Scale-up of the DMPA-SC in Nigeria: Why policy matters

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Research Article

Keywords: DMPA-SC, Sayana press, Family planning, Policy implementation, Scale-up

Posted Date: March 2nd, 2022

DOI: https://doi.org/10.21203/rs.3.rs-1231426/v1

Abstract

Background

Injectable contraceptives have made a substantial contribution to the overall rise in the usage of modern family planning methods in Nigeria. They are one of the most commonly used and preferred means of contraception among women in the country. Enabling policies, on the other hand, are required to assure contraceptive access, security, and use. The purpose of this study was to investigate the policy environment and how it affects the introduction and scale-up of subcutaneous Depot-medroxyprogesterone acetate (DMPA-SC) in Nigeria.

Methods

The design of this mixed-methods study was cross-sectional. Desk reviews of policy papers, Key Informant Interviews (KIIs), and In-depth Interviews (IDIs) were used to obtain information from respondents about the introduction of DMPA-SC in Nigeria and how existing policies influenced its scale-up. Data on DMPA-SC and other injectables use were gathered from Nigeria's National Electronic Logistic Management Information System (eLMIS).

Results

The findings suggest that policies such as task-shifting and task-sharing, cost-free policies, reproductive health policies, and others created an enabling environment for the scale-up of DMPA-SC adoption in Nigeria. The inclusion of DMPA-SC on the Essential Medicines List and the Approved Patent Medicines List facilitated the scale-up process by ensuring private sector participation, removing economic barriers to access, fostering greater collaboration among health worker cadres, improving intersectoral partnerships, and improving logistics and client access. Despite significant anomalies in some implementing policies, injectable contraceptive consumption data demonstrate a progressive increase in DMPA-SC use during the study period. The results also indicate that policy initiatives have a favorable impact on the use of DMPA-SC throughout the country.

Conclusion

The existence of policies, active participation of stakeholders, and the political will of the Nigerian health system's leadership have all aided in the scaling-up of the DMPA-SC. Understanding how to build an enabling policy climate is critical for providing women with family planning options. These lessons from Nigeria emphasize the importance of these levers, which should be considered by teams intending to introduce innovative health products, particularly in developing countries.

Background

Subcutaneous presentation of lower-dose depot medroxyprogesterone acetate (DMPA-SC) is a new injectable that is administered under the skin. Sayana Press is a registered trademark of Pfizer Inc.

Sayana Press, the DMPA-SC product available to Family Planning 2020 (FP2020) countries, is manufactured by Pfizer Inc. and combines the drug and needle in the prefilled BD Uniject™ injection system, which was originally developed by PATH (Program for Appropriate Technology in Health). The DMPA-SC in the Uniject™ is a three-month contraceptive. It is one of the convenient and effective family planning methods that may reduce some of the barriers to contraceptive access. DMPA-SC in Uniject can be administered in low-resource, non-clinic settings by a trained lower-level cadre of health workers or even by women themselves (1, 2). Like in other Sub-Saharan African countries, injectable contraceptives are a very popular method in Nigeria, accounting for 22% of the modern family planning method mix (1, 3). In addition, there has been a rising trend in their popularity over the past two decades (4).

DMPA-SC was introduced through the private sector in Nigeria in January 2015 by DKT Nigeria, a nonprofit organization specializing in contraceptive social marketing (5). In 2016, public sector delivery was launched and coordinated by UNFPA Nigeria and implemented through three local non-governmental organizations [NGOs] (6).

Enabling policies are essential to the successful introduction and scale-up of health innovations (7, 8). In Nigeria, there have been several policies aimed at advancing the scale-up of DMPA-SC and self-injection in the country (1). Policy is an essential aspect of family planning programs as it ensures that all that is needed, for example, financial support, guidelines, training, regulations, and supplies, are in place to facilitate uptake of contraceptive use, leading to increased contraceptive prevalence (9). The availability of policies that improve contraceptive access has been shown to increase contraceptive use (10). This paper explored the role of enabling policies in the introduction and diffusion of DMPA-SC and self-injection in Nigeria.

Methods

Study Design

This mixed-methods study was cross-sectional in design. A desk review of policy documents, key informant interviews (KIIs), and in-depth interviews (IDIs) were conducted to elicit information from the respondents. Due to the restrictions associated with the COVID-19 pandemic, the interviews were all carried out over the phone.

