

DMPA Sales at Licensed Chemical Shops in Ghana: Increasing Access and Reported Use in Rural and Peri-Urban Communities

Objective

To demonstrate if the sale of depot-medroxyprogesterone acetate (DMPA) at licensed chemical shops in Ghana is feasible and if it can increase access to family planning.

Methods

Under the PROGRESS project, funded by the U.S. Agency for International Development (USAID), FHI 360 worked with the Ghana Health Services, the Pharmacy Council and the Licensed Chemical Seller Association to implement a study in two districts to train licensed chemical sellers (LCSs) to stock and sell the injectable contraceptive DMPA and to refer clients to qualified health care providers for counseling, screening and injections. A total of 104 LCSs were trained (May–June 2012) on basic family planning (FP) information; on how to sell DMPA; and on referring clients to a public health facility for injection, recording service statistics and collecting client contact information. The team collected cross-sectional data on LCSs and the clients of LCSs at baseline and 3–6 months later. Also, geographic coordinates were collected for participating LCS shops and all public health facilities within both districts.

Findings

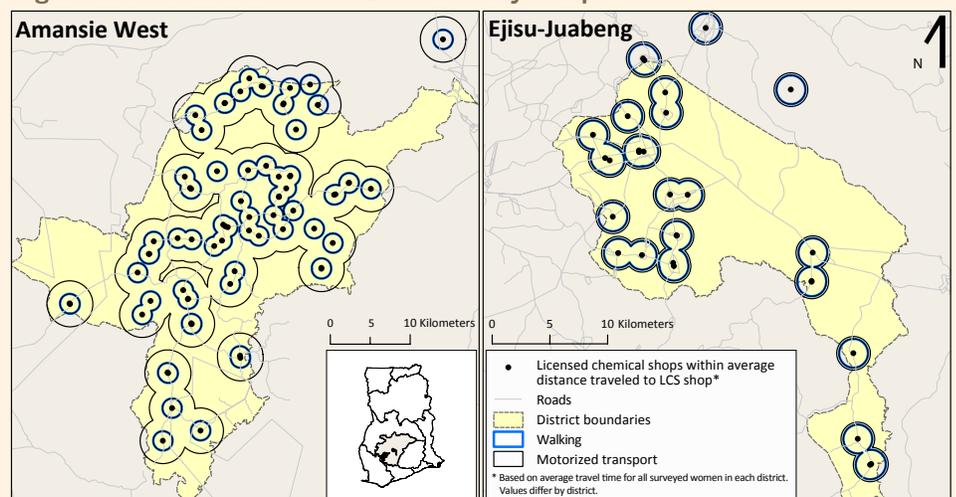
- **New FP users and continuation:** Many of the women who purchased DMPA from an LCS were new FP users (56%), and the majority of those using FP in the past three months were either switching to DMPA from oral contraceptive pills (45%) or continuing DMPA users (28%). Of the 92 women who participated in the follow-up, 79% purchased DMPA from an LCS again. Of the women (21%) who did not purchase DMPA from an LCS again, 32% were still using FP but were getting their method elsewhere.
- **Distance to LCS:** LCSs are convenient and accessible — most women walked less than 21 minutes (2 km) to reach an LCS (Figure 1).
- **Cost:** The majority of women perceived the total cost (between US \$1.30 and \$1.60) for DMPA as acceptable (total cost = buying + injecting + travel).
- **Acceptability and side effects:** Clients uniformly reported satisfaction (99%) with their visit to the LCS. They felt the LCS provided the products and services they need (96%), and they said they will purchase DMPA from an LCS again (93%). Almost all of the clients (99%) were able to correctly state the length of DMPA's effectiveness. However, clients uniformly had poor spontaneous recall about side effects or complications that would require medical attention.

- **Convenience:** Women reported convenient location, trust in the LCSs, good price and having commodities in stock as reasons they purchased DMPA at an LCS shop.
- **LCSs' FP knowledge:** LCSs reported a high awareness of FP methods and all but one knew the length of DMPA's effectiveness. Awareness of common DMPA side effects varied; the most commonly mentioned side effects were irregular menses (70%), headache (62%) and weight gain (50%).
- **LCSs' DMPA selling practices:** The LCSs were not trained and are not legally allowed to inject, and no women reported receiving the injection at an LCS shop. Instead, LCSs referred clients to a health facility for injection (93% were referred to the hospital).

Conclusion

Licensed chemical sellers can be trained to sell DMPA and refer clients to a health facility for counseling and injection. The LCSs were able to reach new FP users, and a large proportion of women purchased a second dose of DMPA from the LCSs. Licensed chemical sellers have the potential to help Ghana Health Services meet the FP needs of the Ghanaian population in a cost-effective manner, which could be scaled up throughout the country.

