Maternal Syphilis in Cameroon - Summary of Findings & Situational Analysis[1]

[1]Questions can be sent to Anna Konstantinova, Senior Manager, Maternal Syphilis Program, at Evidence Action (anna.konstantinova@evidenceaction.org). All of the findings laid out in this report represent the best summary of information shared by the Cameroonian government and local stakeholders during an in-country visit in November 2021. It is possible that some of the information provided was misinterpreted or is now out of date, and so further engagement with stakeholders should occur before critical program decisions are made based on the content of this report.

Executive Summary

Based on discussions with key stakeholders in the Cameroonian Ministry of Health (MoH), local NGOs, and development partners, Cameroon has a substantial burden of maternal syphilis that remains unaddressed and there exists an opportunity for a partner to support the MoH to significantly accelerate the pace of dual test adoption and increase the eventual achieved coverage of syphilis screening and treatment. Almost half of pregnant women attending antenatal care in the country are screened for HIV *but not syphilis*. With an annual cohort of nearly 1 million pregnant women and an active syphilis prevalence of 5.63%, over 10,000 adverse outcomes can be prevented each year with scale up of the dual test and strengthened linkages to treatment for women who test positive for syphilis. The MoH, championed by the National AIDS Control Committee (NACC)[2] and the Department of Family Health (DFH), has taken initial steps toward adopting the HIV/syphilis dual test. The dedicated support of a technical assistance partner would aid the country in formally adopting the dual test into national policy and subsequently scaling up the dual test across all antenatal care sites, thereby eliminating mother-to-child transmission of syphilis once and for all in Cameroon.

In this report, Evidence Action details: (1) estimates of syphilis prevalence in Cameroon; (2) the current state of the Cameroonian healthcare system; (3) the dual testing policy environment; and (4) the stakeholders which may be involved in potential maternal syphilis efforts.

Syphilis Prevalence

There are three available data sources for estimating syphilis prevalence in Cameroon:

- Spectrum-STI: According to Spectrum-STI modeling published in 2019, the prevalence of active syphilis was estimated at 3.36% in 2016. The Spectrum-STI modelers used country-reported data and applied a smoothing curve to take into account realistic changes in prevalence year-on-year. The modelers also validated outlying point estimates with country focal persons and down-weighted estimates they believed were biased (most often accounting for situations where a small subset of the population was tested).[3]
- Cameroon 2016 Sentinel Survey[4]: In 2016, the National AIDS Control Committee (NACC) implemented a sentinel survey to estimate the prevalence of HIV and syphilis among pregnant women. 60 sites were selected through non-probabilistic sampling across all 10 regions (3 rural and 3 urban sites per region); however, syphilis testing was only done at the subset of sites which had syphilis testing commodities on hand. Women who were tested for syphilis were first screened using RPR and then confirmatory testing using TPHA was done for anyone who tested positive on screening. Thus, the estimate provided in the sentinel survey is that of active syphilis. In total, 3,908 women were

[2] The National AIDS Control Committee is also referred to as the Comité National de Lutte contre le SIDA (or CNLS) in French.
[3] Based on a conversation with Eline Korenromp who developed the Spectrum-STI model.
[4] An additional sentinel survey was conducted in 2019 but due to limited resources, the estimation of syphilis prevalence was done via a retrospective records review at the sentinel sites instead of real time testing of pregnant women.

tested for syphilis and 5.63% had active syphilis (with a range of 1.70% in the Center region up to 9.48% in the North West region).

- DHIS2: Since 2018, health facilities have reported monthly on the number of pregnant women tested for syphilis, the number who tested positive, and the number who were treated. Different facilities utilize different types and sequencing of syphilis tests, so it's likely the prevalence estimated via DHIS2 includes both active and latent syphilis. Data from each year is as follows:
    - 2018: 6.9%
    - 2019: 8.2%
    - 2020: 11.3%
    - 2021 (up to Oct): 10.0%

  According to the literature, between 54% and 65% of general syphilis infections are active.[5] If this discount is applied to the DHIS2 data (since the distribution of test types being reported is not known), then the data indicates that likely active syphilis ranges from 3.7% to 7.3%.