Participants and sample

Participants for the KIIs and IDIs were recruited through purposive sampling, based on characteristics of interest, availability, and ability to provide relevant information to the research question (11). The number of interviews conducted was based on the principle of saturation, where no new information was being obtained from subsequent interviews (12, 13).

Data collection

Interviews were conducted by the first author (lecturer and public health physician with Ph.D., male, about 10 years experience in qualitative research) and a research assistant (MPH, male, 3 years experience in qualitative research). Participants were first sent a mail to introduce the researchers (affiliations, professions, specialties, qualifications), the research, and its objectives, to seek their consent to participate in the research and to record the interviews as well as to choose a conducive time for the interviews. Apart from the community resource person, interviews with other participants were conducted at the workplace. Only the participants and researchers were present at the interview. Here, we distinguish KIIs and IDIs as KIIs were done with policymakers and health system managers to generate information, ideas, and explore the main issues surrounding DMPA-SC scale-up and the influence of policies in Nigeria (14). The IDIs, however, pursue profound information and knowledge through the exploration of key themes that emerged from KIIs or have already been reported in the literature with health workers involved in the implementation of the program (15). The IDI and KII guides used to lead the interviews were developed specifically for this study. The interview guides were pre-tested with individuals not participating in the study. The guides covered questions and prompt such as the appraisal of the policy environment for DMPA-SC scale up, the role of stakeholders in the DMPA-SC scale-up in Nigeria, the perceived advantages and disadvantages of DMPA-SC as a form of the modern family planning method, and challenges with the introduction and scale-up of contraceptives, among others (Additional file 1).

KIIs were conducted with two senior managers at the Federal Ministry of Health and also with state/subnational managers at state ministries of health – one state per geopolitical zone. IDIs were conducted with healthcare providers including patent and proprietary medicine vendors (PPMVs), community pharmacists (CPs), junior community health extension workers (JCHEWs), and community resource persons (CORPS). One category of providers in each selected state [two states that are well trained to be chosen purposively, from JSI partners]. IDIs were also conducted with community gatekeepers, two to three per selected state. Transcripts were returned to interested participants to validate that they were true expressions of their views and for them to provide feedback on the study's findings. All participants were at least 18 years old. Health workers that were included in the study had worked at least six months at the location.

Data analysis

The interviews were recorded, transcribed, and analyzed with the aid of the thematic framework approach to qualitative data analysis using NVIVO (version 10). Notes were taken during the interviews to supplement the recordings. Also, three researchers independently coded and later compared and merged their codes to ensure inter-coder reliability (16). In the course of the analysis, emerging themes were also added to already identified themes. Secondary data about DMPA-SC and other injectables' consumption, triangulated from the National Electronic Logistic Management Information System (eLMIS) were used for the quantitative part of the study. The COREQ (COnsolidated criteria for REporting Qualitative research) Checklist was used in the preparation of this manuscript (17). See Additional file 2.

DMPA-SC and other injectables consumption data

Nigeria's consumption data for Depo-Provera, Noristerat, and subcutaneous depot medroxyprogesterone acetate (DMPA-SC, brand name Sayana® Press) from April 2018 to December 2020 were triangulated from the National Electronic Logistic Management Information System (eLMIS). An average of 10,884 facilities nationwide reported within each bi-monthly period. Data from the eLMIS is uploaded into the Access Collaborative Dashboard. The following indicators were included in the analysis:

- Number of DMPA-SC units dispensed to clients, by reporting period
- Number of DMPA-IM units dispensed to clients, by reporting period
- Number of Noristerat units dispensed to clients, by reporting period
- The proportion of service delivery points [SDPs] that are stocked out of DMPA-SC
- The proportion of service delivery points [SDPs] that are stocked out of DMPA-IM
- The proportion of service delivery points [SDPs] that are stocked out of Noristerat

Results

Interviews were done over the phone, and the recordings and transcripts were produced. NVIVO version 10 and the thematic framework method to qualitative data analysis were employed in the analysis (18, 19). Consumption data for DMPA-SC and other injectables were analyzed using Tableau, a public visualization tool, and presented using Microsoft Excel.

