



USAID
FROM THE AMERICAN PEOPLE



THE NEXT-GENERATION INJECTABLE, A NEXT-GENERATION APPROACH

**INTRODUCING DMPA-SC SELF-INJECTION THROUGH
PRIVATE PROVIDERS IN ZAMBIA**

Tanvi Pandit-Rajani, Senior Strategy Lead, JSI

Ariella Bock, Senior Technical Advisor, JSI

Mika Bwembya, TMA and Public Health Supply Chain Director-USAID DISCOVER-Health, JSI

Lina Banda, RMNCH Advisor-USAID DISCOVER-Health, JSI

JSI Research & Training Institute, Inc.
2733 Crystal Drive, 4th Floor
Arlington, VA 22202

Recommended Citation

Pandit-Rajani, Tanvi; Ariella Bock, Mika Bwembya, Lina Banda. July 2019. The Next Generation Injectable, A Next Generation Approach: *Introducing DMPA-SC Self-Injection Through Private Providers in Zambia*. Arlington, VA: Advancing Partners and Communities Project; and Zambia: USAID/DISCOVER-Health Project, JSI Research & Training Institute, Inc.

This publication was produced by Advancing Partners & Communities (APC), a cooperative agreement funded by the U.S. Agency for International Development under Agreement No. AID-OAA-A-12-00047, beginning October 1, 2012. The authors' views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the United States Government.

This report is also made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this report are the responsibility of JSI Research & Training Institute, Inc. (JSI) and do not necessarily reflect the views of USAID or the United States Government.

Cover Photo: Matchboxology

Project Description

JSI Research & Training Institute, Inc. (JSI) implements projects globally to strengthen health systems and improve access to and use of family planning (FP), maternal and child health, and HIV services. The activity presented in this report was supported by the following two U.S. Agency for International Development (USAID)-funded projects:

The **Advancing Partners & Communities (APC)** project, led by JSI in collaboration with FHI 360, catalyzed advance global learning and provided technical assistance to governments and local partners on community-based family planning (CBFP) and other health areas. APC operated in over 40 countries, including Zambia. One of APC's key initiatives was to support a systems approach to CBFP. As part of this effort, APC worked from policy to service delivery to improve linkages across health system actors and sectors to facilitate a holistic approach to program scale-up, including better engagement of the private sector. APC contributed to the global knowledge base for the total market approach (TMA), demonstrating FP provision through multiple distribution channels including drug shops, pharmacies, and community health workers. From 2014 to 2019, APC provided grants and technical assistance to ChildFund to scale up intramuscularly administered DMPA (DMPA-IM) through community health workers. Building on these efforts, APC and the USAID DISCOVER-Health projects partnered to leverage global and country expertise and increase access to subcutaneously administered DMPA (DMPA-SC) through new channels, including the private sector.

The **USAID DISCOVER-Health** project, led by JSI in collaboration with the Palladium Group, aims to improve the lives of Zambians by ensuring equitable access to and use of a variety of high-quality services and products, including FP. The project works at the national, district, and community levels, using a health model that aims to maximize the relative strengths of the public and private (commercial and non-commercial) sectors to deliver health products and services that reach all beneficiaries and health consumer markets. The project is a strategic partner of the Zambian Ministry of Health (MOH) at national, provincial, and district levels for TMA in service and product delivery. Through the FP technical working group (FPTWG), USAID DISCOVER-Health collaborated with the MOH and partners to develop The National Plan for the Introduction and Scale Up of Subcutaneous DMPA (2018–2021), which considers the role of all sectors and service delivery channels, including private health providers.

ACKNOWLEDGMENTS

This report captures learning from a range of activities designed to inform policy and program investments for scaling scaling-up DMPA-SC self-injection through a total market approach. The authors of the report would like to acknowledge the following individuals and teams (listed alphabetically):

- **DMPA-SC Self-Injection Pilot Design Team:** Lina Banda, (JSI), Ariella Bock (JSI), Mika Bwembya (JSI), Dr. Muka Chikuba-McLeod (JSI), Dyness Kaluba (MOH/Zambia), Dr. Angel Mwiche (MOH/Zambia), Tanvi Pandit-Rajani (JSI).
- **JSI Team:** Katherine Beal, Luigi Ciccio, Elizabeth Creel, and Caitlin Dunn, for technical inputs and support during design and implementation, Caddi Golia for support with analysis, Julie Ray for editing, and Suzanne Slattery for layout and graphics in this report.
- **Matchboxology:** Jason Coetzee and Cristin Marona for their support in gathering key stakeholder perspectives and facilitating a creative and interactive human-centered design workshop.
- **Research Assistants:** Inonge Likombe, Aaron Ndhlovu, and Mwaniyesa Phiri for their commitment to high-quality data collection and other support to the pilot health facilities.
- **Self-Injection Sub-Committee of the MOH Family Planning Technical Working Group Team:** Lina Banda (JSI), Mika Bwembya (JSI), Dyness Kaluba (MOH/Zambia), Maxwell Kasonde (MOH/Zambia), Christopher Mazimba (MOH consultant), Monica Mutesa (PATH), Ruth Nkhata (MOH/Zambia), and Gina Smith (Society for Family Health) for their valuable inputs throughout the design and implementation of this activity as well as the formulation of recommendations provided in this report.
- **USAID/Washington and USAID/Zambia:** Kimberly Cole, Marguerite Farrell, Melissa Freeman, and Musonda Musonda for overall support and guidance to ensure implementation of this activity and technical review of this report.

ACRONYMS

APC	Advancing Partners & Communities	IEC	information, education, and communication
BISO	Bwafwano Integrated Services Organization	IM	DMPA-IM
DMPA	DMPA administered intra-muscularly. Known commonly by the brand name Depo Provera®	IRB	institutional review board
DMPA-SC	DMPA administered subcutaneously. Known commonly by brand name Sayana® Press	JSI	JSI Research & Training Institute, Inc.
CBD	community-based distributor	mCPR	modern contraceptive prevalence rate
CBFP	community-based family planning	MOH	Ministry of Health
CHW	community health worker	MOU	memorandum of understanding
FP	family planning	MSL	Medical Stores, Ltd.
FPTWG	family planning technical working group	OOP	out-of-pocket
GDP	goods distribution practice	SC	DMPA-SC
GNC	General Nursing Council of Zambia	SI	self-injection
GRZ	Government of Zambia	TMA	total market approach
HCD	human-centered design	UNZA	University of Zambia
HF	health facility	USAID	United States Agency for International Development
HMIS	health management information system	USD	US dollar
HPCZ	Health Professionals Council of Zambia	WHO	World Health Organization
		ZAMRA	Zambia Medicines Regulatory Authority
		ZMW	Zambian kwacha

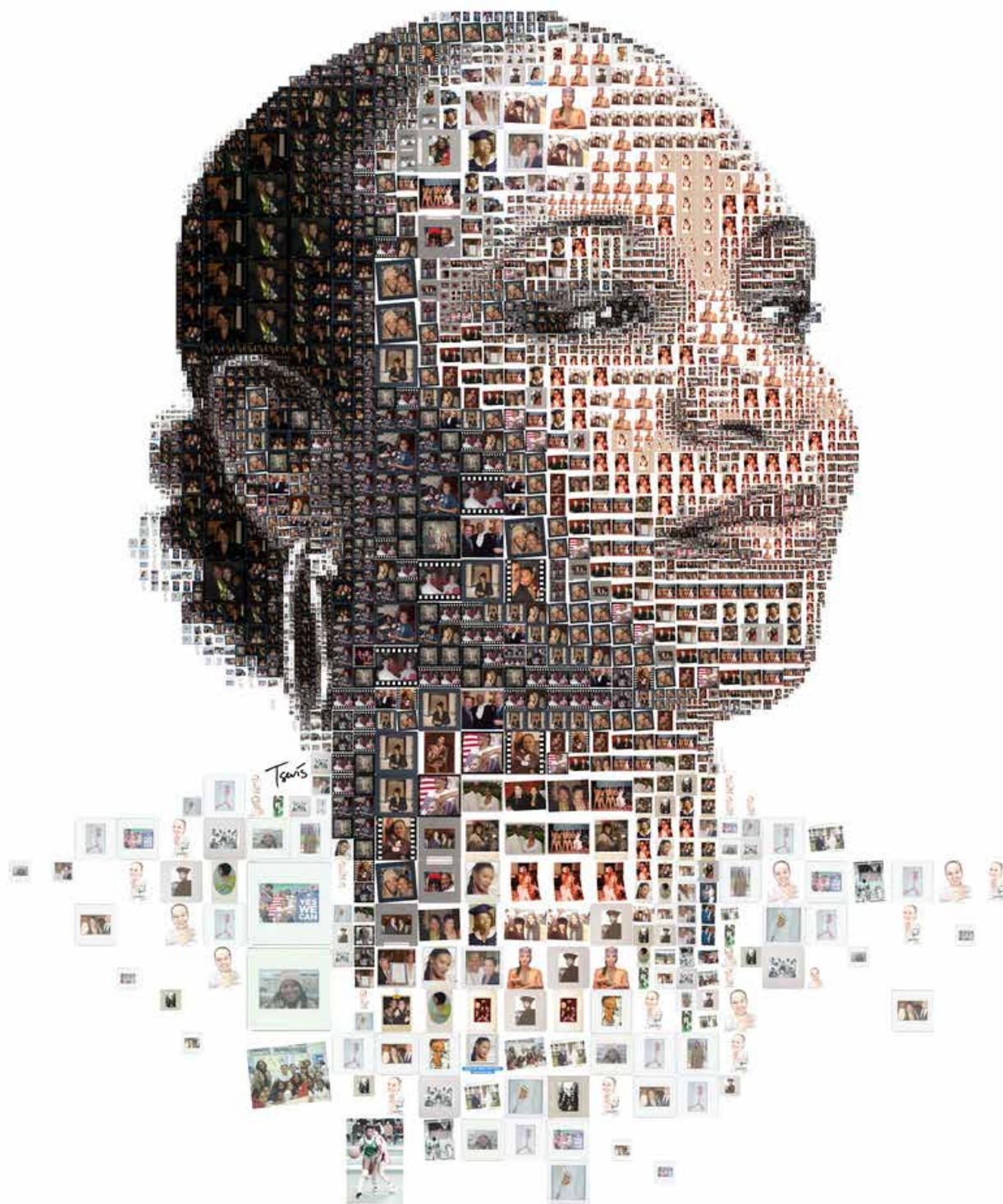


TABLE OF CONTENTS

01	03	06	07
EXECUTIVE SUMMARY	INTRODUCTION	PURPOSE	APPROACH

12	19	20
FINDINGS	CONCLUSION	REFERENCES

21	21	Annex A: Detailed Recommendations for a Systems Approach in Zambia
ANNEXES	26	Annex B: Putting Recommendations into Practice: A Targeted, Phased Approach by Sector
	32	Annex C: Registration Data



EXECUTIVE SUMMARY

Introduction: From 2014 to 2018, numerous studies conducted in sub-Saharan Africa demonstrated the feasibility and acceptability of Sayana® Press among providers and clients. Generically known as DMPA-SC, Sayana® Press is a new-generation injectable contraceptive that can be self-administered. In 2017, a price reduction (from \$1.00 to \$0.85 per unit) paved the way for DMPA-SC programs in developing countries worldwide. By that time, a large body of evidence was available on DMPA-SC introductions within public sector and community health settings, with limited, if any, experience with private provision of DMPA-SC self-injection. In 2018, Zambia initiated a strategy development process to introduce and scale up DMPA-SC, which called for private sector engagement.

Purpose: The purpose of this activity was to generate experience from a DMPA-SC self-injection pilot in the private sector to inform country and global learning, and to provide the Zambian MOH with operational recommendations for policy and program planning. The primary objectives of the activity were to: 1) understand experiences with a newly adapted and customized client-centered DMPA-SC self-injection training model, including clients' willingness to pay for the product; and 2) identify health system relationships, barriers, and solutions for national scale-up in Zambia.