Overall, among the estimates available, Evidence Action recommends relying on the 2016 Sentinel Survey as it provides the most rigorous estimate of active syphilis prevalence. Thus, the prevalence of active syphilis in Cameroon is 5.63%.[6]

Description of the Healthcare System

Physical and Human Infrastructure

Cameroon is divided into 10 regions, which are then divided into 189 health districts. As of 2014, there were 4,034 health facilities.[7] More recently, according to the Department of Medicines and Lab Services, there are 6,148 health facilities nationally. Health facilities are classified according to the following levels:

- 1º: General hospitals
- 2º: Central hospitals
- 3º: Regional hospitals
- 4º: District hospitals
- 5º: Medical centers
- 6º: Integrated health centers

According to the 2017-2027 Health Sector Strategy, as of 2014, 28% of all health facilities in the country were private.[8] All health facility levels are able to provide basic lab services and have a

[5] In Kahn et al. (2014) and Newman et al. (2013), the authors state that 35% of overall syphilis infections are latent. In a 2015 meta-analysis by Ham et al., Table 2 reported that 53.6% of pregnant women reactive in one syphilis test type were likely to be reactive in a second confirmatory test.
[6] Using 2015 population data from Projections Demographique, the population-weighted prevalence is 4.55%.
[7] According to the MoH's 2016-2027 Health Sector Strategy.
[8] According to the Ministry of Finance's Report on the Situation of Public Corporations and Public Establishments, in 2018, there were 2,387 public health facilities, so it's likely the distribution between

minimum of trained nurses on staff; as such, pregnant women can access syphilis RPR testing and can be treated for syphilis at *any* facility, in principle.

Out-of-Pocket Healthcare Costs

In Cameroon, patients are generally required to pay for whatever care they receive. As much as 70% of national health expenditures are borne by households; the remainder comes from the national government (14.6%), the private sector (7.7%), and donors (6.9%).[9,10] Ultimately, the need to pay for care out of pocket results in inequitable access; it can be safely assumed that those who have the lowest income struggle to afford care and are then less likely to engage in care-seeking.

Over the past several years, the political landscape surrounding the need to pay for services has been shifting. In April 2019, the Minister of Health announced that HIV rapid testing would be provided free of charge for all patients[11] and that people living with HIV would have access to free services including medical and prenatal consultations, CD4 and viral load testing, early HIV testing for children, ARVs, and drugs to prevent opportunistic infections.[12] This policy went into effect on January 1st, 2020. Under this policy, pregnant women who are known HIV+ or test positive during screening are able to receive a syphilis test for free but must still pay out of pocket for syphilis treatment.[13] With the adoption of dual testing in antenatal care settings, it is likely syphilis testing would become free by default alongside HIV testing for pregnant women and partners.

The national government is also in the midst of pursuing universal health coverage; there is drafted legislation before the National Assembly that is likely to pass and provides a framework for how universal health coverage would be achieved.[14] According to USAID, the first cohort of patients who would likely get access to free or subsidized care would be pregnant women and children. The intention is to develop a national model based on the experience of a voucher program for pregnant women and newborns called 'cheque sante' that has been implemented in the northern region of the country since 2015. As the voucher policy for pregnant women and

public and private facilities has evolved since 2014 and as much as half of all health facilities in the country may now be private.

[9] According to the MoH's 2016-2027 Health Sector Strategy.

[10] The structure of the health system, as it exists now, necessitates charging patients. Health facilities are required to balance their fiscal books - they must pay for the commodities they procure whether they are public or private and so they must charge patients to recoup the spent costs.

[11] Previously, HIV rapid testing cost 500 XAF (or 0.86 USD under the current exchange rate). In visiting health facilities, we noted that some continued to charge for HIV testing in the instance when the HIV test was purchased from a local pharma supplier, which facilities did when they were stocked out of government-provided HIV rapid tests.

[12] See local news story.

[13] One potential area of advocacy for the program would be inclusion of syphilis treatment among the services provided for free to women who are HIV+. Since being co-infected with HIV and syphilis increases the risk of mother-to-child transmission of HIV, there are arguments to be made for ensuring syphilis treatment is free for HIV+ pregnant women.