As shown in Table 1, a total of 19 participants were interviewed for the study between August to September 2020. There were no refusals, drop out or repeat interviews. Each of the interviews lasted between 30 minutes and one hour. More than half (68.4%) were females, and (68.4%) were aged 40 and up, with a mean age of 42.9 ± 7.9 years. About half (55.5%) were healthcare providers, while about 42% were chosen from family planning partners who have supported the government's role in DMPA-SC scale-up in Nigeria, and one participant (5.6%) was a community resource person.

Table 1
Sociodemographic Characteristics of Participants (N = 19)

Variable	n (%)
Gender	13 (68.4)
Female	6 (31.6)
Male	
Designation	10 (55.5)
Healthcare providers	1 (5.6)
Community resource person	8 (42.1)
Family planning partners	

Please see Table 2 for a comprehensive list of active policies affecting DMPA-SC and self-injection scale-up in Nigeria.

Table 2
Policies and activities aimed at advancing the scale-up of DMPA-SC accelerated introduction in the country

	Policy and Activities	Startup-end date*	Year	Contribution to DMPA-SC scale-up
1	Approval and registration of DMPA-SC branded product by the National Agency for Food and Drug Administration and Control (NAFDAC) for provider administration		2011	This regulatory endorsement paved the way for the legal use of DMPA-SC.
2	Approval of DMPA-SC updated label to include an indication for self-injection		2016	Provided necessary information for the implementation of self-injection.
3	National DMPA-SC accelerated introduction and scale-up plan	Feb 2017-Dec 2017	2018	Provided modalities for coordinating the activities of various stakeholders in the process of introducing and scaling up DMPA-SC.
4	National guidelines for the introduction and scale-up of DMPA-SC self-injection	Oct 2018-Jan 2019	2019	Serves as a guide for the implementation of the DMPA-SC self-injection intervention
5	Revision of task-shifting/task-sharing policy	May 2018-Mar 2019	2019	The TSTS policies allowed the expansion of provider cadre that can administer injectables, inclusive of DMPA-SC. It allowed pharmacists, proprietary patent medicine vendors PPMVs, as well as community-based distributors to administer DMPA-SC.
6	Inclusion of DMPA-SC in the Essential Medicines List (EML)	Sept 2017-Sept 2019	2019	The EML is the list of priority medicines, considered to be most effective, procured by the country to meet the healthcare needs in a health system (39). Inclusion of DMPA-SC in both the prescriptive medicine and Patent and proprietary medicine vendors (PPMV) lists of the document. This review was to allow DMPA-SC to be listed as an essential medicine so it can form part of the national procurement, and also allow dispensing in Nigeria.
7	Inclusion of DMPA-SC in the Approved Patent Medicines List (APML)	July 2018-Dec 2019	2019	The APML, a list of medicines that licensed PPMVs are legally allowed to stock and dispense (40), gave policy backing for DMPA-SC to be stocked and dispensed by PPMVs.

* *These dates reflect when input into the policies was completed not the launch dates. In most cases, implementation of the policies had begun before they were launched.*

	Policy and Activities	Startup-end date*	Year	Contribution to DMPA-SC scale-up
8	The Family Planning Costed Implementation Plan (CIP) 2019–2023 was created and it included DMPA-SC	Mar 2019-Dec 2020	2019	This is aimed at ensuring the integration of DMPA-SC into broader Family Planning programming/reducing siloed support.

** These dates reflect when input into the policies was completed not the launch dates. In most cases, implementation of the policies had begun before they were launched.*

Regulatory approval of DMPA-SC

The National Agency for Food, Drug Administration, and Control (NAFDAC) approved and registered the DMPA-SC branded product for provider administration in 2011. Then, in 2016, NAFDAC approved the DMPA-SC updated label, which included the indication for self-injection. The justification for this approval and registration was thought to be based on evidence of the safety and efficacy of pilot programs from other countries, among other things.

"Justification for approval and registration was provided to NAFDAC based on evidence from all the pilots and even from other countries, you know, neighboring countries those African countries and other countries in highlighting safety, efficacy, based on data from the studies carried out for similar processes in other countries." (Healthcare Provider)

Following the revision of the DMPA-SC label, the FMOH began the full process of incorporating DMPA-SC self-injection into the country's introduction and scale-up plan. The scale-up plan, a 5-year roadmap, lays the groundwork for the long-term integration of the DMPA-SC into Nigeria's healthcare cocktail of family planning methods. (1).