Approach: In partnership with the Zambian Ministry of Health (MOH), we designed and applied a client-centered approach that reflected the specific needs and desires of private health sector clients and providers. We adapted and tailored globally available DMPA-SC training materials and methodologies designed largely for a public sector context to a private sector setting. Over a four-month period, we enrolled private sector family planning clients interested in DMPA-SC self-injection, and assessed their experience and willingness to pay for the product. Through use of a human-centered design (HCD) approach, we gathered insights from a wide array of stakeholders (e.g., policymakers, donors, private health providers, clients) and engaged them in developing policy and program solutions based on learning from the DMPA-SC self-injection pilot. Clients learned about DMPA-SC self-injection through FP providers or by word of mouth.

Findings: The private sector pilot demonstrated that a shorter training format, that incorporated an e-learning video and individual consultation, was effective for training clients in DMPA-SC self-injection. Ninety-four percent of 114 women who were interested and willing to participate in the pilot successfully self-injected in the presence of a provider and took an SC unit home; 91 percent of women self-injected on time without additional interactions with a provider. Private providers spent an average of 14 minutes with each client. Nearly all women who self-injected at home reported willingness to pay at least 15 Zambian kwacha (ZMK) (~\$1.14) for one unit of DMPA-SC if sold at a nearby pharmacy; more than 60 percent were willing to pay 25 ZMK (~\$2.00) or more if sold nearby. We mapped a client's journey through the health system, including pathways for self-injection training and resupply of additional units, which revealed the complexities, interconnections and opportunities to widely scale DMPA-SC self-injection across all levels and sectors in the health system. Insights and joint dialogue from the HCD approach highlighted important market dynamics and relationships between the public and private sectors and underscored the critical need to answer operational questions related to policy, finance, product pricing, supply chain, training, consumer education/communication, and the service delivery model prior to implementation. Based on stakeholder interviews and a highly participatory HCD workshop, we developed and provided the Zambian MOH with recommendations for a phased, targeted DMPA-SC self-injection scale-up based on a total market approach.

Conclusion: As countries embark on scaling up DMPA-SC, policies and implementation plans must address the system interactions and relationships between the public and private sectors, and in particular, the different needs and preferences of clients they serve. The product's unique self-injection feature requires a new approach to service delivery to ensure women have greater choice and agency over their reproductive health. This activity demonstrated that a shorter DMPA-SC training format was effective for training private providers and their clients in self-injection, and that most women who participated in the pilot are willing to pay a price similar to or higher than the negotiated donor price of \$.85 per unit. An HCD process can be effective in engaging

and gathering insights from a wide array of stakeholders, including pharmacists and other private sector actors, to co-design solutions as part of policy and program planning. With only one DMPA-SC product available in the global market, the authors strongly encourage Zambia and

other countries committed to engaging the private sector to consider a phased, targeted approach using market segmentation to strengthen public and private sector coordination, minimize product leakage, and ensure quality standardization across all service delivery channels.



INTRODUCTION

Sayana® Press (DMPA-SC) Overview

Sayana® Press is a new-generation injectable contraceptive that is administered subcutaneously through the prefilled Uniject™ system, an auto-disable injection device that combines the drug and needle. Containing 104 mg per 0.65 mL dose of depot medroxyprogesterone acetate (DMPA), Sayana® Press (generically referred to as DMPA-SC) is a lower-dose formulation than intramuscular injectable Depo-Provera®. In 2017, a joint collaboration among Pfizer, the Bill & Melinda Gates Foundation, and the Children's Investment Fund Foundation led to a price reduction for Sayana® Press—from \$1.00 USD to \$0.85 USD per dose, comparable to the price of Depo-Provera®—for qualified purchasers. The new price point paved the way for Sayana® Press introduction and scale-up in developing countries worldwide. For the purposes of this report, Sayana® Press and Depo-Provera® (DMPA-SC and DMPA-IM) will be referred to as SC and IM, respectively.

In 2015, following studies in the European Union and Ethiopia, the World Health Organization issued technical guidance recommending self-injection (SI) of SC in contexts where women have information, counseling, training, and support.¹ Additional studies conducted in sub-Saharan Africa between 2014 and 2018, including Malawi, Senegal, and Uganda, demonstrated the feasibility and acceptability of women to self-inject SC.^{2,3} Subsequent studies also showed that women who self-injected had significantly higher rates of continuation than those receiving provider-injected SC.^{4,5}

Based on the findings from these studies and new global guidance, countries have begun to introduce SC into their programs with plans to scale-up widely. To date, most introductions have focused on provider-administered SC. Increasingly, governments and their partners are working through important policy and programmatic design elements to enable effective scale up of SC self-injection. Across countries, common considerations for SC introduction include the type and level of providers allowed to administer and/or train clients in SC; the client training and proficiency requirements for self-administration; supply chain and long-term product availability, and the channels for service delivery (public, private, facility-level, community-based, etc.), in particular the role of the private sector, including pharmacies.



To advance these discussions and ensure a coordinated, systematic rollout, donors launched global initiatives to support country scale-up plans for SC. The Coordinated Supply Planning Group on DMPA-SC was established to quantify, track, and manage global SC supply for country programs. Additionally, the DMPA-SC Access Collaborative project provides coordination support and technical assistance to ministries of health and partners in approximately 10 countries, including Zambia. Through these programs a range of materials and tools—including quantification and storage guidelines, training curricula for providers to administer SC and train clients to self-inject, and job aids for clients and providers—have been developed for country adaptation.^{6–8}

A Total Market Approach for SC in Zambia

Zambia's Injectable Market

In Zambia, contraceptives, including injectables, are largely donated. In recent years, the growing demand for modern contraceptives has coincided with shifts in donor priorities and funding, leading to product shortages. At the same time, the government has committed to increasing the modern contraceptive prevalence rate among married women from 32.7 percent to 58 percent and reducing unmet need for contraception from 27 to 14 percent by 2020. To help achieve these goals, Zambia's 2013–2020 National Integrated Family Planning Plan calls for better coordination and engagement with the private sector to help expand family planning (FP) services.⁹

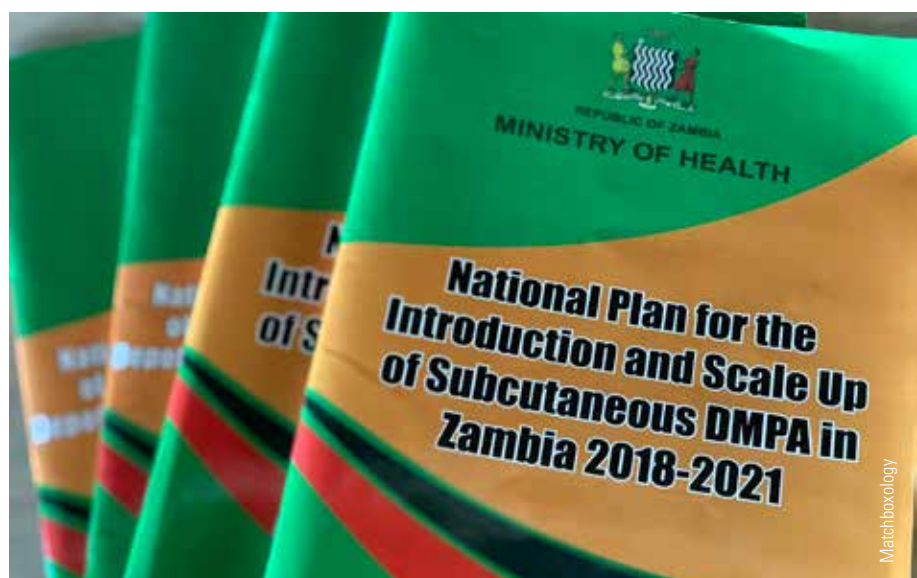
Injectable contraceptives (i.e, Depo-Provera®), have been the most popular and fastest growing modern method in Zambia, with prevalence more than doubling, from 18.3 percent in 2001 to 43.4 percent in 2013 among all women using modern contraception. As of 2013, over 90 percent of injectable users sourced the product from public sector facilities.

Additionally, use of injectables was higher in rural compared to urban areas across almost all wealth quintiles.¹⁰ The popularity of the method has continued to rise. From 2010 to 2016, the total number of IM units distributed through the public sector system almost tripled, from 931,000 to almost 2.5 million. In total, over 12 million

units were distributed during this period. In 2017, findings from Zambia's Total Market Approach (TMA) Landscape Assessment recommended diversifying channels of service delivery, particularly through the private sector, not only to meet demand but also to reduce pressure on the government to provide contraceptives for all.¹⁰

In early 2018, the Ministry of Health (MOH) initiated plans to introduce and scale up SC, following a pilot that utilized community-based distributors to administer SC in three districts. Recently developed national policies and plans reflect TMA as an important strategy for DMPA-SC scale-up in Zambia.¹¹

“In urban areas, pharmacies and private clinics are an important source for contraceptives. DMPA-SC will be added to the method mix, and efforts will be made to bring on board the rest of the private facilities to provide FP services through Public Private Partnership/TMA strategies.”



“The government is encouraging coordination of the private sector, cooperating partners and civil society in the implementation of family planning services.”

“Designing and implementing total market approach strategies can help define and maximize the respective roles of various sectors, to improve equitable and sustainable access to and use of family planning services and products for Zambian women of all economic classes.”

“DMPA-SC will be integrated in the FP method mix at all levels of the national health care system in both the public and the private sectors.”

TMA Definition and Concepts

TMA aims to increase equity and sustainable access to cost-effective health products and services by maximizing the comparative advantage of the public and private sectors by:

- Better targeting of free or subsidized products.
- Providing information and education on specific health products and services.
- Reducing supply chain inefficiencies and overlap across sectors and programs.
- Designing and implementing policies that encourage private sector engagement and growth in the health system.
- Coordinating market players (public, private-for-profit, nongovernmental organizations [NGOs], donors, implementers, etc.)

TMA builds upon business principles of market segmentation, targeting products and services through a variety of channels and approaches that respond to the needs and preferences of specific populations. Using a variety of marketing techniques, products/brands are positioned to appeal to different consumer groups. For example, in the global health sector, donors have a long history of applying these concepts through investments in social marketing programs, to generate demand and increase use of subsidized brands that are marketed to specific population groups. The increasing diversity of the public-private mix within health systems, and the challenge of public programs to sustainably meet the health needs of their population, requires a TMA that leverages the comparative advantage of all sectors – public, non-profit, and for-profit – to achieve equity, efficiency, and sustainability in health programming.

Types of Market Segmentation

Market segmentation is a strategy that recognizes that markets are not homogenous, and so groups people by characteristics, preferences, or needs. It enables an organization to target its limited resources to the most promising opportunities by sorting clients into economically manageable and 'prioritizable' segments, affording a strategic advantage over the competition.¹² Methods of segmentation generally fall into the following categories:¹³

- **Demographic** (age, marital status, wealth, education)
- **Geographic** (urban/rural, region, population density)
- **Psychographic** (lifestyle, personality, interests)
- **Behavioral** (benefits/risks, brand/product loyalty, readiness to buy)

The Marketing Mix

The marketing mix, also referred to as the 4Ps, are the controllable variables that an organization may use to create a desired response in the target market. The concept of the 4Ps was developed in the 1960s with variations of this framework used in marketing today.¹⁴ We've added a fifth P—policy—as an important and relevant element for advancing a TMA in Zambia:

- **Product-** a good or service offered to the target market.
- **Price-** customers' willingness to pay, taking into account costs and competition.
- **Promotion-** communication, advertising, public messaging, etc. about the product/service.
- **Place-** availability and distribution channels to reach target market, linked to promotion channels.
- **Policy-** policy adoption, revision, and/or guidance to advance a TMA.