[14] The initial goal was to begin shifting toward universal health coverage in 2020. This was disrupted by COVID but initial activities are likely to commence in the next year.

newborns is being finalized, one potential leverage point would be advocating for inclusion of syphilis screening and treatment among the services covered by the 'cheque sante'.

Overall, it will be important for the program to evaluate how out-of-pocket expenditures impact pregnant women's access to syphilis screening and treatment. Should significant gaps in coverage emerge due to women's inability to pay, it is recommended that the program seek funders who can donate these commodities or identify other policy solutions[15] to reduce the need for women to pay out of pocket for syphilis care.

Antenatal Care

In Cameroon, according to the 2018 DHS survey, 87% of pregnant women have attended at least one antenatal care visit over the course of their pregnancy. These visits occurred among the following facility types:

- 45% in a public medical center or integrated health center
- 24.5% in a public hospital
- 17% in a private hospital (approx. half took place in a faith-based facility)
- 14.5% in a health center (all of these were faith-based facilities according to the survey questionnaire as a non-faith-based health center was not specifically included among the answer options)

More recently, there were 785,253 first ANC visits in 2020 reported via DHIS2 (out of an estimated 943,796 pregnant women in the country).[16] Taken together, the facility reported data suggests that 83.2% of pregnant women attended at least one ANC visit.[17]

ANC coverage has not yet reached the WHO target of 95% likely due to women's inability to reach a healthcare facility and the costs of seeking antenatal care. Despite these challenges, the vast majority of pregnant women do attend ANC in Cameroon, and so the program is likely to reach most pregnant women with syphilis screening and treatment by focusing on healthcare settings.[18]

Coverage & Barriers to HIV and Syphilis Screening and Treatment in Pregnancy

The scoping visit uncovered three estimates of HIV screening coverage among pregnant women, all of which are largely in agreement with each other:

- GAMS/UNICEF: The Cameroonian government reported that 86.2% of pregnant women were screened for HIV during antenatal care in 2018. This is an increase over previous

[15] Other policy solutions may include: (1) ensuring that syphilis screening and treatment are included under the services covered by the universal health coverage program; (2) setting a price ceiling for treatment that would cap how much facilities can charge; (3) setting up a reimbursement system where facilities are paid back for pregnant woman or partner who is treated with benzathine penicillin.
[16] See the 2020 PMTCT Progress Report.
[17] The total number of ANC attendees may be undercounted via DHIS2 as there are some private health facilities who do not use the system, according to the 2020 PMTCT Progress Report.
[18] It may be worth considering integrating the dual test into community HIV testing programs. In this instance, efforts would be needed to leverage the HIV referral network so that women who are positive for syphilis are supported to reach a facility for treatment (regardless of HIV status).

years; HIV screening coverage among ANC-going pregnant women was 78.3% in 2017 and 61.8% in 2015. The data was obtained from a UNICEF database which attributed these point estimates to GAMS.

- 2018 DHS: In analyzing the raw data, 89% of pregnant women reported being tested for HIV during ANC. If pre-test and post-test counseling are taken into account, only 55% of pregnant women aged 15-49 who gave birth in the 2 years preceding the survey recalled receiving pre-test counseling, testing, *and* post-test counseling with results disclosure.
- MoH PMTCT Progress Report: Utilizing facility reported data via the DHIS2, NACC produces a regular PMTCT progress report. In the 2020 report, 709,016 pregnant women were tested for HIV between antenatal care and labor and delivery[19] (out of 785,253 pregnant women who accessed care from a health facility during their pregnancy). Taken together, 90.3% of pregnant women who visited a health facility were tested for HIV over the course of their pregnancy. For the first half of 2021 (through June), 427,155 pregnant women visited a health facility for ANC or labor and delivery; 401,143 (or 93.9%) were tested for HIV.