National DMPA-SC accelerated introduction and the scale-up plan

The National DMPA-SC accelerated introduction and the scale-up plan was introduced in 2018. The scale-up plan was developed in response to DKT and UFNPA pilots of DMPA-SC in the southwest and southeast Nigeria in 2015 and 2016, which documented key challenges in implementing DMPA-SC in Nigeria. The respondents confirmed that the plan was created to serve as a road map for the implementation of DMPA-SC as well as to aid in its adoption. Other responses are listed below:

"You know it facilitates the uptake of DMPA-SC by considering some key implementation challenges, and even solutions to address them." (Healthcare Provider)

"Well, the gap is, for me, two things. First of all, set a roadmap because this is a new intervention. This is a new product. That is the DMPA-SC. So, without a policy guiding how this can be ruled out, then it's almost difficult for the state to be able to implement that intervention." (Healthcare Provider)

This policy update was timed to coincide with the conclusion of pilots assessing feasibility, allowing it to serve as a context-informed "roadmap."

Revision of the task-shifting/task-sharing policy

In 2019, the task-shifting/task-sharing policy was revised. This policy allows lower-cadre health workers, such as CHEWs, to perform tasks that were previously reserved only for doctors and nurses. This revision was carried out in response to the difficulties encountered in terms of the health care worker cadre permitted to administer DMPA-SC, according to the responses from the interviews. Some of the responses are provided below in the form of quotes:

"There were difficulties in terms of which health worker cadre could provide it but subsequently, the task-shifting task sharing policy, CHEWs, and even JCHEWs were permitted to give injectable contraceptives." (Family Planning Partner)

"The task shifting and the task sharing policies that allow the lower cadre of providers like the community health officers, the CHEWS, and then also the PPMVs to be able to provide injectable contraceptives including the DMPA-SC is one policy that has also helped to facilitate the accelerated use of DMPA-SC." (Healthcare Provider)

The revision made it possible for more cadres of health workers to administer DMPA-SC, which facilitated its uptake.

"The thing that is very, very clear is that the SOP captures PPMVs and community pharmacists to provide DMPA-SC, you know, but the policy document itself does not because, at the time, we were revising, reviewing it, the sheer accreditation had not been approved by the President at that time. It was still awaiting presidential assent. And I think we're no longer following up on that. But that is a gap. (Healthcare Provider)

The revision of the task-shifting/task-sharing policy emphasizes the importance of supporting documents. While the National DMPA-SC Accelerated Introduction and Scale-Up Plan outlined scale-up processes, it could not be fully implemented in the absence of TSTS policy authorizing DMPA-SC administration by the cadres included in the scale-up plan.

National guidelines for the introduction and scale-up of DMPA-SC self-injection

In 2019, the National guidelines for the introduction and scaling-up of DMPA-SC self-injection were completed. The guidelines were deemed important because they assisted in providing adequate instructions to ensure that self-administration is done safely and properly. According to the health managers:

"So why that guideline is so crucial and adherence to it is very important is because you want to be sure that this woman administers DMPA-SC to herself safely, can follow the instruction, can calculate the next

date for the following dose, and also can keep the used unit safely until she's returning to the facility when she will now have to hand it over to the provider who will check that the used unit is complete." (Family Planning Partner)

"Well, it did focus a little bit. It mentioned a few things on self-injection. Let me see. It mentioned a few components of self-injection but again, I will say most of it is health facility focused. It is around the health worker rather than more of how do we empower women to give themselves the injection." (Family Planning Partner)

The national guidelines for the initiation and scaling-up of DMPA-SC self-injection are especially important because they provided comprehensive guidance and a complete sketch of a woman's journey through self-injection from the point of initiation to administration and follow-up. Following the policy's official launch in April 2019, there was a rapid increase in partner rollout of DMPA-SC training, possibly because partners were now more confident in beginning full implementation of self-injection as part of their FP training. In addition, there was an observable increase in the proportion of DMPA-SC in the injectable method mix from 6–11% (before and after the policy's implementation) and a subsequent trend of continuous increase (20).