Figure 1: Areas with Access to LCSs in Study Sample



Projection: WGS 1984, UTM Zone 30S; Roads Dataset from Open Street Map; Population Measures calculated using AfriPop's 2010 Dataset; Africa women of child-bearing age (15-49) distribution

Background

In Ghana, 23% of married women use modern contraceptives;¹ this is an improvement after the rate decreased between 2003 and 2008 from 19% to 17%.² The unmet need for family planning (FP) is 35%,² and the total fertility rate (TFR) has decreased slowly from 4.4 in 1998 to 4.0 in 2008.² As a result, the Ghanaian government identified increasing contraceptive prevalence as a priority in the Ghana Shared Growth and Development Agenda.³ Reasons for low use of contraception include barriers to access, widespread stock outs in the public sector and a shortage of trained health staff. These problems are more acute in rural areas.²

In many countries, private-sector drug shops, called licensed chemical shops in Ghana, are the first place people seek health care — especially in areas with few health facilities and pharmacies.⁴⁻⁶ Drug shops are also open after typical business hours, have short wait times, friendly staff and are less likely to suffer from stock outs.⁴ Licensed chemical shops are also more numerous and accessible in rural areas compared to pharmacies, health facilities and community-based FP (CBFP) services. In fact, there are five times as many licensed chemical shops dispersed throughout the country (9,210) than there are pharmacies and 25 times more in remote and less-developed regions.⁷

Licensed chemical shops are independently owned businesses operated by non-pharmacists, who have at minimum a secondary school education and are licensed by the Pharmacy Council to sell a variety of over-the-counter medicines. Licensed chemical sellers (LCSs) regularly receive training from the Licensed Chemical Association and Pharmacy Council; however, no training is required to obtain a license. Licensed chemical shops are well positioned to provide socially marketed FP using their existing infrastructure, which is sustained by the sale of other health products. Most oral contraceptive pill users (75%) purchased this method from chemical shops,² but the most popular method of FP in Ghana, DMPA, is considered a prescription drug and is only available from a qualified medical provider or for purchase only (not injection) from a pharmacy with a prescription. Most injectable users (87%) rely on public-sector health facilities for their injections,² and these facilities often experience stock outs.

Despite restrictions on the sale of prescription drugs at licensed chemical shops, the Mobilize Against Malaria (MAM) project recently trained LCSs in the Ashanti Region to correctly dose and administer artemisinin-based combination therapy and to recognize and refer suspected or complicated malaria cases to the nearest health facility. This program has been very successful and showed that LCSs are capable of appropriately referring clients and selling some prescription medications, provided they receive the necessary training.⁸

LCSs may have the potential to safely expand access to and use of DMPA because they are already the primary source of oral contraceptives and have shown their ability to safely provide prescription medications with training. To demonstrate whether the sale of DMPA at licensed chemical shops is feasible and increases access to FP, FHI 360, with support from Ghana Health Services and the Pharmacy Council, implemented a study in two districts in the Ashanti Region of Ghana to train LCSs to stock and sell DMPA and to refer clients to a qualified health care provider for counseling, screening, and injections.

Study Design and Data Collection

Intervention

All 144 LCSs (97 in Amansie West and 47 in Ejisu-Juabeng district) trained under the MAM program were invited to participate in this study. Seventy-five LCSs from Amansie West and 29 LCS from Ejisu-Juabeng districts chose to participate and received a half-day training on basic FP information and DMPA, referring clients to a public health facility for injection, recording service statistics and collecting client contact information. Public-sector nurses with FP training experience trained small groups of 15-25 LCSs between May 28 and June 5, 2012. In

addition, key stakeholders from both districts attended and spoke at the trainings to demonstrate their support for the study, to emphasize the importance of the LCSs' compliance with regulations prohibiting administration of DMPA and to explain the potential contribution LCSs could make to increasing access to FP at the community level. A local pharmaceutical company sold DMPA with accompanying syringes to the LCSs for 30 pesewas (US\$0.15) per vial to be sold for 50 pesewas (US\$0.25). Following the brief training on how to sell DMPA, approximately half of the LCSs (39 Amansie West, 15 Ejisu-Juabeng) were randomly assigned to stay for another short training on enrolling up to 10 clients each in the study.

To advertise the availability of DMPA at the licensed chemical shops, a 30-minute question and answer-style radio show about DMPA, its effectiveness, side effects and eligibility for the study was created and broadcast four times a week at local community information centers. These centers usually use bull horns to broadcast information about special events, funerals and festivals.