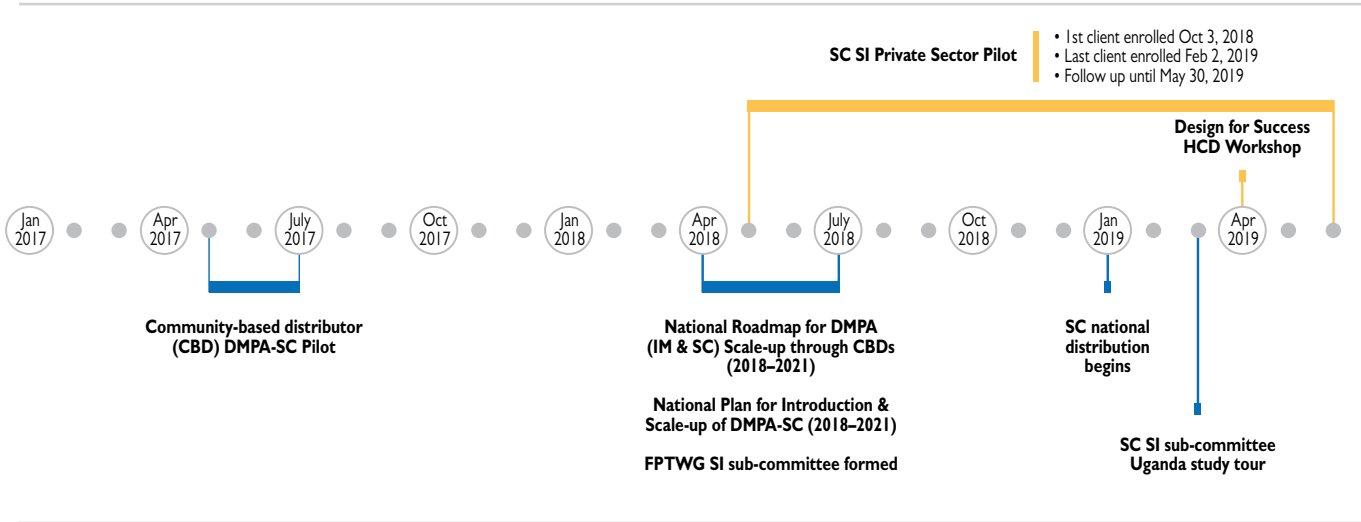
PURPOSE

Donors and national governments, including Zambia's, are increasingly committed to engaging the private sector to help finance and deliver high-quality health care as part of a TMA. Yet, in Zambia, 90 percent of injectables are sourced through the public sector, and largely financed by donors. How might the introduction of DMPA-SC offer new opportunities for the country to design a program that better engages the private sector? To help answer this question and understand the TMA considerations for national scale-up of SC, JSI, through the APC and USAID DISCOVER Health projects, partnered with the MOH, specifically the Self-Injection Sub-Committee of the FP Technical Working Group (FPTWG), to pilot a client-centered approach to SC self-injection with private providers.

The purpose of this activity was to generate experience from a DMPA-SC self-injection pilot in the private sector to inform country and global learning, and to provide the Zambian MOH with operational recommendations for policy and program planning. The primary objectives of the activity were to:

- 1. **Understand client and provider experiences** with a newly adapted client-centered training approach.
- 2. **Describe characteristics** of private sector clients who choose SC self-injection.
- 3. **Understand clients' willingness** to pay for SC.
- 4. **Identify health system** interactions, barriers, and solutions to SC self-injection scale-up.

NATIONAL SC SCALE-UP IN ZAMBIA TIMELINE



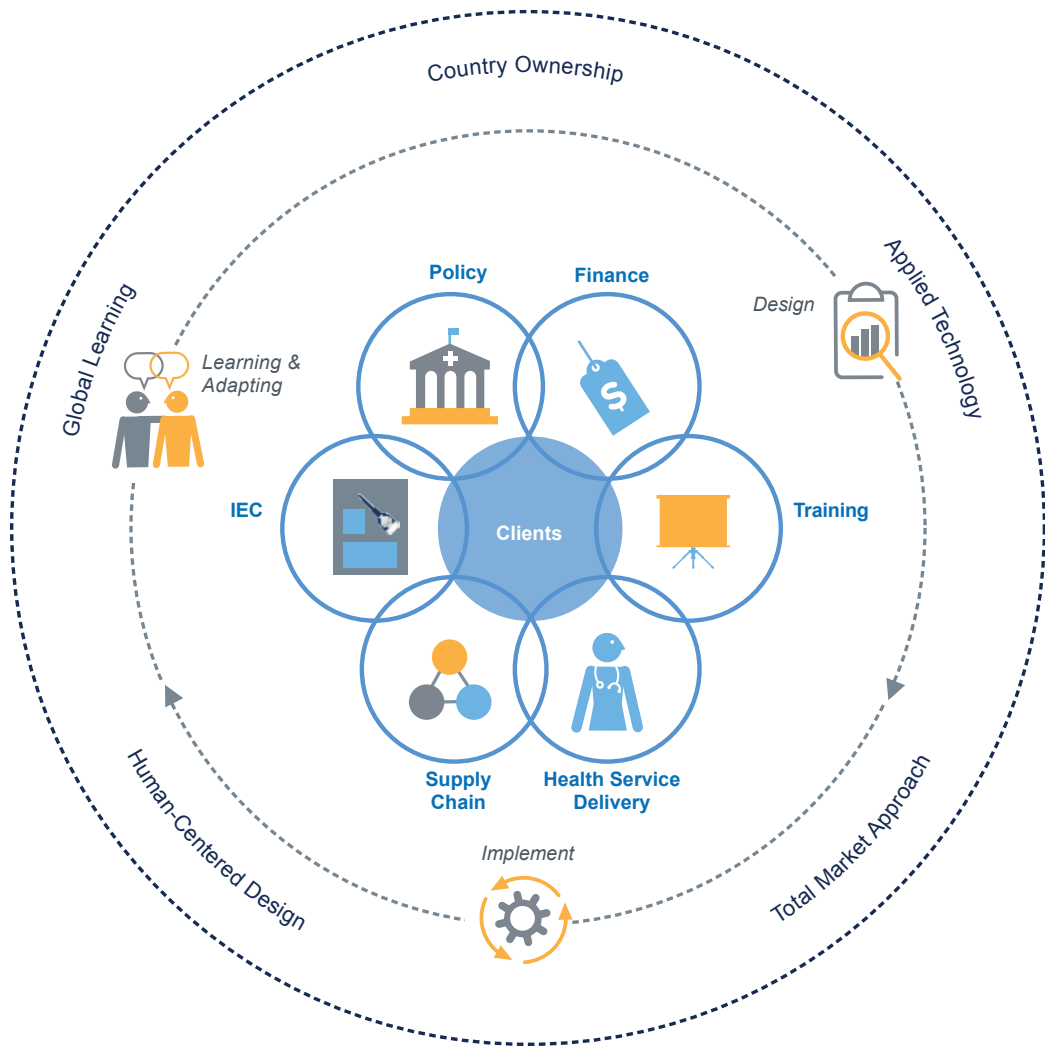
The self-injection pilot was part of the evidence base to inform national SC scale-up in Zambia.

OUR APPROACH

In partnership with the MOH and other health system actors, we collectively designed, implemented, and continuously adapted our approach in response to our learning and contextual changes. As a central aspect of the design, we considered the desires and needs of private sector FP clients and providers as well as the health systems functions most likely to influence a total market scale-up of SC self-injection in Zambia. Our strategic approach aimed to:

1. Engender country ownership by designing the pilot with the MOH as our partners and coordinating with the FPTWG to ensure the pilot was responsive to a rapidly shifting context for SC throughout the implementation process.
2. Integrate total market principles into the overall design by using available market data, engaging private sector actors, and understanding clients' willingness to pay.
3. Apply HCD to understand provider and client experiences with SC self-injection, generate insights on the health system interactions, and engage market actors to co-create solutions for national SC scale-up based on a TMA.
4. Inform global and country learning by capturing and communicating lessons from the SC self-injection pilot and HCD process in Zambia.

A Client-Centered System Approach

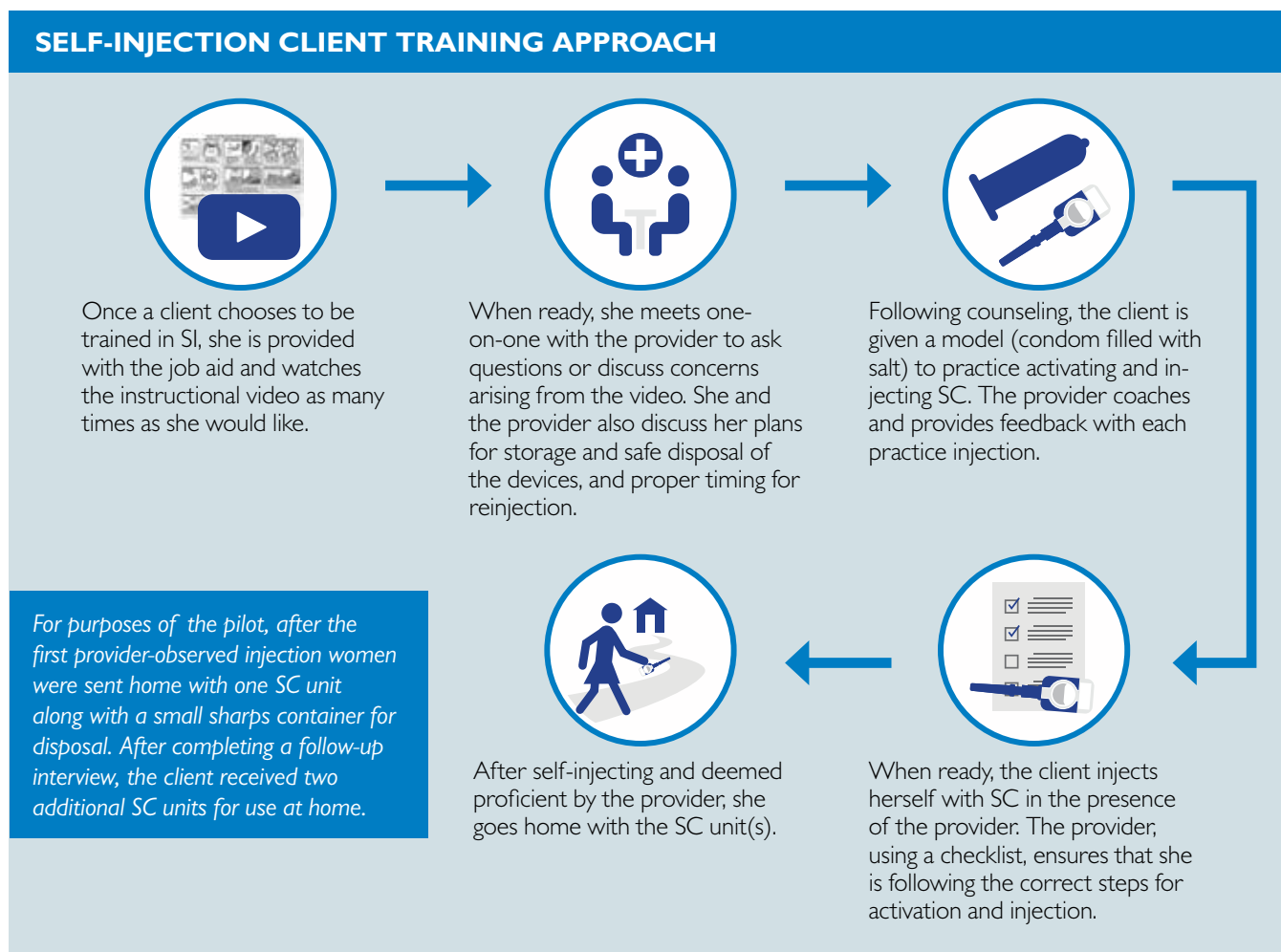


Tailoring Global Training Materials and Methodologies for Private Providers and Clients

FP clients, who seek services in the private sector, are often willing to pay for better convenience, privacy, timeliness, and perceived quality of care. However, the SC self-injection training approach used in previous studies and pilots largely targeted public sector and community health clients and providers, and were relatively long in duration. Hence, we adapted and tailored the content and approach to meet the needs and preferences of private sector clients and providers.^a The training package comprised an e-learning video, provision of visual learning materials, and a condensed provider-training curriculum.

DMPA-SC Self-Injection Training Video

JSI and PATH developed a five-and-a-half minute animated instructional video based on globally established content for SC counseling and training. The video, “How to give yourself an injection with Subcutaneous DMPA (DMPA-SC): An all-in-one contraceptive,” guides women on: a) proper activation and injection techniques; b) storage and safe disposal for the device; c) proper timing for reinjection; d) common side effects; and e) sexually transmitted infection (including HIV) prevention. The video is also available on [YouTube](#) so that trained SC clients can access the information at their convenience.^b



^a Results from two studies conducted in Uganda and Malawi estimated that providers in public sector spent, on average, 20–30 minutes (range 10–60 minutes) training each client to self-inject and clients typically practiced twice (range 1–4) with a model before self-injecting.