Inclusion of the DMPA-SC in the Essential Medicines List and Approved Patent Medicines List

In 2019, DMPA-SC was added to the Essential Medicines List (EML) and the Approved Patent Medicines List (APML). According to respondents, this inclusion increased the country's contraceptive method mix and helped to ensure that the product was easily accessible in both public and private facilities:

"Okay, so for inclusion in the EML and APML of course it improved method mix, so thereby increasing choices for users. Then assured procurement of the commodity because the government buys what is in the EML and then it dispels at batches to enable a wider range of providers. Consequently, still expanding the market and reach to communities, especially hard to reach communities. (Healthcare Provider)

"The inclusion of DMPA-SC also reduced the level of stock out rate through the fact that when there is stock out in the facilities, for example, women can have access to go to the private facility to ask that. And then it aided the last mile for commodity distribution and then an emergency of focal commodities can be procured from government-approved facilities within the country. (Family Planning Partner)

"Without DMPA-SC being on the EML list and as an over-the-counter product, it means that the PPMVs won't be able to stock it and that means refill will be a challenge at the community level. So that's the major thing there". (Family Planning Partner)

As a result of the inclusion of DMPA-SC in the EML and APML, a bridge was created to ensure continuous procurement of the product, which is a critical step in supporting scale-up.

DMPA-SC and Family Planning Costed Implementation Plan

In 2019, the Family Planning Costed Implementation Plan (CIP) 2019–2023 was created, which included DMPA-SC. The inclusion of DMPA-SC was done to ensure a consistent supply of the product while also ensuring a steady demand.

"It ensures that on the supply side, that we make provision for DMPA-SC forecast, quantification and procurement planning. Of course, without the commodity being available, there's nothing you can do around it. So that was the key thing on the supply side. Then, so the other thematic area in the blueprint… was demand generation. Demand generation effort in the country, we have to incorporate DMPA-SC into it. So, all our demand generation activities now are incorporated with DMPA-SC and self-injection. So all these were contributions from the CIP." (Family Planning Partner)

Perceived success levers for scale-up

When asked what they believe are the key success levers for the scale-up of DMPA-SC, some respondents mentioned the Federal Government's collaboration with other implementing partners in the provision of policies and guidelines. Furthermore, the significance of clear policies and a bottom-up approach and guidelines, in which sub-national experiences inform national policies, to stakeholder engagement was emphasized.

"Okay, so, for me, I think the key lever is government buy-in and buy-in of stakeholders. If everybody is on the same page, that's one. Secondly is the availability of evidence as well. You understand. I think these are the two key levers that come to mind now." (Doctor, NGO)

"So awareness is quite very important even among us policymakers as well as program managers and even service providers. Then articulating policies and guidelines to create enabling environment to be all-inclusive. The bottom-up approach has been very effective because of ownership." (Senior Health Manager, FMOH)

Consumption and stockout data for DMPA-SC and other injectables

Figure 1 shows that, while the uptake of other injectables appears to be declining (Noristerat) or plateauing (Depo-Provera), the uptake of DMPA-SC (Sayana Press) gradually increases during the study period. The rise in DMPA-SC consumption was accompanied by a strong linear trend ($R^2 = 0.97$). The increase observed from early to late 2019 appears to correspond with policy interventions – revision of the TSTS policy, the inclusion of DMPA-SC in the EML and APML (all in 2019).

Figure 2 depicts injectable stockout data from April 2018 to December 2020. According to available data, DMPA-SC stockout was higher than that of other injectables in 2019, and stockout for all injectables generally spiked in the second half of 2020. According to the two-tailed, paired T-test, there was no statistically significant difference in stock out rates between Sayana Press and Depo Provera ($p = 0.38$) or Sayana Press and Noristerat ($p = 0.81$).

Discussion

Role of evidence in the policy process

Respondents in this study stated that the DMPA-SC was implemented based on the best available evidence, both internationally and locally. According to researchers, successful policies are those that are evidence-based, specific, and have clear goals. According to Baicker and Chandra (21), evidence-based health policy is critical for making rational policy decisions and for focusing policymakers' and political leaders' attention on health innovations that have the potential to improve people's lives. In addition to evidence, context is critical for successful policy implementation because it influences how evidence is interpreted and utilized. (22). As a result, Nigeria needed to conduct its pilot study on CBD injectable contraceptives by community health workers rather than relying solely on evidence from other African countries before proceeding (23). Furthermore, research has shown that the implementation of health innovations is context-specific, particularly in low- and middle-income countries (LMICs) with varying degrees of health system capability (24). As a result, policy implementation that takes evidence, context, and timeliness into account can withstand the test of time and be replicated in other contexts (21, 22). However, 'evidence' in this situation is a combination of traditional academic evidence and political evidence – efficiently combining these can often be challenging (25).

