

# Scaling Up Community-based Access to Injectable Contraceptives in Uganda: Lessons Learned from Private- and Public-sector Implementation



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## **Acronyms**

CBA	Community-based access
CBD	Community-based distribution
CHW	Community health worker
CTPH	Conservation Through Public Health
CYP	Couple-years of protection
DHO	District health office
DMPA	Depot-medroxyprogesterone Acetate (marketed as Depo Provera)
FHI	Family Health International
FP	Family planning
HMIS	Health management information systems
M&E	Monitoring and evaluation
MDG	Millennium Development Goal
MIHV	Minnesota International Health Volunteers
MOH	Ministry of Health
NGO	Nongovernmental organization
SC	Save the Children
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development

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## Executive Summary

Injectable contraception is a popular family planning method that is safe, effective, easy to use, unobtrusive, and convenient. However, most women in sub-Saharan Africa do not have access to it because it is available only through clinics. Especially for rural women, the time, cost, and distance associated with travelling to a clinic are often insurmountable obstacles.

In 2003–05, Family Health International (FHI), Save the Children, and the Uganda Ministry of Health (MOH) collaborated on a pilot study that demonstrated that properly trained community health workers (CHWs) can safely and feasibly provide injectable contraceptives in their communities. This evidence, combined with the service's potential in Uganda to increase women's access to injectables and alleviate critical shortages of health workers, led to a phased scale-up of the program tested in the pilot study.

Key health officials in Uganda wanted to use the early stages of the phased scale-up to learn how distribution of injectables by CHWs could be implemented through community-based, public-sector programs offered by the MOH as well as through similar private-sector programs.

This report describes the experience of scaling up community-based access (CBA) to depot-medroxyprogesterone acetate (DMPA or Depo Provera) in Uganda through four new programs in Uganda: two in the public sector offered by MOH district health offices and two private-sector programs offered by nongovernmental organizations (NGOs). The authors describe how partnering organizations were identified and their capacity for implementation was assessed and the steps taken to address community sensitization, training, systems harmonization and monitoring, supervision, and program sustainability. Challenges and lessons learned are summarized in each of these areas.

The report does not represent a formal research effort, since FHI did not set out to answer specific research questions at the beginning of the scale-up. Instead, it summarizes programmatic experience and service data collected for two public-sector programs over a 12-month period (beginning in February 2008) and records couple-years of protection provided by the public-sector and private-sector programs for overlapping periods. Start-up dates and observation periods varied, so comparisons could not be drawn between public- and private-sector implementers for all variables. In addition, NGO implementers faced unique funding and implementation challenges, with the result that their service data could not be used beyond December 2008.

A total of 1,364 women received DMPA from 44 public-sector CHWs over the 12-month period. This amounted to a combined total of 799 years of protection, or 18 years of protection per CHW. Most of the women (57%) were first-time users; the rest (43%) had already accessed DMPA through a clinic. No needle-related injuries were reported by any program.

Client satisfaction with the CHW service was measured in two ways: with reinjection rates and with discontinuation and/or attrition rates. The reinjection rates recorded suggest a high degree of satisfaction with the method and services. Among clients of public-sector CHWs, reinjection rates were 73% at three months, 70% at six months, and 84% at nine months.

Discontinuation and/or attrition rates were highest between the second and third injections. Among women who discontinued DMPA provided by public-sector CHWs, 64 women were reported to have done so because they had moved, 21 because they wanted to conceive and 17 did so because they wanted to use a different method. Other reasons for discontinuation were divorce (11) and uncomfortable side effects (10).

Results of the public- and private-sector interventions have been equally positive and indicate that, with appropriate support, this intervention can be integrated easily into existing services provided by CHWs. Moreover, women, clinic providers, and program managers are satisfied with the services and want them to continue. Given this feedback and these positive findings, the study recommends that the MOH review national service guidelines and allow CHWs in both sectors to provide injectables. Additionally, the MOH should consider developing a document to guide national policymakers as they plan for scale-up.

## **1. Background and Introduction**

Access to and use of family planning (FP) in Uganda are key factors in achieving 2015 UN Millennium Development Goals (MDGs), but progress in both these areas has been slow. Currently, only 18% of married women use modern FP methods, a figure that only marginally increased between 2001 and 2006, while unmet FP needs grew by 5%. In Uganda, women have an average of seven children each, although more than 40% of married women want to delay or limit parenthood. Additionally, the country has one of the world's fastest rates of population growth (3.2%), a high fertility rate (6.7%), and a high maternal mortality rate of 435 deaths per 100,000 live births (Uganda Bureau of Statistics and Macro International Inc., 2007).

Compounding Uganda's unmet need for FP is its shortage of doctors, nurses, and midwives, particularly in rural areas where the majority of the population lives. In rural areas, not only are few trained personnel available, but access to modern contraceptive methods is limited and the distribution chain is weak.