^b <https://www.youtube.com/watch?v=9iyVsFNZnuw>

DMPA-SC Self-Injection Job Aid

In addition to the video, we adapted and redesigned the job aid *Sayana® Press/Subcutaneous DMPA (DMPA-SC) Self-injection Instructions* for private sector clients, to include written and pictorial steps for SI and information on common side effects, timing for reinjection, and health care provider contact information. We packaged the job aid into a trifold flyer, printed in color to look more attractive and generate interest in learning about SC and SI among potential clients. The website link for the video features prominently on the back fold.

DMPA-SC Provider Training

We adapted and compressed the globally recommended five-day health care provider training agenda for SC self-injection into two-and-half days to minimize provider absence and associated costs with being away from their facilities. The primary objective of the condensed training was to improve knowledge and skills in SC and specifically to enhance provider:

1. understanding of different types of injectable contraceptives, including similarities and differences, potential side effects, and when to advise clients to consult a provider
2. ability to properly counsel women on DMPA (IM and SC) using a client-centered approach
3. ability to activate and administer SC to clients (provider-administered SC)
4. skills in counseling women through the SI training process using a client-centered approach and determining client proficiency in SC self-injection.

The training, jointly facilitated by JSI and MOH trainers, sensitized providers to the SC self-injection video so they could understand and become familiar with the type of information that women would receive prior to individual counseling and training. In addition to presentations, the training sessions were highly interactive and included discussions on voluntary family planning, role-play exercises, hands-on practice with SC units and models (condoms filled with salt), simulation of the client training process, and mock counseling with JSI staff who were unfamiliar with SC to build client-centered communication skills.

Providers also participated in a half-day session to learn how to use the CommCare mobile application on electronic tablets, which included prompts and a checklist for counseling clients on SI and key decision-making points.

Selection of Private Facilities in Lusaka

We considered several factors in selecting private health facilities to participate in the pilot: interest in offering SC self-injection to clients; geographic location in Lusaka; socioeconomic background of clients; FP client volume; and service fee structure. Facilities also had to meet specific criteria such as: adhere to the Government of the Republic of Zambia FP recording and reporting practices, have at least one formally trained FP provider onsite when FP is offered; offer a full range of voluntary FP methods (minimum: condoms, pills, and injectables); and comply with the United States' Protecting Life in Global Health Assistance policy. The geographic scope was limited to Lusaka, based on available program budget.

The following three private facilities were selected:

- **Bwafwano Integrated Services Organization (BISO)**, an NGO health clinic in the densely populated area Chazanga, which offered subsidized services primarily to working and lower-income women.
- **University of Zambia (UNZA)** health clinics on the main and satellite (i.e., ZICAS) campuses, serving primarily university students and staff and the surrounding community.
- **Victoria Hospital**, a private hospital in Kalundu offering primary and secondary health care, largely serving professionals who have health insurance or high ability to pay for health services.



Client Enrollment and Follow-up

Over a four-month period, private sector FP clients (ages 18–49) who expressed interest in DMPA-SC self-injection enrolled in the pilot. Women completed an intake form at the time of enrollment and participated in a follow-up interview approximately three-and-a-half months after the initial injection in order to capture their experience and willingness to pay for the product.

Trained data collectors were available at each facility throughout the enrollment period. Their responsibilities included ensuring voluntary enrollment and consent, obtaining enrollment and follow-up information using a structured questionnaire, and troubleshooting problems during use of the CommCare application. Data collectors attended a two-day training that included a half-day overlap with provider training.^c

Demand-creation activities were not conducted during the recruitment window due to global and country-level restrictions on SC marketing.



^c CommCare is an open-source mobile platform created by Dimagi, Inc. to help frontline workers track and support clients. For purposes of this pilot, a mobile application was developed to manage and capture data on clients during each phase of the pilot (i.e., enrollment, video screening, provider consultation and practice, live injection and take home of unit, and follow-up).





Human-Centered Design

We designed the HCD approach in close consultation with the Self-Injection Sub-Committee, which comprises key decision-makers and influencers from MOH, donors, and program implementers. The HCD approach used a creative process to: 1) gather insights to understand the views and motivations of a diverse range of market actors through appreciative inquiry; and 2) design solutions with the people for whom they are intended. The process incorporated learning from an extensive document review, the SC self-injection pilot, individual and group conversations, and an HCD workshop to encourage stakeholders to think more broadly about the actors and relationships in the health system, understand the issues from different perspectives, and together co-design solutions that they may not have considered beforehand. The process also included mapping a client's journey for SC self-injection to demonstrate the public and private sector interactions and considerations for a total market scale-up. During an engaging, hands-on two-day workshop, participants gained a shared understanding of the interrelationships within the health system and co-designed solutions that reflected the operational realities scaling-up SC through a TMA.

Market Actors Engaged During HCD Process

Government

- Ministry of Health
- Directorate of RH Services
- Zambia Medicines Regulatory Authority (ZAMRA)
- Medical Stores, Limited (MSL)
- General Nursing Council of Zambia (GNC)

Donors & Implementing Partners

- USAID
- JSI
- PATH
- Society for Family Health (SFH)

Private Sector Providers, Suppliers, & Associations

- Marie Stopes Zambia
- Planned Parenthood Association of Zambia
- Private health facilities
- Private pharmacies (Lusaka-based)
- Sterelin (Pfizer's authorized in-country distributor)
- Medical Association of Zambia
- Pharmaceutical Association of Zambia

Private Sector Current and Future Clients

- Current SC SI users
- University peer educators (male and female)

FINDINGS

SC Self-Injection Training

The shorter training format, incorporating the e-learning video and individual consultation, was effective for training private sector clients in SC self-injection. Fifteen providers from the three private facilities completed the two and a half day training. Upon completion, these providers had the knowledge and skills to counsel women through the SI training process, using a client-centered approach, and determine her proficiency in SC self-injection.

Between October 2018 and early February 2019, 122 women chose to participate in the pilot. Of these, 114 (94 percent) successfully self-injected in the presence of a provider and took an SC unit for home injection.

Six women opted out during the training for personal reasons (preference for provider-administered injection, husband did not approve), while one woman did so after self-injecting. Two women had challenges during the live injection and the provider felt they needed further practice before attempting SI at home.

Women appeared to quickly grasp and apply the SC self-injection steps from watching the video and consulting with a provider. Eighty-five percent of women practiced activating and injecting SC into the model once before self-injecting. Ninety-seven percent self-injected after two practice injections (85 percent after one injection, plus 12 percent after two injections). Providers spent an average of 14 minutes with each client, with some sessions taking only 4 minutes and a few lasting approximately 40 minutes (see Figure 1). As mentioned, each session included individual consultations, practice injection(s), live injection, and determining the client's proficiency in SC self-injection.

Among the 114 women who took an SC unit home, 91 percent self-injected on time without additional

interactions with a provider. (Four women were lost to follow up; three experienced side effects; two had other issues [pregnancy and sexually transmitted infection]; and one was nervous). Ninety-nine percent of women who self-injected at home said that they were "likely" or "very likely" to continue self-injecting SC, and 98 percent were "likely" or "very likely" to recommend SC self-injection to friends. When asked about the training during the follow-up, all the women reported that the facility-based training and first injection with a provider was "useful" or "very useful" and that the consultation time was "just

right." Ninety-nine percent of the women reported that they were "likely" or "very likely" to recommend the training to their friends.

“It is easier to do it at home because one is more relaxed.”

-Current SC SI user

“All the things I needed were there and part of the training. I feel confident using SP at home.”

-Current SC SI user

Consistent with other studies, women reported that they stored their SC unit at home, in a safe place away from children, animals, and extreme heat or

cold. Ninety-four percent of women in the pilot reported disposal of the SC unit in the sharps container provided to them. Of these women, most had already brought the unit back to the facility, while the remainder expressed intentions to do so.

Storage and Disposal of SC Units (n=104)

Storage of unit at home

Dresser/bureau/ suitcase	27%
Personal bag	70%
Other	3%

Disposal of unit after injection

Sharps container	94%
Latrine	6%

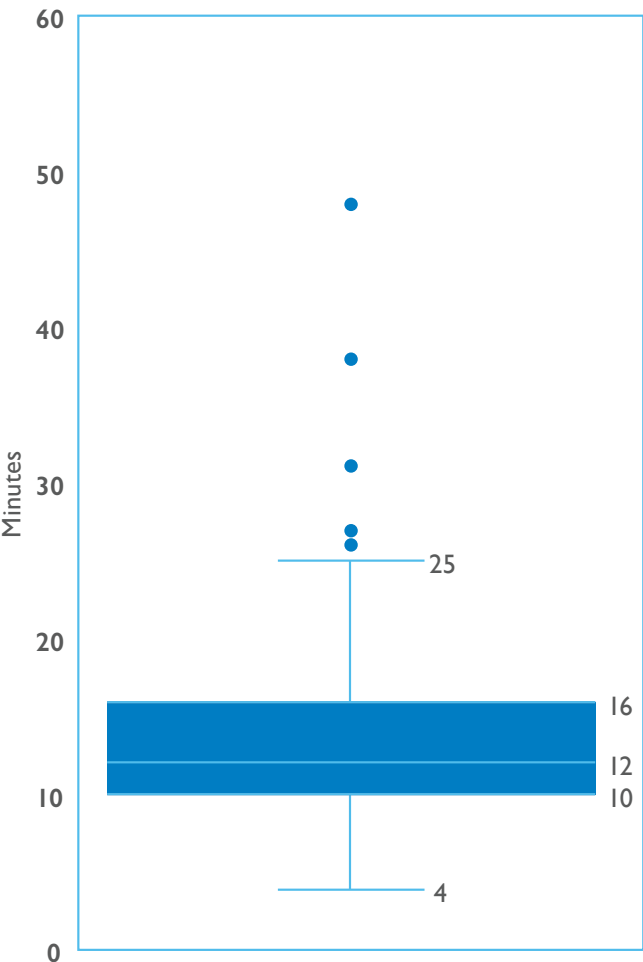
Characteristics and Motivations of Women Choosing SC Self-Injection

More than 50 percent of the women who went home with the SC unit were 26 years or younger; had an upper-secondary education or higher; and had at least two children. Eighty-eight percent were married or living with a man and visiting the particular facility because of its proximity to their home. Seventy-two percent had already been using a FP method (primarily IM), while eight percent were first-time users. (See Annex C for further socioeconomic and demographic breakdown of women). The most common motivations women gave for learning to self-inject were:

- Greater convenience
- Time savings
- More discreet
- Greater autonomy and independence

Prior to training, when women were asked to answer whether they were “nervous about giving myself an injection,” 57 percent of women responded “not at all,” and 53 percent reported feeling “very confident” about “giving myself an injection the right way.” When asked again during the follow-up about self-injecting at home, 88 percent responded feeling “not at all” nervous and 92 percent reported feeling “very” or “extremely” confident about self injecting correctly.

FIGURE I: Duration of client-provider session for SI training



“It’s great that I can inject at home and continue with my household responsibilities. Before, going to the clinic was very disruptive, and I wasn’t sure they would have stock.

-Current SC SI user

“Sayana®Press is a good option for working women like us. I can get my refill without coming to the clinic and feel confident about injecting myself.

-Current SC SI user

Client Willingness to Pay

Nearly all women who self-injected at home reported a willingness to **pay at least 15 Zambian kwacha (ZMK)** (~\$1.14) for a unit of SC and more than 60 percent were willing to pay 25 ZMK (~\$2.00) or more if sold at a nearby pharmacy (Figure 2).

The amount women are willing to pay for SC increased based on their experience with SC self-injection. Prior to SI training, women reported on the maximum amount

they would pay for a unit of SC. While some women reported zero, most said they would be willing to pay 10–15 ZMW for one unit of SC. When asked the same question following self-injection at home, their willingness to **pay increased to 25–30 ZMW** (Figure 3).

Nearly **40 percent** of women indicated a preference to purchase SC from a pharmacy and/or drug shop over a public facility if their current facility stopped providing free units.