Study design and sample

The study was a post-intervention descriptive study that used a longitudinal design to follow a cohort of clients and LCSs trained to sell and refer for DMPA. Amansie West and Ejisu-Juabeng represent typically rural and peri-urban districts, respectively. The team collected data from June 2012 to January 2013 using structured phone interviews with LCSs and

Figure 2: Family Planning Use of DMPA Clients of LCS (N=298)

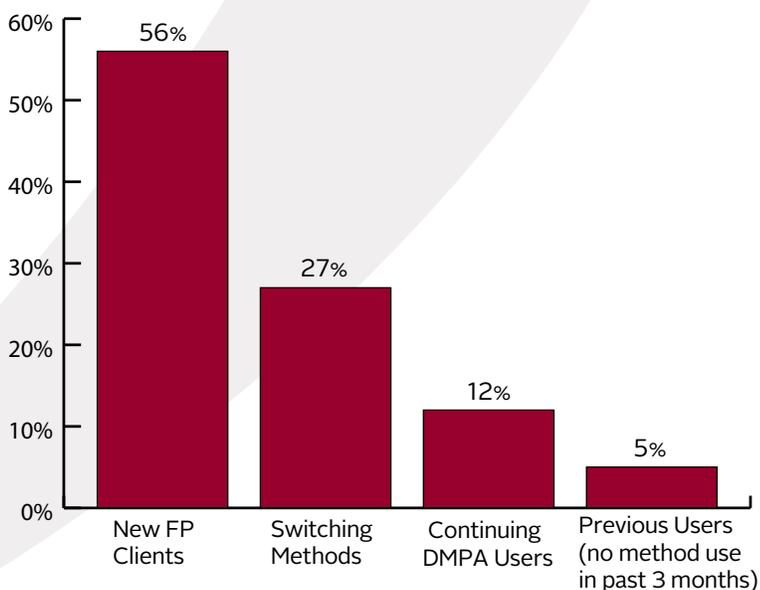
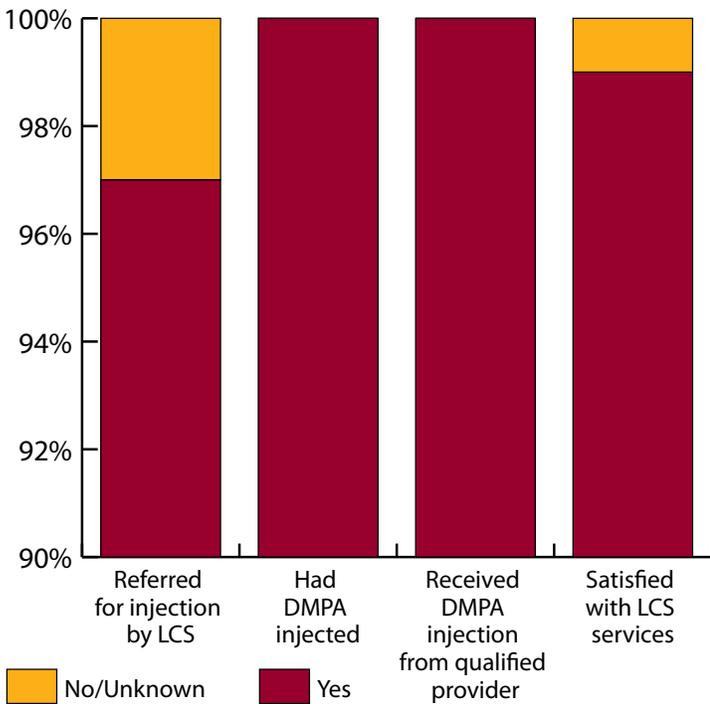


Figure 3: Referral for Injection and Location of Injection (N=298)



DMPA clients of LCSs after the sale of DMPA was introduced in the selected licensed chemical shops. The team collected cross-sectional data at baseline and between 3 and 6 months later. Also, geographic coordinates were collected for participating LCS shops and all public health facilities within both districts.

Beginning two weeks after the introduction of the sale of DMPA, LCSs were contacted biweekly to determine client load and obtain client contact information. Three months after baseline, LCSs were contacted by phone for an interview. LCS interview questions addressed demographics, FP sales experience, knowledge and attitudes towards FP and satisfaction with DMPA sales.

