beneficiaries.
- Government engagement throughout the process is critical to meeting set objectives.

Next steps and transition plan

The next steps regarding DDD in Cameroon will include but are not limited to:

- Conduct a pilot PPD in Cameroon that will involve:
  - Hosting a TWG meeting to agree on modalities for DDD piloting and user fee policy
  - Signing memoranda of understanding between private pharmacies and the MOPH
  - Training pharmacy staff on ARV dispensation
  - Designing and adapting the DDD training manual, data collection tools, standard operating procedures (SOPs), communication tools, and consent forms for use
  - Recruiting and devolving clients to selected private pharmacies in Yaoundé and Douala
  - Building a data flow system (collection and reporting), which includes connecting the DDD App to the national data management software currently used in treatment centers.
  - Conducting regular joint (EpiC, NACC, Pharmacy Board/Syndicate) mentorship and supervision visits to pharmacies.
- Conduct costing for other DDD models like the automated dispensation models.
- Implement the pharmacy model in Yaoundé and Douala, and expand to serve all four zones covered by the four PEPFAR IPs, as there are also high-volume sites in those regions. Transition to IPs after September 2021.
- Formalize home delivery with health facilities and CBOs through either a community agent or the use of local mailing services.
- Provide TA to CBOs currently involved in the community delivery models to improve documentation and reporting.
- Support the introduction of the DDD App in CBOs to address the poor documentation and reporting identified as major challenges in CBOs.

Reference

PEPFAR. Cameroon Country Operational Plan COP 2020 Strategic Direction Summary. 2020. https://www.state.gov/wp-content/uploads/2020/07/COP-2020-Cameroon-SDS-FINAL.pdf

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