Based on the multiple sources identified, HIV screening among ANC attendees is above 85% and increasing each year. Furthermore, enrollment in PMTCT among those who are HIV+ is high; 80.2% of HIV+ pregnant women were on ARVs in 2020 (coverage has ranged from 75.7% to 85.8% in the past 7 years). In discussions with NACC and other stakeholders, the barriers to HIV screening, overall, include: (a) difficulty accessing a facility with HIV testing as 14% of health facilities in the country do not provide PMTCT services; (b) facility-level stock outs of HIV test kits, and; (c) cultural considerations[20] whereby women do not feel they have their partner's consent for HIV testing.

To assess syphilis screening and treatment coverage in past years, facility-reported data from the DHIS2 was considered. The number of pregnant women screened each year for syphilis during ANC is depicted in Figure 1.[21] Looking to 2020, there were 785,253 pregnant women who visited a health facility during the course of their pregnancy which therefore yields a syphilis screening coverage of 49.8%. In the same year, the HIV screening coverage was 90.3%; thus, nearly half of all pregnant women are being screened for HIV but not for syphilis.

[19] In the NACC report, the authors refer to pregnant women being 'received' by a healthcare facility, which includes ANC and labor and delivery. In the DHIS form, a facility reports separately if the HIV test took place during ANC or during labor and delivery but we did not look at these indicators directly in the DHIS platform.
[20] These are a larger issue in the northern parts of the country where Islam is the predominate religion.
[21] Evidence Action was not able to obtain the number of 1st ANC visits prior to 2020 and so the number of women screened is depicted rather than the percentage of women screened.

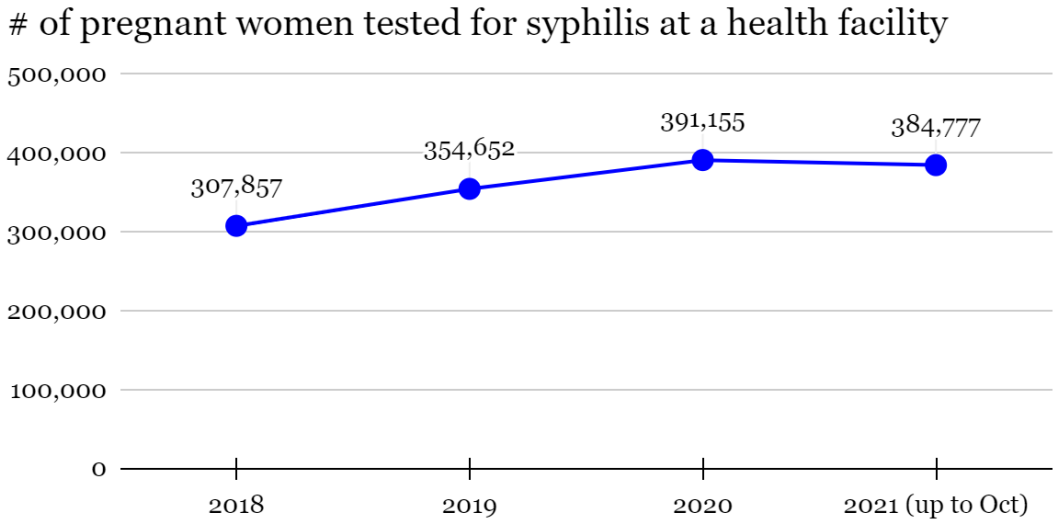

Figure 1: DHIS2 data on the number of pregnant women screened for syphilis annually.

Syphilis screening lags behind HIV screening for several reasons. First, pregnant women are required to pay up to 6.00 USD out of pocket for a syphilis test while HIV testing is provided free-of-charge. Different facilities utilize different practices to ensure women take up the battery of tests required during pregnancy: some only allow access to care when all tests can be paid for up-front, some strongly encourage women to pay for tests based on order of importance and what they can afford from ANC visit to ANC visit, and some generally accept women's inability to afford testing. As a result of these varying practices, syphilis screening coverage varies significantly among health facilities. Outside of cost barriers, facilities may lack the testing commodities themselves. The sentinel survey indicated syphilis screening was absent in some facilities that had HIV testing, suggesting syphilis testing commodities may not be guaranteed at facilities which may have lab services. Furthermore, among the 20,852 HIV+ pregnant women identified in 2020, only 7,072 (or 33.9%) were reported as having received a syphilis test although a syphilis test would be free for HIV+ clients.