“ I can go to the facility where Sayana® Press is usually available or I can still purchase Sayana® Press from the facility or nearby pharmacy.

-Current SC SI user

“ For me, it is a time-saving thing. I am a widow and a single mother. In the time I would go to the clinic, I could sell 5 bags of charcoal. Now I don't have to worry about this.

-Current SC SI user

FIGURE 2: Minimum Amount Willing to Pay (n=104, bars are not cumulative)

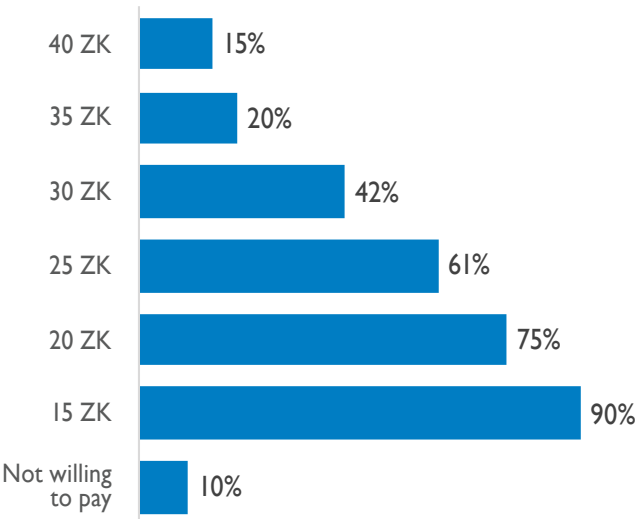
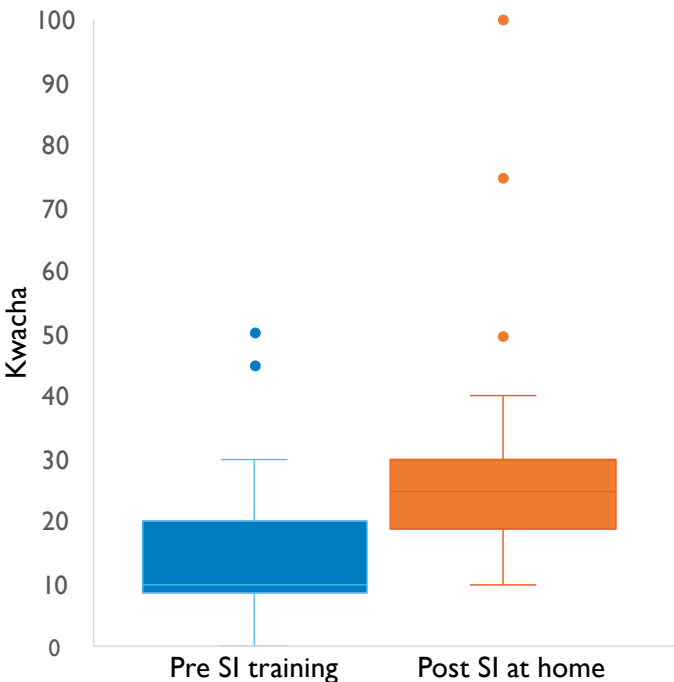


FIGURE 3: Amount Willing to Pay Before & After SI (n=104)



FROM PILOT TO IMPLEMENTATION: The Case of BISO Clinic

In January 2019, as the pilot enrollment period was ending, the MOH issued a letter authorizing the use of provider-administered SC in all health facilities across Zambia. BISO received additional approval to continue offering SC self-injection, as part of its standard package for voluntary FP, even after the pilot enrollment ended in early February 2019. By April 2019, SC self-injection uptake increased by 10-fold at BISO, with over 900 women trained to self-inject SC. Additionally, all new FP adopters opted for SC self-injection. A couple of factors may have contributed to the rapid demand for SC. First, in mid-February, Zambia experienced a national shortage of IM, which affected product supply at BISO and likely, other facilities in the surrounding area. Second, BISO providers reported that word-of-mouth communication about the availability of SC self-injection, may have contributed to the higher uptake of SI. All women who opted for SC chose self-injection over provider-administered.

BISO providers applied the same training approach used during the pilot (i.e., SI e-learning video, one-on-one consultation, self-injection). In addition to a single SC unit, providers gave clients a job aid and a small plastic container to store used needles and then instructed them to return to it to the facility for safe disposal in a proper sharps container. During the pilot phase, BISO providers adapted their FP client register to allow tracking of clients who received provider-administered SC versus those who opted for SI.

Figure 4: Total Number of FP Clients by Month

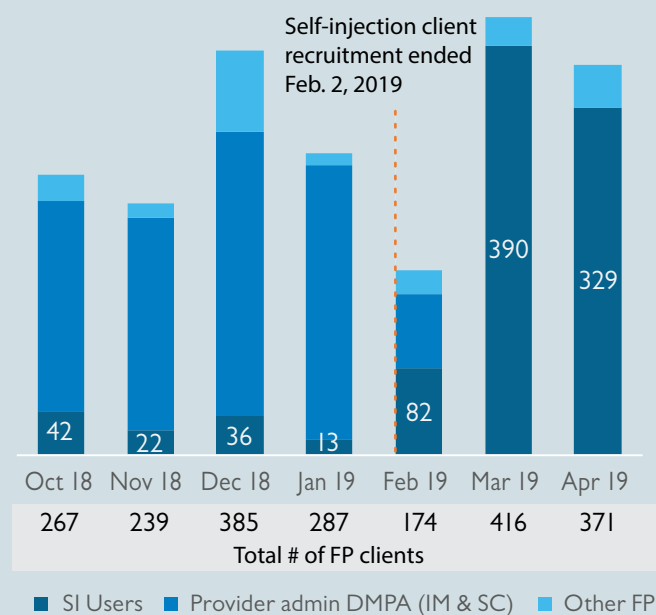
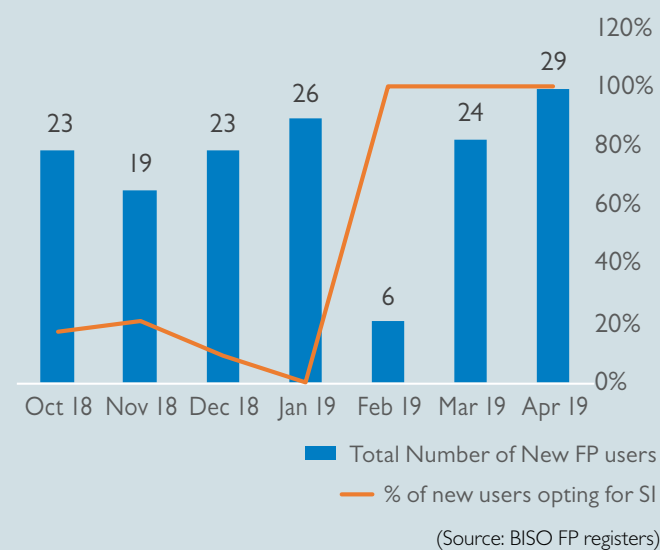


Figure 5: Total Number of New FP Clients by Month



(Source: BISO FP registers)

Operational Considerations and Recommendations

In collaboration with the Self-Injection Sub-Committee, we designed and conducted a two-day workshop aimed at policymakers and other diverse market actors to: 1) generate a shared understanding on the health system interactions, particularly operational considerations for SC scale-up through a TMA; and 2) co-create solutions to inform policy and program design. The workshop drew heavily upon the SI pilot findings and helped to dispel misperceptions and assumptions around the roles and motivations of various actors and functions in the health system. Together, participants created a joint vision statement for successful SC scale-up, providing direction for participants to design practical solutions that would help realize that vision.

“We’ll know our plan is a success when we can ensure sustainable, affordable and equitable access to SC through effective targeting of information and products using a range of service delivery channels, improving product awareness and knowledge of the self-injection technique.

-DMPA-SC scale-up vision created by participants at the HCD workshop.

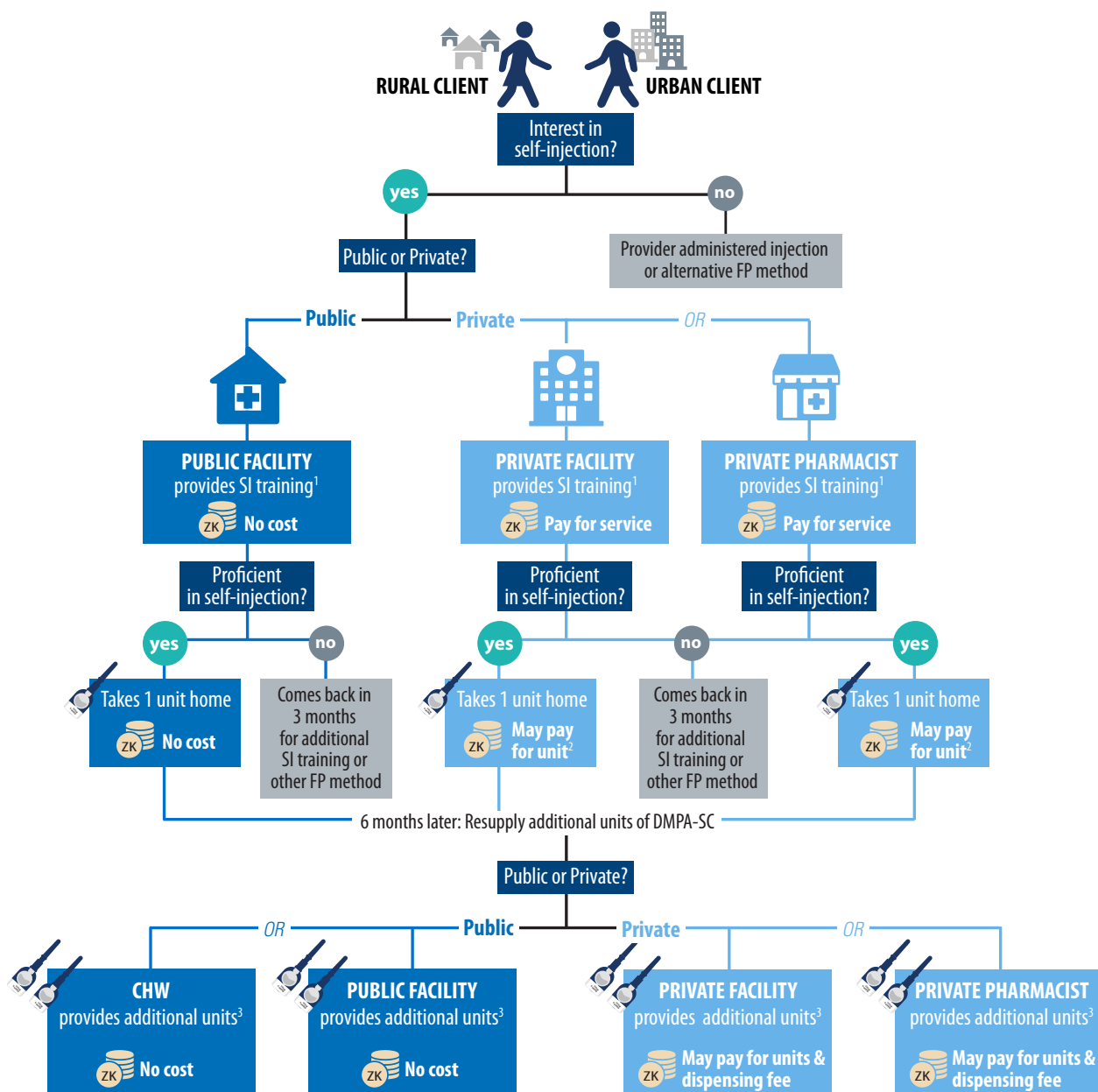
To inform the Self-Injection Sub-Committee planning efforts, we have provided detailed recommendations, including a phased approach to SC scale-up by sector, in Annexes A and B. The SI pilot findings, stakeholder consultations, and HCD workshop provide the basis for the recommendations and take into consideration the following:

- Injectables are among several contraceptive options.
- The public sector dominates the injectable market through the provision of free products and services.
- SC and IM have distinct characteristics that may have different appeal across population segments.
- There is only one manufacturer of SC; no generic or affordable commercial option is currently available.