Imperative of a conducive policy environment for DMPA-SC implementation and scale-up

Furthermore, the findings of this study revealed that the National DMPA-SC Accelerated Introduction and Scale-up Plan, as well as the task-shifting/task-sharing policy revision, created a favorable environment for the DMPA-SC's implementation and diffusion in the country. According to research, the availability of contextual policies aids in better engaging stakeholders in the provision of equitable health services, thereby closing the gap in the delivery of health services, such as the DMPA-SC, to those living in poverty (26). What is more, the lack of a favorable policy environment has been identified as a major reason why some proven effective innovations are not being successfully scaled up in LMICs (24, 27).

Furthermore, participants in this study stressed the significance of national guidelines for the introduction and scaling-up of DMPA-SC self-injection in safely providing DMPA-SC to interested women. The guideline provides the necessary information for the implementation and uptake of a self-injection plan by covering most issues from policy, advocacy, logistics, client and provider training, demand generation, and monitoring.

Implications of policy inconsistencies in the scale-up process

Despite the aforementioned, a critical examination of some of the policy documents reveals contradictory instructions and a lack of clarity in the guidelines. For example, the TSTS Standard Operating Procedure (2) states that PPMVs and other community-based health workers can "counsel, initiate, and maintain injectable contraceptives" whereas the Self-injection guidelines (28) outlines that PPMVs are only allowed to refill, follow-up, counsel, mobilize the community, and refer. This contradicts an important

feature of effective policy, as previously described – specificity, consistency, and clarity of goals. The impact of ambiguity on policy impact has been documented in the literature (29-32). It may also exacerbate role conflicts (33) as well as inter-cadre rivalry, which has historically negatively affected the Nigerian health system (34, 35).

According to the results of this study, the inclusion of the DMPA-SC in the Essential Medicines List (EML) and the Approved Patent Medicines List (APML) in 2019 contributed to women's choices by broadening the contraceptive method mix. When national procurement of DMPA-SC begins, the inclusion will ensure long-term access to the commodity by ensuring availability from both private (patronized by approximately 60% of patients) and government-owned health facilities (36). Furthermore, the inclusion of the DMPA-SC in both the EML and the APML ensures that injectable contraceptives can be provided by private providers (36).

The Family Planning Costed Implementation Plan (CIP), as demonstrated by the findings of this study, ensures a balance between the demand for and supply of contraceptive commodities (including the DMPA-SC) as well as everything in between. In Nigeria, the CIP serves as a multiyear coordinated plan to achieve government goals and assists in allocating limited resources to the products and methods that will have the greatest impact in achieving these goals. According to the Health Policy Project (37), CIPs are critical frameworks that assist governments in achieving their family planning objectives effectively and efficiently. CIPs are detailed plans that cover a variety of family planning thematic areas such as demand generation, contraceptive security, service delivery, access, financing, stewardship, and accountability (37, 38). As a result, CIPs are critical to the successful implementation and scale-up of health innovations such as the DMPA-SC.

Limitations

This study, like any cross-sectional study, does not imply any causality between the described levers and effective policy implementation. Furthermore, even though respondents were assured of complete confidentiality, social desirability bias and recall bias are both possible. This study, on the other hand, provides valuable lessons for public health program implementers, particularly in LMICs.

Conclusion

Policies must be put in place to allow for the introduction of new health products. These policies should be evidence-based, detailed, consistent, and have defined objectives. Effective policies should be contextual, timely, and involve all stakeholders, in addition to being evidence-based. The scale-up of the DMPA-SC has been aided by policies in place, active participation of stakeholders, and the political will of the Nigerian health system's leadership. Furthermore, client-centered innovations, such as self-injection, aided in contraceptive usage. The health leadership's policies and efforts, in conjunction with stakeholders, created an enabling environment for the introduction and scale-up of the DMPA-SC, albeit some inconsistencies in the policies make implementation potentially chaotic. Understanding how to establish an enabling policy climate is critical as we strive to empower women with family planning

options. These lessons from Nigeria emphasize the importance of these levers, which should be considered by teams intending to implement innovative health products, particularly in low- and middle-income countries.