Looking at syphilis treatment coverage, facilities report on two relevant indicators in the DHIS2: (1) the number of pregnant women who tested positive for syphilis; and, (2) the number of pregnant women who were treated for syphilis. The available data indicates treatment coverage has been:

- 2018: 63.7%
- 2019: 51.1%
- 2020: 34.6%
- 2021 (up to Oct): 27.8%

Based on this DHIS2 data, it would appear syphilis treatment coverage has been declining since it was first measured in 2018. Syphilis treatment coverage likely falls short of the WHO target of 95% for many of the same reasons which lead to the gap in syphilis screening coverage. Many women cannot afford treatment when they are found positive; the out-of-pocket expenses can be as high as 4.30 USD per dose of benzathine penicillin. There is also assumed to be some

variability in the availability of benzathine penicillin among facilities. Finally, the current reliance on lab-based testing means that women have to return to the health facility after their ANC visit to obtain their results; this delay in care often leads to drop off in treatment.

Adoption of dual testing will address some of the barriers to syphilis screening and treatment coverage, namely the cost of screening will drop to 0.00 USD and women will be provided results same-day so there's no delay in treatment. It is likely that more women will be able to afford treatment once they are no longer responsible for the costs of testing, though this remains to be validated. Developing additional price control policies for syphilis treatment - such as national price setting or vouchers - and coupling this to strong counseling for HIV and syphilis, will ensure most women who test positive for syphilis receive treatment in the long run.

Procurement, Distribution, and Supply Chain Management

How the Supply Chain System Functions

There are two key supply chain actors within the central MoH in Cameroon: CENAME and the Direction de la Pharmacie, du Médicament et des Laboratoires (DPML; Department of Medicines and Laboratory Services). The Centrale Nationale d'Approvissionnement en Medicaments et Consommables Medicaux Essentiels, or CENAME, is the public sector agency responsible for procurement, central warehousing, and distribution of medical commodities. DPML is in charge of regulation and policy governing medical commodities.

Annual forecasting and quantification is done via a national quantification committee which includes supply chain and data staff from various MoH programs (National AIDS Control Committee, National Malaria Control Program, etc.), DPML, and partners who support in supply chain such as UNICEF, Chemonics, etc. Typically, the quantification committee meets near the end of each year and sets projections and procurement plans for the following year. Toward the end of Q1 in the next year, the quantification committee meets again to assess whether any shortfalls are likely and plan for additional procurement if needed.

Following the quantification exercise, CENAME releases tenders and handles the procurement process for anything that is purchased using domestic funds. If a product is not included on DPML's list of products authorized for use in Cameroon, CENAME and the relevant program(s) coordinate with DPML to obtain a waiver as unauthorized products cannot be imported without a waiver.

HIV commodities are procured through a combination of Global Fund funding and domestic resources, with sporadic support from PEPFAR and other partners. The expectation is for Global Fund to cover 80% of the costs for HIV commodities while the government covers 20%. As of now, syphilis testing commodities and benzathine penicillin are largely procured through domestic funds; Global Fund does not support these two commodities as yet.

Once commodities arrive in the country, they are stored in the CENAME warehouse. The first level of distribution then takes place from CENAME to the Regional Funds for Health Promotion (RFHPs).[22,23] The RFHPs then do last mile delivery to health facilities.

Distribution is done through a mixture of push and pull systems. Each program develops a distribution plan that provides a guide for the quantities of each commodity to be distributed. Separate distribution plans are made for each node in the distribution chain (central, regional fund, etc.) by whatever team exists at that node. For instance, the central team at NACC decides on the distribution plan from CENAME to RFHPs while the regional delegation of NACC decides on the distribution plan from the RFHP to the health facilities. In principle, the distribution plans should be based on what is being requisitioned via paper requisition forms (hence, a 'pull' system). If a requisition is missing, a decision can be made to 'push' commodities instead.

The intention is for last mile delivery to facilities to be implemented monthly. The goal is for facilities to submit their requisitions at the same time they provide the DHIS2 forms (by the 5th of the month). Then, the regional fund organizes a validation meeting and produces an approved distribution plan by the 15th of the month. From there, last mile distribution can take place through the 25th of the month and then the process resets.