For other countries interested in introducing and scaling up SC through a total market approach, we offer the following key takeaways based on our insights and learning from the Zambia experience:

- **Take a systems approach to SC scale-up from inception.** The arrival of SC into country health systems offers a unique opportunity to take a more holistic approach, one that takes into consideration the role of the private sector, from the beginning of program planning. This requires upfront investment in cultivating a shared understanding, among a range of actors, of the complex relationships and inter-dependencies between the public and private sectors, and the influence these systems may have on clients’ service delivery options (see p.17). The HCD process took into consideration the various health system functions likely to affect SC scale-up in Zambia, with detailed recommendations, organized by: policy and finance, product pricing, training, consumer IEC, and service delivery (Annex A).
- **Target free, public sector SC products to rural and poor.** In Zambia, injectable use among rural women is higher compared to urban women. This is likely due to a variety of factors, including investments prioritizing community-based provision of injectables. For Zambia to realize its recent policy commitments for a TMA, it will require better market segmentation and targeting of free and subsidized products and services as part of SC program implementation.
- **Consider a phased scale-up for self-injection that supports TMA principles.** Free and widely available SC for self-injection is likely to “crowd out” the private sector. Once trained in SI, a client given free units to take home in the public sector will likely be less motivated to pay for the same exact product in the private sector. Scale-up efforts should take a phased approach to SI, with specific consideration to geography and/or sector, until another SC product becomes commercially available or there is a way to differentiate the product in the private sector.
- **Develop and use TMA metrics as part of monitoring and learning.** With only one self-injectable on the market, traditional TMA metrics may not apply until another SC product or brand is available. Nonetheless, the MOH should develop and use TMA indicators to guide program investments towards activities that will foster greater private sector engagement, sustainability and equitable access to SC through better targeting of free and subsidized products.

A Client's *Future* Journey in Zambia's Health System: A Decision Tree for Self-Injection



1 SI training includes practice injection and self-injection in presence of provider to deem proficiency.

2 See Annex B.

3 Number of additional units needs to be determined by national dispensing guidelines. Based on current global practice, clients are provided with three SC units once they have been deemed proficient at first visit.

Challenges and Limitations

During the activity we faced the following constraints and challenges. When possible, we adapted our approach to be responsive to our learning and contextual changes.

- **Delays in institutional review board (IRB) approval reduced the recruitment period.** Approvals were required from JSI, the University of Zambia Biomedical Research Ethics Committee, and the National Health Research Authority of Zambia (NHRA) IRBs. The two in-country approvals took an additional three months due to scheduling and an unexpectedly full study protocol review by the NHRA IRB. The participant recruitment period therefore was reduced from seven to four months to ensure completion of the activity by May 2019, when APC Zambia project activities ended.
- **Low uptake in two of the three facilities limited cross-facility comparisons.** Due to delayed start up, the recruitment period overlapped with university holidays and the exam schedule, which may have led to low recruitment at UNZA. At Victoria Hospital, “busy” clients did not plan for additional time required for SI training within their schedules. Lastly, at both facilities, the service delivery model required multiple steps to obtain FP, including referral to another building on the premises.
- **Demand generation was not part of the pilot.** Given global and country-level marketing restrictions for SC and budget constraints, we did not conduct demand generation activities as part of recruitment. Women learned about the pilot through word of mouth or from a trained provider when they came into a facility.
- **U.S. policy restrictions limited the range of private facilities that could participate in the pilot.** Private providers that did not comply with the Protecting Life in Global Health Assistance (PLGHA) Presidential Memorandum policy were not able to participate in the pilot. These facilities included the larger scale, highest volume private FP providers in Lusaka, which likely would have yielded more participation in the pilot.

- **Results are generalizable for populations similar to BISO.** Initially, the pilot aimed to enroll 327 women to allow comparison across facilities with representative results at a 95 percent confidence interval and 5 percent margin of error. Final results (114 women accepting SI, 104 women self-injecting at home), are representative at 90 percent confidence interval and 6 percent margin of error. While analysis among facilities is not possible, results are generalizable for populations similar to BISO. It should be noted that the pilot focused exclusively on women seeking services in the private sector; and thus is not intended to reflect or be generalizable to a public facility setting.



Matchboxology

CONCLUSION

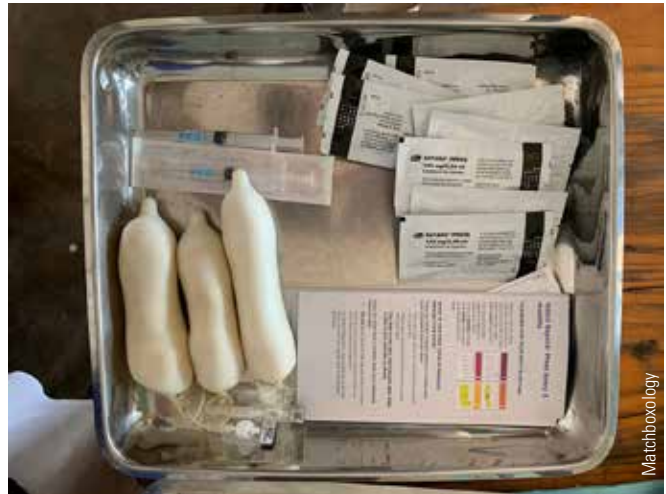
Emerging priorities in global health are calling for greater strategic engagement and leveraging of the private sector to help sustainably deliver and finance affordable, high-quality health care. The complexity and diversity of the private sector requires new approaches that are appropriately tailored and responsive to the local health system. Innovations, such as DMPA-SC, offer a unique opportunity to design a program that engages the private sector and cultivates sustainability from inception.

Under this broader landscape, as countries such as Zambia embark on scaling up SC, national policies and implementation plans must consider the relationships and interactions between the public and private sectors, and in particular, the different needs and preferences of their clients within the overall health system. Unlike other injectable contraceptives that require administration by a health provider, SC's unique self-injection feature gives women greater agency over their reproductive health, and offers new pathways within the health system to access family planning. Thus, the service delivery design and scale-up of SC cannot be business as usual.

By using an HCD process, we were able to engage a wide array of stakeholders, including the private sector, to broaden their perspectives and create a shared understanding on the interrelationships and dynamics within the health system for SC. Specifically, the pilot demonstrated that a shorter SC training format was effective for training private providers and their clients in SI, and that willingness to pay for SC is similar to or higher than the negotiated donor price.

Governments and donors truly committed to taking a systems approach that engages the private sector must design for sustainability from the beginning. The new opportunities that come with SC are also complex and requiring strategic collaboration among market actors, continuous learning, and adaptive management throughout implementation. Our key takeaways based on the learning from the SC private sector introduction and HCD process are:

- **Use market data to develop a shared understanding of the public-private mix** and encourage greater private sector engagement in planning and implementation.



- **Support SC product and/or service differentiation** to attract clients to the private sector.
- **Invest in public education and awareness interventions** to reach more women, particularly those who have an unmet need for contraception, with information on SC.
- **Adopt a variety of training modalities** tailored to the respective circumstances and preferences of public and private sector providers and their clients.
- **Engage diverse stakeholders including providers and clients**, throughout the implementation process and continuously make adjustments responsive to new information and learning.
- **Ensure government and donor objectives and investments are appropriately aligned** to foster private sector engagement based on a shared commitment to a TMA.

Zambia's national SC scale-up plans commit to a total market approach, which requires a complementary, public-private mix that will advance both sustainability and equity in SC access. With only one SC product available on the global market, we highly encourage Zambia and other countries introducing SC into their health system to consider a phased, targeted approach using market segmentation to strengthen public and private sector coordination, minimize product leakage, and ensure quality standardization across all service delivery channels.

REFERENCES

1. World Health Organization (WHO). Health worker roles in providing safe abortion care and post-abortion contraception. Geneva: WHO; 2015. http://www.who.int/reproductivehealth/publications/unsafe_abortion/abortion-task-shifting/en/ (accessed May 5 2018).
2. Cover, Jane et al. Evaluating the feasibility and acceptability of self-injection of subcutaneous depot medroxyprogesterone acetate (DMPA) in Senegal: a prospective cohort study. *Contraception* 2017;96 (3): 203–210.
3. Cover, J., Namagembe, A., Tumusiime, J., Lim, J., Drake, J., Mbonye, A. A prospective cohort study of the feasibility and acceptability of depot medroxyprogesterone acetate (DMPA) administered subcutaneously through self-injection. *Contraception*. 2017;95(3):306–311.
4. Burke, HM, Chen, M, Buluzi, M et al. Effect of self-administration versus provider-administered injection of subcutaneous depot medroxyprogesterone acetate on continuation rates in Malawi: a randomised controlled trial. (Published online March 8.) *Lancet Glob Health*. 2018; [http://dx.doi.org/10.1016/S2214-109X\(18\)30061-5](http://dx.doi.org/10.1016/S2214-109X(18)30061-5).
5. Cover, J., Namagembe, A., Tumusiime, J., Nsangi, D., Lim, J., Nakiganda-Busiku, D. Continuation of injectable contraception when self-injected v. administered by a facility-based health worker: A nonrandomized, prospective cohort study in Uganda [http://www.contraceptionjournal.org/article/S0010-7824\(18\)30133-1/pdf](http://www.contraceptionjournal.org/article/S0010-7824(18)30133-1/pdf) (accessed May 5 2018).
6. John Snow, Inc. 2018. Innovations for Public Health Supply Chains, <https://insupplyjsi.com/resources/>
7. PATH. 2017. Tools for subcutaneous DMPA (Sayana Press) introduction: training and communications <http://sites.path.org/rh/recent-reproductive-health-projects/sayanaapress/sp-training/>
8. DMPA-SC Access Collaborative's Anglophone Learning and Action (LAN) Network. 2018. Self-Injection Client Training Approaches (presented March 28, 2018).
9. Ministry of Community Development, Mother and Child Health (MCD-MCH) [Zambia]. 2013. The Family Planning Services: Integrated Family Planning Scale-up Plan 2013-2020 http://ec2-54-210-230-186.compute-1.amazonaws.com/wp-content/uploads/2016/07/CIP_Zambia.pdf (accessed May 5, 2018).
10. Pandit-Rajani, Tanvi; Cindi Cisek, Caitlin Dunn, Michael Chanda and Harriet Zulu. 2017. Zambia Total Market Analysis Landscape Assessment: Boston, Massachusetts: USAID | DISCOVER-Health Project, JSI Research & Training Institute, Inc.
11. Ministry of Health [Zambia]. 2018 National Plan for the Introduction and Scale Up of Subcutaneous DMPA 2018–2021.
12. McDonald M., Christopher M., Bass M. 2003. Market segmentation. In: *Marketing*. Palgrave, London. https://doi.org/10.1007/978-1-4039-3741-4_3
13. Goyat, Sulekha. "The basis of market segmentation: a critical review of the literature." *European Journal of Business and Management*. Vol 3, No.9, 2011:45–53. <https://www.iiste.org/Journals/index.php/EJBM/article/view-File/647/540> (downloaded September 12, 2019).
14. The concept of marketing mix and its elements. *International Journal of Information, Business and Management*, Vol. 6, No.2, 2014.
15. PATH 2016. "Chapter 7: Training and Supervising Providers" in Sayana® Press Introduction: Practical Guidance From PATH (pdfs.semanticscholar.org/7033/4480982256b099093386ddad8b-2ce8d7902c.pdf accessed September 30, 2019)

ANNEXES

ANNEX A: Detailed Recommendations for a Systems Approach to Scale-up in Zambia Policy

Current situation

- Current policy allows community health workers to administer DMPA-IM but it does not allow pharmacists to administer injectable contraceptives.
- The national DMPA-SC plan calls explicitly for an increased role of private sector, particularly pharmacies.
- Policies and practice allow some private health facilities (excluding pharmacies) to obtain free FP commodities from Medical Stores, Ltd. (MSL) if a memorandum of understanding (MOU) is in place. Criteria for accessing free FP commodities is determined at the district or national level, depending on the geographic reach of the private provider. Providers are not allowed to charge for the free products but can charge for the service.
- SC is available in the public sector as provider-administered only

Recommendations

- **Allow pharmacists and other professional cadres to train women on SI and directly administer SC after undergoing approved training.** This policy change will require MOH and implementers work closely with regulatory bodies such as ZAMRA and HPCZ to update guidance and regulations. Stakeholder interviews and the HCD workshop revealed widespread support for engaging pharmacies in SC scale-up efforts. Since some pharmacies are supported by a trained pharmacy technician, policies should specify SC scope of practice for various levels of pharmacy staff.
- **Service delivery guidelines should clearly stipulate the number of SC units that can be dispensed to SI clients once they have been trained.** During the HCD workshop, participants agreed that once a client is trained and deemed proficient in SI, she would receive only one SC unit to take home at the first visit. At a second, follow-up visit, the client would receive two additional SC units to take home, assuming she presents no issues with SC product use. This approach deviates from research and current practice to provide women with three SC units upon successful training in SI. Hence, Zambia's service delivery and dispensing protocols should be clear and widely disseminated.
- **Establish guidance and strengthen monitoring through ZAMRA and HPCZ to regulate retail mark-ups and ensure quality of SC (and other contraceptives) through commercial distributors and pharmacies.** Because SC is a newly available product in the health market, the MOH and other regulatory agencies should update their policies to encourage greater affordability, access and quality of SC through private providers. The design and implementation of these guidelines should establish: 1) maximum wholesale and retail markups for Sayana® Press; 2) mechanisms to monitor and ensure adherence to quality standards and service delivery protocols; and 3) good distribution practice (GDP) for Sayana® Press.