List Of Abbreviations

APML	Approved Patent Medicines List
CORPS	Community resource persons
CP	Community Pharmacist
DMPA-SC	Subcutaneous Depot-medroxyprogesterone acetate
DMPA-IM	Intramuscular Depot-medroxyprogesterone acetate
eLMIS	Electronic Logistic Management Information System
EML	Essential Medicines List
IDI	In-depth Interview
JCHEW	Junior Community Health Extension Worker
JSI	John Snow Inc.
KII	Key Informant Interview
NGO	Non-governmental organization
PPMV	Patent and Proprietary Medicine Vendors
SDP	Service Delivery Point
UNFPA	United Nations Population Fund

Declarations

Ethics approval and consent to participate

Ethical approval for this study was obtained from the National Health Research Ethics Committee of Nigeria (NHREC Approval No.: NHREC/01/01/2007-18/01/2021). Verbal informed consent was obtained from participants since the interviews were done over the phone due to the COVID-19 pandemic. This method was approved by the NHREC. They were made aware that participation was entirely voluntary and that there would be no consequences or repercussions for refusing to participate in the study.

Participants' privacy was protected by ensuring that the initial self-introduction made by respondents at the start of each interview was not recorded to maintain confidentiality during analysis.

Consent for publication

Not applicable.

Availability of data and materials

Data for this study are available upon request.

Competing interests

The authors declare that they have no conflict of interest.

Funding

The PATH-JSI DMPA-SC Access Collaborative provides data-driven technical assistance, coordination, resources, and tools to ensure that women have access to DMPA-SC self-injection as part of an expanded range of contraceptive methods, delivered through informed choice programming. The Access Collaborative is led by PATH and John Snow Inc. and funded by the Bill & Melinda Gates Foundation and the Children's Investment Fund Foundation. The funders had no role in the conception, data collection, analysis, or interpretation.

Authors' contributions

The study was conceived by AA and designed by OA, EE, ND, and OL. The data were collected by OA, OL, AA, and KA while OA, AA, and OL produces the first draft of the manuscript. All authors, OA, ND, AA, EE, KA, and OL, read, commented on, and approved the final version of the manuscript.

Acknowledgments

We appreciate Dr. Ado Danladi for facilitating access to key informants who participated in this study. We would like to thank all the participants in this study.