Gaps in Supply Availability

The biggest challenge in supply chain management as it would pertain to maternal syphilis is that there are recurring stock outs of HIV test kits across all levels of the system. This is largely due to a funding gap for HIV test kits. There is also a changing landscape in HIV test kit consumption that was spurred by the 2019 decision to make HIV rapid testing free of charge; consumption rose dramatically and it's been challenging for the system to keep up. Some partners have been stepping in to address this issue; PEPFAR procured 1.4 million HIV RDTs in 2021 and there's been attempts to more strategically distribute commodities within the regions.

As of now, it's not clear whether the general shortage of HIV test kits impacts pregnant women since most are screened for HIV according to the data available. High HIV screening coverage was also reinforced in the facility visits; a review of the ANC registers at three facilities showed that nearly all pregnant women had an HIV test result noted down. In addition, some facilities resolve their stock out challenges independently by purchasing their own HIV test kits from local pharma distributors when they are stocked out of government-provided test kits. This dynamic will need to be considered further as the dual test since that is not yet readily available from local pharma distributors.

Outside of HIV test kit availability, the other challenges in the supply chain in Cameroon are common among supply chain systems globally. National level forecasting can lack accuracy

[22] There is work being done to decentralize distribution further and create district funds. However, that work is in its early stages and many districts do not have their own funds. Where a district fund exists, it manages last mile distribution to facilities within the district in place of the regional fund.
[23] The RFHPs are parallel institutions to CENAME and are the regional representation of the national health strategy. There are 10 RFHPs, one in each region. Each RFHP has its own warehouse where commodities are received and stored until there is a need to distribute. T

because population data and targets are used rather than consumption data. Facilities can often submit requisition forms late, or may not submit them at all, which can make it hard to develop the distribution plan. There are also challenges in having sufficient fiscal resources within the regional funds to facilitate the last mile distribution; Cameroon is vast and many facilities are difficult to reach. Finally, there is no digital logistics management information system and so it can be challenging to assess consumption and stock levels centrally.

Data Reporting

In the course of the facility visits and discussion with stakeholders, several key data sources related to monitoring and evaluation of an eventual maternal syphilis program were identified. These are:

- ANC register: In Cameroon, health facilities utilize a longitudinal ANC register, which means data from each ANC visit for a single pregnant woman is recorded in the same section with rows for up to 5 visits per client. The register is integrated and so it captures key indicators related to all essential components of an ANC visit. Of particular interest to our program, the register includes a section for reporting on the syphilis test result where the provider can circle "P" for positive, "N" for negative", and "NF" for non fait (translated to "not done" in English). As yet, the ANC register does not include a place for recording syphilis treatment; treatment is captured in the pregnant woman's own prescription booklet and in the outpatient register.

- QA register: The quality assurance (QA) register is intended to record the results of HIV rapid testing. Each client is recorded on one line of the register. The provider indicates whether this is the client's first time being screened for HIV or their second, and records the results of each of the two rapid tests for a given screening (the second is only done if the first is positive). Then, a final HIV diagnosis is noted down and an ARV client code is provided if the patient is HIV+.

- OPD register: Although the outpatient department (or OPD) register was not directly observed, providers informed Evidence Action that the OPD register is the main place where syphilis treatment is captured since pregnant women are treated for syphilis in the outpatient department rather than in the ANC.

- DHIS form: Facilities are required to report monthly via the DHIS form (called the RMA form or Rapport Mensuel d' Activite). Overall, all of the service delivery indicators that would be important to monitoring this program are included: (a) the number of pregnant women tested for syphilis during ANC; (b) the number of pregnant women who were positive for syphilis; and (c) the number of syphilis-positive pregnant women who received treatment.

- Commodity ordering forms: Each program produces their own commodity ordering form. These are produced as large books with carbonless copy paper so that the order form is taken by the district health team and a copy is retained at the facility. For each commodity requested, the facility indicates the amount of stock on hand, the monthly consumption, and the amount requested. The ordering form for the HIV program does

not prespecify commodities but allows facilities to write in the names of whatever they would like to order with space for 12 commodities per sheet.