Financing

Current situation

- SC and IM products are largely donor-financed. Donor funding for FP has declined in recent years, leading to supply shortages. Zambia experienced shortages of IM during the implementation of this activity.
- The global donor consortium Sayana® Press price agreement with Pfizer is 85 cents/unit, which is comparable to the donor price for Depo Provera®.
- The Sayana® Press price of 85 cents/unit is available to United Nations' Population Fund (UNFPA), USAID, and select implementers.
- The global consortium agreement price expires in 2022, when a generic product may become available in the global market.
- Sayana® Press is not commercially available/sold in Zambia's private retail market.
- The approximate retail price range for Depo Provera® is 51–75 ZMW (\$3.8–\$5.6 USD).
- Per pilot findings, women reported willingness to pay approximately 28 ZMW (~\$2.10 USD) for SC. Using the IM retail price as a point of comparison, if SC is sold at a similar price range, the private sector is likely to be out of reach for most Zambian women.
- Non-profit private providers currently charge for each IM injection (4x/year), and are not allowed to charge for the product if it obtained free through MSL.

Recommendations

- **MSL should implement a cost recovery strategy that offers SC to private providers at an affordable price.** The MOH, in partnership with private provider associations, should establish and phase-in a cost recovery strategy that will enable private providers to access SC at an affordable price through MSL. Planning and implementation of any new financing and distribution models should be coordinated with the commercial sector and take into account the possibility of a generic SC product becoming available in the market in the near future.
- **Private providers receiving free commodities through MSL should consider establishing a new service pricing strategy.** As earlier stated, private providers do not charge for product received free from MSL; they charge clients a service fee for an IM injection (4x/year). Clients who opt for SC self-injection would visit the provider twice per year, based on the service delivery model currently under MOH consideration (the first visit for SI training, the second visit for follow-up). At the second visit, the client receives two additional SC units free, if the provider received the SC product through MSL. This model will have cost implications for private providers due to the reduction of client FP visits. To support broader domestic FP financing efforts, some private providers should consider revising their service pricing strategy.

Training

Current situation

- Training materials and methodologies available at the global level focus on public sector and community health providers and clients.
- The MOH has provided public facilities with a job aid on how to administer SC to clients. Currently, the job aid focuses on provider-administered SC, not self-injection.
- JSI designed and piloted a shorter duration training approach, including an e-learning video, to reduce client and provider training time
- MOH training activities for new products/services/guidelines do not include for-profit private health providers.
- Private providers may not be aware of or have access to the most recent MOH training guidelines/protocols, leading to lack of standardization and variable service quality in the private sector.
- Pharmacists receive information on pharmaceutical products directly from medical detailers/representatives.

Recommendations

- **Develop/adapt and standardize SC SI training protocols for public and private sectors.** As of May 2019, public sector training and rollout of SC has focused on provider-administered SC. The MOH should adopt and disseminate a standard training protocol for SI scale-up for public and private sectors, including pharmacists, based on the findings from the SI pilot and global research conducted in similar settings as Zambia.
- **Adopt and approve a variety of training modalities tailored to the respective needs of public and private providers.** Globally, new training approaches, such as application of e-learning, have been adopted as a cost-effective way to advance access to clinical education. In Zambia, conventional training practices may be more suitable for rural settings, where access to technology remains limited. To date, global experience with introducing SC into health programs suggests that trainings have relied on traditional approaches that last 2–7 days.¹⁵ Long training durations often pose a barrier to private providers, particularly those who operate individually, due to the associated costs of being away from their clinics/pharmacies. The MOH should consider refining and adopting the training approach used during the pilot to offer more flexibility and convenience to private providers. Additionally, the public sector could adopt some elements of the training used during the pilot, e.g., e-learning video for public providers who have reliable access to technology. MOH collaboration with the pharmaceutical and private provider associations can help extend the reach of SI training to private providers and ensure adherence to newly established guidelines.
- **Refine and endorse the SI training video and job aid as part of the training package.** Convenience, privacy, and short waiting times are typical motivators for women who seek services in the private sector. The SI video, piloted under this activity, was designed to reduce the SI training time. This was the first time a video was used to train providers and clients in SC self-injection. Throughout pilot implementation, the MOH expressed interest in the applicability of the private sector training approach to the public sector. Based on the pilot findings, participants in the HCD workshop agreed to the following recommendations:
 - Include the video in the MOH training package as “recommended” but not required, considering environments where technology is less available and reliable.
 - Determine whether the video should be a requirement of SI training in the private sector.
 - Endorse and disseminate job aids as part of client training and information, education, and communication (IEC) efforts.
 - Translate the video into local languages and include English subtitles for use beyond urban settings.

Consumer Information and Education

Current situation

- Pfizer restricts marketing and over-branding of Sayana® Press. Pfizer also requires approval for all communication and training materials using the brand name “Sayana® Press.”
- An SC generic is anticipated in 2022. Guidance from the global partner consortium on Sayana® Press recommends using the generic term “DMPA-SC,” in place of “Sayana® Press” in all communication and training materials for providers and clients.
- However, current product packaging includes the brand name Sayana® Press with no reference to the generic abbreviation, “DMPA-SC”.
- ZAMRA requires market authorization to allow marketing of DMPA; however, public awareness-raising through the MOH is permitted.
- Some demand generation and communication activities are included in the National Introduction and Scale up of SC-DMPA Plan (2018–2021).

Recommendations

- **Raise public awareness and educate clients about SC including the game-changing aspects of SI, as a newly available option among the range of available FP products.** Currently, SC scale-up efforts focus on supply-side interventions such as provider training and product distribution. Without investments in demand creation, these interventions are most likely to reach existing contraceptive users. MOH, donors and implementers should invest in demand creation/IEC efforts to raise awareness about SC and its unique features, particularly among women who have an unmet need for family planning.
- **Ensure consistency in communication on the product name.** In response to Pfizer guidance, implementers have started to use the generic term “DMPA-SC” in their program activities and communications. However, the product package is labeled as “Sayana® Press” with no reference to “DMPA-SC”, creating a challenge in communication efforts. At the same time, some stakeholders in Zambia refer to the product in shorthand, as “sub-cut.” The SI Sub-Committee should provide guidance on the use of product language for IEC efforts.
- **Differentiate the DMPA-SC product or service offering between the public and private sector.** Scale-up of SI creates a higher risk for product leakage into the private sector, particularly if units are widely distributed for free in the public sector (see Service Delivery section). Moreover, if the same product and service is offered in all sectors, this may diminish the incentive for women to pay for SC units in the private sector. The SI Sub-Committee, alongside donors and implementers, should explore with Pfizer the following ideas generated during HCD consultations:
 - Provide two packaging options: 1) black and white option (current); and 2) colored option for “Sayana® Press” text. A more colorful packaging option would differentiate public and private sector SC products and help track leakages.
 - Add “DMPA-SC” labeling and feature it more prominently on the public sector product; emphasize “Sayana® Press” labeling for the private sector offering.

Product and Service Delivery

Current situation

- Globally, and per recommendations from the 2018 MO workshop on DMPA-SC self-injection plan, once a woman is deemed proficient in SI, she should receive three SC units to take home.
- Private pharmacies sell condoms, oral pills, emergency contraceptives, and occasionally IM, but women must then go to a health facility for the IM injection.
- Youth (age 18 and above) and unmarried women are interested in more affordable, convenient contraceptive options through the private sector.
- In January 2019, MOH issued letters to public health facilities providers to administer SC (not self-injection).
- Leakage of public sector contraceptives, (e.g., oral contraceptive pills and IM) into the private sector is likely to extend to SC, particularly if there is no way to differentiate between sectors.
- SC clients should have adequate information and the ability to safely store and dispose of used SC needles.
- The health information system has not yet been updated to collect data on SC specifically, including the type of SC service chosen by clients, i.e., provider-administered and self-injection. Currently three injectable contraceptives are available in Zambia's health system: Noristerat (2-month injectable), Depo-Provera® (DMPA-IM), and Sayana® Press (DMPA-SC).

Recommendations

- **Provide trained clients with two SC units after a follow-up visit with the health provider.** In other similar contexts, clients receive up to three SC units after undergoing counseling, training, and demonstrating SI proficiency in the presence of the health provider. Under the pilot, trained SI clients received one unit to take home and returned to the facility to provide additional information on their SI experience. At this time, clients were given two additional units to provide a year of protection per pilot protocol. The HCD workshop participants recommended adopting a two-visit approach to ensure quality of SI practices by and confirm clients' desire to continue the method. During the second visit, if the client presents no issues and is able to "demonstrate" competence (see next recommendation), she would be "approved" for additional units in the future without going through any additional approval processes.
- **Trained SI clients should "demonstrate" competence in SI to obtain resupply.** HCD workshop participants recommended that clients should correctly explain the steps of activating and injecting the SC unit at the second follow-up visit or before purchasing SC units in the private sector.
- **Update health information systems to collect and report provider-administered and self-injection of SC.** Data collection, monitoring and reporting in the early phases of SC scale-up will be particularly critical for understanding and rapidly responding to challenges during implementation, including stock and logistics management. The MOH should update health and logistics management information system tools, including the FP client card, to capture and accurately report on service delivery and commodity information, and including adoption of provider-administered versus self-injection of SC.
- **Ensure clients have access to a puncture-proof container for safe storage and disposal.** Clients should use a puncture-proof container to store used needles and then disposed them in proper sharps container. Sharps containers are readily available at health facilities and most pharmacies and should be required for any site offering SI training. Clients who do not have access to a puncture-proof container should be provided with one, e.g., a repurposed empty medicine bottle.