If current trends continue, the number of people in Uganda who need social services will double within 20 years, thereby greatly increasing the need for healthcare workers, medical supplies, infrastructure, and other resources. Without significant improvements, high unmet FP needs and poor access to contraceptives will worsen the country's poverty and increase its dependence on foreign aid. Resources available for social services will also diminish, amid an array of competing national priorities.

The Uganda Ministry of Health (MOH) acknowledges the central role that reduced fertility will play in helping to achieve the country's MDGs. Its Poverty Eradication Action Plan—the overarching development strategy—cites improved access to FP services as a prerequisite for national development and achievement of MDGs (Uganda Ministry of Finance, Planning and Economic Development, 2004). Explicit targets for improved use of FP services are also mandated by Uganda's 1999 National Health Policy and its 2005/06 Health Sector Strategic Plan.

The ability to promote FP services depends on the use of effective and innovative strategies to deliver these services to rural populations, given that more than half (51%) of Uganda's population lives more than five kilometers from the nearest health facility. One such strategy is community-based access (CBA) to injectable contraceptives, an approach recently established by USAID as a global technical priority. The injectable depot-medroxyprogesterone acetate (Depo Provera or DMPA) is strongly preferred in Uganda, accounting for more than 40% of the mix of FP methods available.

CBA makes DMPA available outside of clinics and within communities because injections are administered by trained community health workers (CHWs). Training paramedics or non-medically trained workers to administer DMPA can improve women's access to FP services. This task-shifting gives women the contraception method they desire and also addresses Uganda's health-worker shortage.

Between 2003 and 2005, Family Health International (FHI) partnered with the MOH and Save the Children (SC) to conduct a USAID-funded pilot study to assess the feasibility and safety of community-based distribution (CBD) of injectable contraceptives. The pilot was conducted as part of a SC-run CBD program that was providing contraceptive pills and condoms in Nakasongola, a rural district in central Uganda. The pilot study confirmed findings of other studies in other parts of the world: CHWs can safely and feasibly provide DMPA in settings other than clinics, and the practice is accepted by communities (Stanback, Mbonye, and Bekiita, 2007).

### *Expansion with new partners*

Following dissemination of the pilot study's results, the MOH and its partners wanted to scale up CBA to DMPA in other areas of Uganda. In 2006, SC conducted the initial scale-up in Nakaseke and Luwero, two districts adjacent to Nakasongola. Concurrent advocacy resulted in requests for support by other districts and from NGOs who wanted to implement CBA to DMPA. With the MOH's endorsement and funding from USAID, FHI provided technical assistance to public-sector CBA programs in the Busia and Bugiri districts in eastern Uganda and provided similar support for two private-sector partners.

One of these NGOs, Conservation Through Public Health (CTPH), is a grassroots nonprofit that promotes conservation and public health by improving primary healthcare for people living in and around protected forests in southwestern Uganda. During the scale-up, CTPH implemented CBA to DMPA in the Kanungu District, within its traditional area of operation. The second NGO, Minnesota International Health Volunteers (MIHV), is a US-based, international nonprofit whose mission is to improve the health of women and children by means of community-based programs. MIHV implemented CBA to DMPA in the Mubende District in south-central Uganda (fig. 1).



In short, this report documents lessons learned from targeted scale-up of CBA to DMPA, highlights differences between NGO and public-sector providers in implementing the strategy, and recommends ways forward.

## **2. The Scale-up Process**

In 2007, FHI collaborated with SC in producing an implementation handbook to guide new partners in promoting the uptake of CBD of injectable contraceptives (Weil, Krueger, Stanback, and Hoke, 2009). The scale-up in Uganda followed the steps outlined in this handbook, though the public- and private-sector partners did not pursue scale-up in identical ways. Divergences mainly resulted from organizational differences and approaches and varying situations in districts.

### ***Determining feasibility and need and engaging potential partners***

The first phase of the scale-up involved identifying and engaging potential partners and assessing their programs. The costs and benefits of implementation were collaboratively weighed, then the roles and responsibilities of partners who agreed to participate were formalized.

Advocacy and outreach were used to identify and engage potential public- and private-sector partners for the scale-up trials. In May 2007, FHI and the MOH disseminated to every district in Uganda a package of advocacy literature that outlined the evidence supporting the proposed scale-up (Uganda Ministry of Health and Family Health International, 2007). Technical assistance was offered to interested districts.

FHI was able to support scale-up by the first two public-sector programs to respond to the offer: one in Busia District and the other in Bugiri District. CBA to DMPA services were already being provided informally in villages in Busia, and FHI strengthened these innovative efforts to improve access to FP by training CHWs in safe injection procedures, medical eligibility criteria, and waste management.

Outreach to potential NGO partners also occurred in 2007. With assistance from USAID's Washington office, FHI pursued a partnership with MIHV, reaching out to its headquarters in Minnesota and its office in Uganda. For its part, CTPH, an indigenous NGO, initiated the contact after learning of the successful SC pilot and plans for scale-up. After asking SC for technical help with CBA to injectables, the NGO was referred to FHI. Like the new public-sector partners, the two NGOs had experience with CBA programs in the districts where they planned to introduce DMPA.