- Commodity stock cards: Facilities also maintain stock cards to track the internal consumption of commodities. The stock cards include space for the starting quantity, the destination, and the remaining quantity in stock. For instance, a facility received 50 packs of the Shanghai HIV test kit from the regional fund and then notes down as this stock was shifted from the facility's central storeroom to the lab or ANC or wherever it is designated for use.

During the facility visits, it was observed that some facilities will create ad hoc ledgers or recording books to note down all of the ANC clients and their test results for key diagnostics (HIV, syphilis, hemoglobin, etc.). In addition, during their first ANC visit, pregnant women are required to purchase a Maternal and Infant Health Handbook and a Health Board Consultation Book in which their results for key tests like HIV and syphilis and any drugs/treatment provided to the client are noted.

Policy Environment

Syphilis screening and treatment are considered essential components of the antenatal care package. In visiting health facilities, providers continuously reiterated that it was mandatory for all pregnant women to be tested for syphilis at their first ANC visit; in practice, not all pregnant women can access testing, in spite of the guidelines, due to their inability to pay and availability of testing commodities as described above.

In 2021, the NACC released the 'Operational Plan of the National Strategic Plan for the Fight against HIV/AIDS and STIs 2021-2023 of Cameroon'. One of the objectives outlined in the plan is that, by 2023, 95% of pregnant women are to be screened for HIV and have their results disclosed to them.[24] Under this objective, there are a number of goals that relate to HIV/syphilis dual testing including:

- To acquire HIV/syphilis dual tests for pregnant women and then to distribute the dual tests to health facilities and community actors;
- To ensure there are drugs available for treating syphilis in pregnant women and partners;
- To counsel HIV and syphilis infected pregnant women and their partners on the importance of treatment;
- To produce and disseminate HIV and syphilis screening algorithms;
- To train providers and communities on HIV/syphilis dual testing.

[24] There are additional objectives related to screening and treatment of STIs among key populations and among pregnant women, which reflects the MoH's general prioritization of addressing STIs in the country.

This operational plan provides a good framework for the introduction of dual testing. Moving forward, the NACC must incorporate the dual test into the national integrated HIV guidelines to enable broader scale-up of dual testing in Cameroon.[25]

Shifting to a Three Test HIV Algorithm

In 2019, among the updated HIV testing guidelines released by the WHO, there was a recommendation for all countries to shift to a three test algorithm for confirming HIV positivity status to increase the positive predictive value of testing and reduce the number of people who are falsely diagnosed to have HIV. This recommendation was emphasized as especially important in countries considered to have low HIV prevalence (<5%). Cameroon has historically been using two tests to determine HIV positivity, and is considered a low HIV prevalence setting, and so the WHO has been strongly advocating for the country to shift to three tests.

In mid-2021, the WHO supported NACC and DPML to conduct a 'verification study' to assess which sequence of HIV test brands would provide the best performance in positive predictive value. In the study, they assessed brands for a general population algorithm and for an algorithm for pregnant women and partners in which a dual test would be in the first test position. The intention was for the tests in the second and third positions to be the same across the two algorithms. The findings and recommendations from the study were validated in a meeting of stakeholders on December 14th. The 'verification study' recommended the Standard Q SD Biosensor dual test as the preferred test for screening pregnant women with the Abbott SD Bioline dual test as the alternative in case the preferred test was unavailable.

Following the conclusion of the 'verification study', NACC and key partners are shifting toward a piloting / implementation assessment / 'operational study' phase in which the three test algorithm (incl. the dual test in the first position for pregnant women) would be introduced in a set of health facilities and operational research would be conducted to see how easily providers adopted the new guidelines and linked positive HIV and syphilis cases to treatment. The 'operational study' is set to begin in late 2022 or early 2023, once the commodities required for the study are available in the country.

[25] The HIV integrated guidelines were most recently revised in 2019 and are typically revised once every 5 years. In the interim, a 'normative' policy regarding the dual test can be drafted and attached as an addendum to the HIV integrated guidelines.