The team contacted DMPA clients of LCSs for a phone interview as soon as contact information was obtained. Women were eligible for interview if they met three criteria: 1) between 18 and 49 years old, 2) purchased DMPA from an LCS, and 3) had access to a mobile phone. Initial client interviews were conducted with all clients 2 to 4 weeks after purchasing DMPA from a licensed chemical shop to allow the client time to go to a health facility and receive the injection. Client survey questions addressed demographics, use of family planning, acceptability, accessibility and satisfaction with the services. Clients received two Cedis (US\$1.00) of mobile phone airtime as

compensation for this interview. Women were eligible for a follow-up interview if they purchased DMPA in the first three months of the study. Follow-up client interviews, conducted three months after the first interview, included questions on continuation of DMPA, location of follow-up DMPA services, and satisfaction with services. Clients who completed the follow-up interview received an additional two Cedis of mobile airtime.

Results

In total, 94 of the 104 trained LCSs were reached for the first interview, and 298 DMPA clients of LCSs participated in the initial interview. Of those clients, 147 purchased DMPA in the first three months of the study and therefore were eligible to participate in the follow-up interview. Sixty-three percent of those eligible participated in the follow-up interview (n=92). These 92 women were similar demographically to the larger sample of 298 women.

Client demographics:

- Over two-thirds (69%) were under 30 years old (average was 27 years old).
- Approximately half completed middle school and 86% reported some formal education.
- Clients had an average of 2.2 living children, although 20% had no children.
- One-third (34%) reported they would like children or more children; 29% did not want children or more children; and 37% were unsure or fatalistic about the decision.

LCS demographics:

- Most were male (90%) and three-fourths were over 40 years of age.
- Ninety percent lived in the same community where their shop was located.
- All had at least a middle school education and 22% had attended some form of higher education.

- All were licensed by the Pharmacy Council and 25% had additional medical qualifications including community health worker (12%) or health assistant (12%).

Family planning use: Many of the women who purchased DMPA from an LCS were new FP users (56% total: Amansie West, the rural district = 58%; Ejisu-Juabeng, the peri-urban district = 46%). Nearly a third of the women were switching methods (27%); the remainder were continuing DMPA users (12%) and previous FP users who had not used in past three months (5%) (Figure 2). Women reported that they purchased DMPA because they did not want more children (29%), their husband/partner wanted them to use DMPA (25%) and it was recommended by a friend/relative/LCS (17%). Of the 92 women who participated in the follow-up interview, 79% purchased DMPA from an LCS again. Of the 19 women (21%) who did not purchase DMPA from an LCS again, 32% were still using FP but were getting their FP method from a different source.

Distance to LCS: Women traveled an average of 1.6 kilometers and 21 minutes to the LCS shop where they purchased DMPA. Three-quarters of the women walked to the LCS shop and 21% took commercial transportation. The distance women reported traveling to the health facility where they received the DMPA injection was almost double the distance from their home to the LCS shop. In Amansie West, 21.1% of women of reproductive age (WRA) lived within the average walking distance (1.21 km) and 80.4% of WRA lived within the average distance traveled via motorized transport (2.85 km). In Ejisu-Juabeng, 41.9% lived within average walking distance (1.25 km) and 60.1% lived within average distance traveled via motorized transport (1.46 km) (Figure 1).

Access and cost: All women who purchased DMPA reported having the DMPA injected. Most women were referred to a local hospital (69%) or health center (26%) by the LCS and 97% of women went to the place of referral for the injection. No women reported receiving the injection at the LCS shop (Figure 3). The total cost to a woman for receiving DMPA was calculated as the cost of DMPA + cost of injection + cost of transport (to an LCS and to injection site). The most expensive component was the fee for the injection followed by the cost of transportation to the place of injection. Women in Ejisu-Juabeng reported a higher average total cost to access DMPA of

3.19 Cedis (US \$1.60) while women in Amansie West, the rural district, reported an average cost of 2.59 Cedis (US \$1.30). The majority of women perceived the total cost as acceptable.

Reasons for purchasing DMPA from an LCS: One-third of women reported that they purchased DMPA at the LCS shop because they heard the advertisement that it was now available there. Reasons cited for purchasing DMPA at an LCS shop were convenient location, trust in the LCSs, the good price (33%) and commodities being in stock (16%). (Public-sector clinics have experienced chronic shortages of DMPA in recent years.) When asked if they knew of anywhere else to purchase DMPA other than the LCS shop, 70% could not report another location and 22% reported the hospital. Among the 30% of women who could report another location, the top three reasons they reported for not going to that location were distance (34%), stock outs (22%) and cost (20%).

Knowledge of side effects: Almost all of the clients (99%) were able to correctly state the length of DMPA's effectiveness. However, clients uniformly had poor spontaneous recall about DMPA's side effects or complications needing medical attention. On average, only 45% of clients were able to spontaneously mention one or more side effect and only 32% were able to spontaneously mention a complication. This result was surprising, given that many clients were continuing DMPA users and all clients should have been counseled at the facility where injection took place.