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Figures

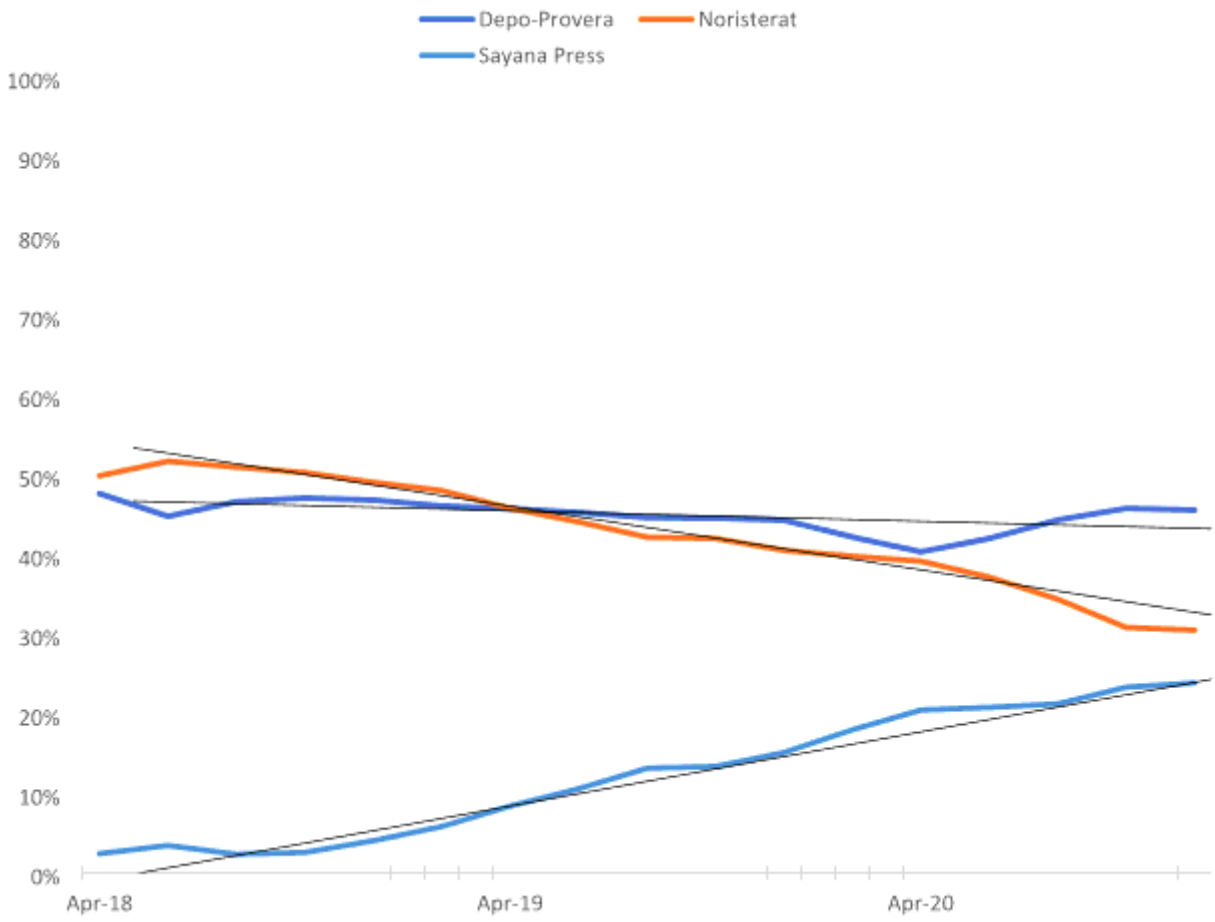

Figure 1

Injectables consumption over time

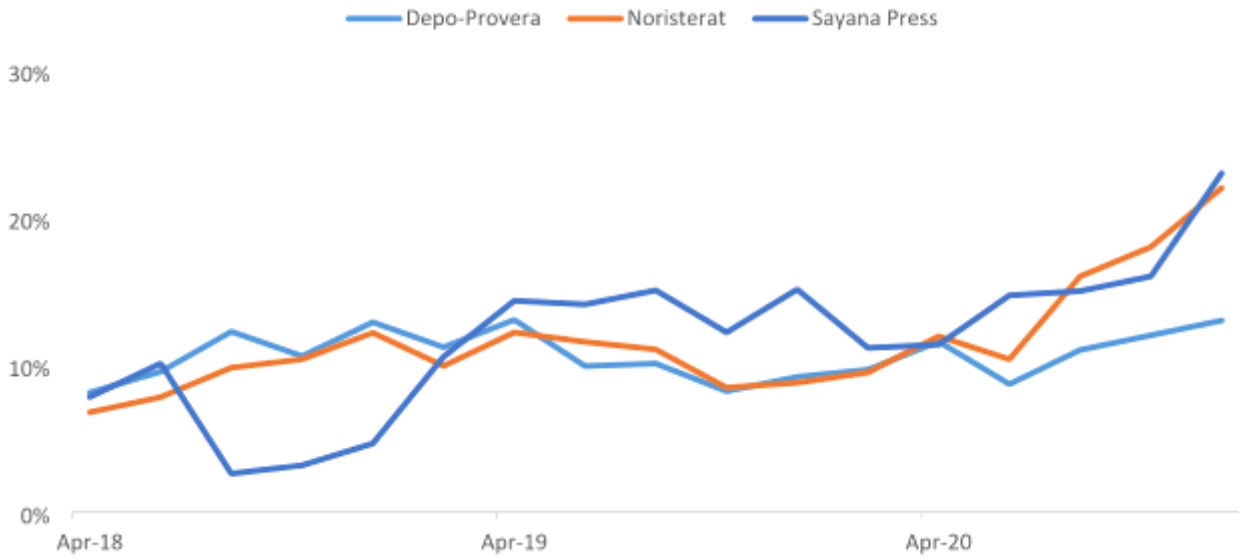

Figure 2

Stockout of injectables over time

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Additionalfile1whypolicymattersOOA.docx
- Additionalfile2ISSMCOREQChecklist.pdf