Annex B. Putting Recommendations into Practice: A Targeted and Phased Approach for DMPA-SC Scale-up in Zambia

Public Facilities

	PHASE 1	PHASE 2	PHASE 3
GEOGRAPHY	Rural (high-unmet need areas)	Rural (remaining areas)	All (urban and rural areas)
PRODUCT	Sayana® Press	Sayana® Press	Generic
FINANCE	Donor	Donor and government	Government
POLICY & REGULATION	Support policy commitment to phased TMA introduction of SC Update national guidelines for dispensing SC (e.g., number of units that can be dispensed to clients per visit)	Update policy/scope of work to allow community health workers (CHWs) to resupply SC to clients trained in SI (linked to Service Delivery, Phase 2, Option 2)	Same as Phase 2 <i>Other countries have initiated SI training through CHWs. The Zambian MOH does not plan to pursue this service model at this time.</i>
SUPPLY CHAIN	Donor procured; distributed through MSL	Donor & MSL procured; distributed through MSL to health facilities (HFs)	Government procured; distributed through MSL
SERVICE DELIVERY	<ul style="list-style-type: none"> • SI training at HF • Resupply through HF • Update FP card to reflect client SI proficiency • Update HMIS tools to capture SI (versus provider-administered) data 	Option 1: SI training at health facility; resupply through HF Option 2: SI training at HF; resupply through HFs or CHWs (linked to Policy & Regulation)	Same as Phase 2
PRICING	Free	Free	Free
CONSUMER EDUCATION & INFORMATION	<ul style="list-style-type: none"> • Community channels • Interpersonal (health worker to client; peer-to-peer) • In clinic materials • Print media, job aids • Social media 	Same as Phase 1 <i>plus:</i> <ul style="list-style-type: none"> • e-learning 	Same as Phase 2

Public Facilities

	PHASE 1	PHASE 2	PHASE 3
RISKS	<ul style="list-style-type: none"> • Inconsistent supply due to procurement/distribution challenges in hard-to-reach areas • Poor needle-disposal practice (experience shows rural women dispose of needles in pit latrines) • Proper storage in rural settings may pose a challenge • Poor understanding and/or improper use of product due to insufficient training and IEC • Cost of scaling up in rural areas is likely higher than in more densely populated urban areas; increases potential for product wastage/leakage • Potential for women to self-inject without provider-led training 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> • Additional responsibilities placed on CHWs to provide new method and ensuring proper quality referral, storage, and reporting (linked to Service Delivery if Option 2 is chosen) • Potential for funding gaps leading to shortages 	Same as Phase 2
OPPORTUNITIES	<ul style="list-style-type: none"> • Improve equity in FP access • Reduce barriers to access (travel and waiting time, etc.) • Expands contraceptive options • Increased access to FP 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> • Fewer HF visits for resupply • Reduces donor dependency 	Phase 2 <i>plus</i> . Generic product will allow product differentiation between public and private sectors

Private Clinics

	PHASE 1	PHASE 2	PHASE 3
GEOGRAPHY	Urban (selected registered pharmacies in Lusaka & Copperbelt)	Urban (remaining areas)	All geographic areas
PRODUCT	Sayana® Press	Sayana® Press	Sayana® Press and/or generic
FINANCE	Donor	Donor and OOP	OOP
POLICY & REGULATION	Extend mandate/scope of practice for pharmacists to: 1. administer SC 2. train clients in self-injection Expand HPCZ regulation for supervision and quality assurance to cover extended pharmacy mandate/scope	ZAMRA and MOH to establish guidance on maximum wholesale and retail markups for Sayana® Press, and identify/strengthen mechanisms to enforce quality standards and guidelines for GDP	Enforce ZAMRA guidance/mechanisms to strengthen regulation of wholesale and retail markups, quality standards, and GDP
SUPPLY CHAIN	Procured by donor; distributed to selected pharmacies through implementing partner	Option 1: Procured by donor; distributed/sold through program implementer	Procured by local importer/wholesaler and sold at regulated commercial/retail price
		Option 2: Procured by program implementer; contract local supplier to sell/distribute to pharmacies	
SERVICE DELIVERY	<ul style="list-style-type: none"> • Train pharmacists to administer SC • Train pharmacists to train clients in SI and to recognize proficiency • Allow pharmacist to dispense SC units to women who have been trained by public or private providers in SI • Develop/update tools to capture and report on SC 	Same as Phase 1	Same as Phase 2
PRICING	Clients charged for injection (if they choose provider-administered) <i>or</i> Clients charged for SI training (which includes first two SC units) <i>and/or</i> Clients charged dispensing/service fee for additional SC units	Phase 1 <i>plus</i> : Pharmacies adopt a tiered pricing/cost-recovery strategy for DMPA-SC units as well as service (injection or SI training) (Linked to Phase 2 pricing strategy under Private Clinics— page 28) *Partially subsidized by donor	Phase 2 <i>plus</i> : <ul style="list-style-type: none"> • ZAMRA/MOH strengthen regulation of commercial and retail pricing per ZAMRA guidance • Determined by pricing policy on product mark-ups *No subsidy

Private Clinics

	PHASE 1	PHASE 2	PHASE 3
CONSUMER EDUCATION & INFORMATION	<ul style="list-style-type: none"> e-learning Interpersonal (health worker to client; peer-to-peer) In clinic/pharmacy materials Print media, job aids Social media 	Same as Phase 1	Same as Phase 2
RISKS	<ul style="list-style-type: none"> Private providers may lose paying clients once they are trained in SI Private providers may overcharge clients for SI training Lack of standardized training of private providers Lack of adherence to and enforcement of standard guidance/protocols Difficult to generate wide-scale demand given current advertising restrictions Potential for women to self-inject without provider-led training Potential for black market sales of SC due to challenges enforcing limits on product sales 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> Product shortages/stockouts with only one manufacturer of SC 	<ul style="list-style-type: none"> Private providers will no longer be compelled to report service data if/when SC is commercially procured Private sector may be “crowded out” with widely available free public sector product Commercial pricing, if not adequately regulated, may become cost prohibitive to certain segments of the population
OPPORTUNITIES	<ul style="list-style-type: none"> Capture private sector data to understand total market (through MOU) and inform policy and programmatic decisions Begin to build private sector market for SC Increase access to FP 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> Reduce government burden to provide for all Strengthen adherence and quality of service provision through private sector 	Phase 2 <i>plus</i> : <ul style="list-style-type: none"> Market sustainability

Private Pharmacies

	PHASE 1	PHASE 2	PHASE 3
GEOGRAPHY	Urban (selected registered pharmacies in Lusaka & Copperbelt)	Urban (remaining areas)	All geographic areas
PRODUCT	Sayana® Press	Sayana® Press	Sayana® Press and/or generic
FINANCE	Donor	Donor and OOP	OOP
POLICY & REGULATION	Extend mandate/scope of practice for pharmacists to: 1. administer SC 2. train clients in self-injection Expand HPCZ regulation for supervision and quality assurance to cover extended pharmacy mandate/scope	ZAMRA and MOH to establish guidance on maximum wholesale and retail markups for Sayana® Press, and identify/strengthen mechanisms to enforce quality standards and guidelines for GDP	Enforce ZAMRA guidance/mechanisms to strengthen regulation of wholesale and retail markups, quality standards, and GDP
SUPPLY CHAIN	Procured by donor; distributed to selected pharmacies through implementing partner	Option 1: Procured by donor; distributed/sold through program implementer	Procured by local importer/wholesaler and sold at regulated commercial/retail price
		Option 2: Procured by program implementer; contract local supplier to sell/distribute to pharmacies	
SERVICE DELIVERY	<ul style="list-style-type: none"> Train pharmacists to administer SC Train pharmacists to train clients in SI and to recognize proficiency Allow pharmacist to dispense SC units to women who have been trained by public or private providers in SI Develop/update tools to capture and report on SC 	Same as Phase 1	Same as Phase 2
PRICING	Clients charged for injection (if they choose provider-administered) <i>or</i> Clients charged for SI training (which includes first two SC units) <i>and/or</i> Clients charged dispensing/service fee for additional SC units	Phase 1 <i>plus</i> : Pharmacies adopt a tiered pricing/cost-recovery strategy for DMPA-SC units as well as service (injection or SI training) (Linked to Phase 2 pricing strategy under private clinics— page 28) *Partially subsidized by donor	Phase 2 <i>plus</i> : <ul style="list-style-type: none"> ZAMRA/MOH strengthen regulation of commercial and retail pricing per ZAMRA guidance Determined by pricing policy on product mark-ups *No subsidy

Private Pharmacies

	PHASE 1	PHASE 2	PHASE 3
CONSUMER EDUCATION & INFORMATION	<ul style="list-style-type: none"> e-learning Interpersonal (health worker to client; peer-to-peer) Print media, job aids Social media 	Same as Phase 1	Same as Phase 2
RISKS	<ul style="list-style-type: none"> Lack of adherence to and enforcement of standard guidance/protocols Difficult to generate wide-scale demand given current advertising restrictions Potential for women to self-inject without provider-led training Potential for black market sales of SC due to same SC brand/product available for free through public sector 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> Product shortages/stockouts with only one manufacturer of SC 	<ul style="list-style-type: none"> Private pharmacies may no longer be compelled to report sales/service data if/when SC is commercially procured Private sector may be “crowded out” with widely available free public sector product Commercial pricing may become cost prohibitive to certain segments of the population
OPPORTUNITIES	<ul style="list-style-type: none"> Capture pharmacy data to understand potential market for SC to inform policy and programmatic decisions. Improve FP access by providing SC through new, convenient channels 	Phase 1 <i>plus</i> : <ul style="list-style-type: none"> Reduce government burden to provide for all Strengthen adherence and quality of service provision through pharmacies 	Phase 2 <i>plus</i> : <ul style="list-style-type: none"> Market sustainability

Annex C. Registration Data

	n	%
Age		
Mean (min–max)	27.4	(18–42)
BY AGE GROUP:		
18–24		36
25–29		33.3
30–34		15.8
35+		14.9
Employment status		
Full-time	9	7.8
Part-time	6	5.3
Unemployed	6	5.3
Full-time student	4	3.5
Not looking for employment	89	78.1
Adults (18+) living in household		
0–2	72	63.1
3–4	31	27.2
4+	11	9.7
Household type		
Flat/apartment/multi-unit	91	79.8
Detached house	18	15.8
Semi-detached house	4	3.5
Servants quarters (guest wing)	1	0.9
Dwelling type		
Owner-occupied	46	40.4
Rented from private persons/company	65	57
Free housing	3	2.6
Mobile phone ownership		
Do not own mobile phone	12	10.5
Smartphone (e.g. Android)	52	45.6
Feature phone (e.g. Nokia)	50	43.9
Access to the internet		
Yes	61	53.5
No	53	46.5
Primary source for accessing internet		
Office/School	2	3.8
Mobile phone	50	94.3
Friend	1	1.9
Average annual income (ZMW)		
Less than 180,000	47	41.2
180,000–360,000	46	40.4
360,000–540,000	9	7.9
540,000–720,000	8	7
720,000–900,000	4	3.5

	n	%
How many live births have you had in your lifetime?		
None	3	2.6
1–2	60	52.6
3–4	37	32.5
5+	14	12.3
Do you have health insurance coverage?		
Yes, including family planning	1	0.9
Yes, but excluding family planning	1	0.8
No	112	98.3

PRIVATE HEALTH SECTOR EXPERIENCE

Previous visits to this or another private facility in previous 12 months		
First time	6	5.3
1–2 other times	26	22.8
3–4 other times	41	36
5+	41	36
Type of facility visited for diagnostic testing and lab services		
This facility	13	14
Other private hospital/health clinic	7	7.5
Public hospital/health clinic	71	76.3
Private diagnostic center	2	2.2
No. visits for testing	21	
Frequency of visits to private pharmacy or drug shop		
Never	30	26.3
1–2 times every few months	61	53.5
1x a month	13	11.4
More than once a month	10	8.8

FAMILY PLANNING EXPERIENCE

Current/previous FP experience		
Never used	9	7.9
Used in the past, but not currently using	24	21.1
Currently using	81	71.1
Contraceptive current use		
Implants	1	1.2
Injectables	69	85.2
Pill	9	11.1
Male condom	2	2.5

	n	%
Source of supply for current users		
Government hospital/health center/health clinic	18	22.2
Community-based agent/field worker	53	65.4
Private hospital clinic	5	6.2
Pharmacy or drug shop	5	6.2
Contraceptive past use (multiple responses allowed)		
Implants	1	4.2
Injectables	13	54.2
Pill	9	37.5
Male condom	5	20.8
Reason for discontinuation		
Infrequent sex/husband away	8	33.3
Wanted to become pregnant	7	29.2
Experienced side effects/health concerns	3	12.5
Lack of access/too far to re-inject on time	3	12.5
Inconvenient to use	4	16.7
Wanted more effective method	3	12.5
Other	1	4.2
Partner support for use of family planning		
Yes, knows and supports	105	92.1
No, have not discussed	6	5.3
No, does not support family planning	1	0.9
Don't know	2	1.8
Family members support for use of family planning		
Yes, knows and supports	106	93
No, have not discussed	8	7
Motivation for learning to self-inject (multiple response allowed)		
Saves time/convenient	108	94.7
Saves money	8	7
Avoid missing work	20	17.5
Permits autonomy/independence	96	84.2
More discreet	96	84.2

2019
JSI Research & Training Institute, Inc.