Client acceptability: Clients uniformly reported satisfaction (99%) with their visit to the LCS and stated that they think the LCS is able to provide them the products and services they need (96%) and that they will purchase DMPA from an LCS again (93%). Clients consistently stated that they trust the LCS and that the LCS is able to take the time to answer questions and explain about DMPA and pregnancy prevention in general.

LCSs' FP knowledge: LCSs reported a high awareness of FP methods, especially DMPA (96%), condoms (93%) and oral contraceptive pills (92%). Only one LCS was unable to correctly state the length of DMPA's effectiveness. Awareness of common DMPA side effects varied; the most commonly recalled side effects were irregular menses (70%), headache (62%) and weight gain (50%).

LCSs' DMPA selling practices: The LCSs were not trained to inject DMPA and legally are not allowed to inject. No clients or LCS reported injections occurring at the LCS shop or by the LCS. LCSs were instructed to refer clients to a health facility for injection, and in most cases (93%) referred clients to a public-sector hospital for the injection. The clinical provider at the referral hospital or health facility is responsible for screening women for medical eligibility for DMPA use.

Discussion

This survey showed that LCSs can be trained to sell DMPA and refer clients to a health facility for counseling and injection. No cases of an LCS providing a client with an injection were reported by an LCS or a client. The LCSs were able to reach new FP users, and a large proportion of women purchased a second dose of DMPA from the LCSs.

As found in other studies,⁴ women felt comfortable talking to the LCSs about their FP needs and trusted and respected their advice. Women sought services from the LCSs also because it was convenient and accessible — most women walked less than 20 minutes (2 km) to reach the LCS. Also, as stock outs of DMPA are common in the public sector, women reported seeking DMPA from the LCS because they believed that the LCS would have DMPA in stock.

Next steps

LCS shops are ubiquitous in the country, even in rural areas, and far outnumber health facilities. With little financial and technical input, the practice of LCSs supplying DMPA could be scaled up to cover the entire country. LCSs operate in the private sector and are able to maintain a continuous supply of products their clients demand. Having DMPA available from additional sources beyond the health facility will help Ghana Health Services meet the FP needs of the Ghanaian population. The LCSs gain social recognition as well as profits from selling DMPA. Additional research should be considered on training LCSs as community health workers so that they can provide DMPA injections. The provision of injectable contraceptives at the community level by minimally trained community health workers has been shown to be safe and effective in multiple countries and is currently being scaled up in many countries.⁹⁻¹¹

References

1. Ghana Statistical Service (GSS), Ghana Health Services (GHS), IFC Macro. Ghana Multiple Indicator Cluster Survey [unpublished results]. Accra, Ghana: GSS, GHS, and IFC Macro; 2011.
2. Ghana Statistical Service, Ghana Health Service, ICF Macro. Ghana demographic and health survey 2008. Accra, Ghana; 2009.
3. Government of Ghana National, Development Family Planning Commission. Medium-term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013). Washington, D.C.: International Monetary Fund; 2010.
4. Brieger WR, Osamor PE, Salami KK, et al. Interactions between patent medicine vendors and customers in urban and rural Nigeria. *Health Policy Plan.* 2004;19(3):177-82.
5. Stanback J, Otterness C, Bekiita M, et al. Injected with controversy: sales and administration of injectable contraceptives in drug shops in Uganda. *International Perspectives on Sexual and Reproductive Health.* 2011; 37(1): 24-9.
6. Sudhinaraset M, Ingram M, Lofthouse HK, et al. What is the role of informal healthcare providers in developing countries? A systematic review. *PLoS ONE.* 2013; 8(2):e54978.
7. Ghana Pharmacy Council. MIS/Publications Unit, Collated Data; 2012.
8. Pfizer. Mobilize Against Malaria: Lessons Learned From Ghana; 2010.
9. Hoke T, Brunie A, Krueger K, et al. Community-based distribution of injectable contraceptives: introduction strategies in four sub-Saharan African countries. *International Perspectives on Sexual and Reproductive Health.* 2012; 38(4):214-9.
10. Malarcher S, Meirik O, Lebetkin E, et al. Provision of DMPA by community health workers: what the evidence shows. *Contraception.* 2011; 83(6):495-503.
11. Stanback J, Spieler J, Shah I, et al. Community-based health workers can safely and effectively administer injectable contraceptives: conclusions from a technical consultation. *Contraception.* 2010; 81(3):181-4.

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