### ***Engaging Potential Partners: Lesson Learned***

- Identification of partners should involve outreach and advocacy by the MOH and its NGO allies. Quality advocacy materials exist for this purpose.
- When working with a potential NGO partner, it is often necessary to engage decision-makers at its headquarters and in the field.
- Identifying new partners and guiding scale up requires a convergence of support from donors, the government, and implementing agencies.

### ***Assessing capacity and formalizing partnerships***

The FHI implementation handbook includes a rapid assessment tool that can be used to evaluate the need for CBA to DMPA services within a community as well as a program's capacity to add the services (Weil, Krueger Stanback, and Hoke, 2009). Using this tool, FHI staff assessed the community-based reproductive health programs of the MOH in Busia and Bugiri. The two NGOs also used the tool to conduct rapid assessments of their respective programs in Kanungu and Mubende.

Service statistics on FP use and the reports of clinic providers evidenced substantial unmet need for FP in the four districts. In addition, assessments of the public-sector service areas revealed that CBA programming had weakened over the previous year. Between 1999 and 2006, the United Nations Population Fund (UNFPA) funded public-sector CBA to FP programs in Busia and Bugiri, but the 2007 rapid assessment revealed fewer active CHWs, that their volume of work had shrunk and that supervision and monitoring and evaluation (M&E) mechanisms needed to be strengthened.

Both CTPH and MIHV were able to demonstrate that their private-sector CBA programming was strong enough to incorporate provision of DMPA and that the service was needed in their districts. During the assessment, MIHV was not sure it would be able to secure funding for the program after the pilot. That problem was quickly resolved, and MIHV agreed to a formal partnership with FHI for technical assistance.

Challenges that had emerged from the rapid assessments began to be addressed. In the public sector, district officials determined that the benefits of adding the provision of DMPA to their community health services would outweigh costs, and they agreed to allocate more funding and staff time to support the areas that needed strengthening: management, supervision, and M&E.

FHI agreed to provide ongoing technical updates, help train CHWs and adapt tools they were using to support the provision of DMPA, and support quarterly review meetings within each district that were used, in part, to receive data from the CHWs for analysis, provide technical updates, and monitor implementation.

To address concerns of the MOH and others about the ability of NGOs to sustain private-sector CBA to DMPA programs, CTPH and MIHV agreed to coordinate their services as much as possible with public-sector health clinics and with district health officials in Kanungu and Mubende. For example, it was agreed that the main implementer was the DHO and MIHV was only a technical assistance organization. In that way, if either NGO lost funding, public-sector teams in those districts would have the knowledge and capacity to continue the services. Linking to the public sector was also the best way to ensure that referral, logistics, and waste-management systems would function efficiently and cost-effectively.

At this point, the four implementing partners signed formal agreements that outlined the roles and responsibilities of all parties. Subsequently, all four partners designated a core team in each district to guide implementation, supervision, and M&E. FHI did not provide additional support to any of these core teams.

Core teams in the public sector comprised district health officers, clinic managers, clinic midwives, and health assistants in charge of sub-counties. To avoid increasing their workloads, core-team members discussed CBA to DMPA programming during monthly district meetings they were already attending.

Private-sector core teams comprised local NGO staff and key representatives of district health teams. These core teams met monthly, but it was a challenge to maintain the link with the district health team in Kanungu because of the remote, mountainous terrain where CTPH operates. District involvement thus became limited to receipt of monitoring reports.

### ***Assessing Capacity and Formalizing Partnerships: Lessons Learned***

- The need for CBA to DMPA must be weighed against the operational costs of providing the service.
- Any identified weaknesses of a CBA program must be addressed before injectables are introduced.
- FHI and authorities in each district collaborated to strengthen capacity and commit resources. Within public-sector programs, supervision and M&E systems appear to be insufficient, and more support will be needed for continued scale-up.
- Private-sector programs typically appear to be stronger than public-sector programs, in terms of supervision and other operational support. However, private-sector programs may be financially weaker in the long term due to shifts in donors' grant cycles, priorities, and funding.
- To sustain the service and CBA, NGOs collaborated with district health offices and used governmental logistics, referral, and waste-management systems.
- The establishment of a district-led core team to guide the introduction of the service is necessary for project buy-in, sustainability, and monitoring.

## ***Implementation and adaptation***

Once implementing partners assessed feasibility and needs and the partnerships were formalized, they prepared to implement the program.

### *Harmonizing CBA to DMPA with existing healthcare systems*

Partners were concerned about their ability to sustain the new program, and all four shared the goal of integrating it into district health systems to make it more sustainable. Similar processes were used in both sectors to harmonize scale-up activities with existing logistics, waste-management, reporting, and supervision systems, but all four partners needed some help from FHI to accomplish these ends.

FHI assisted public-sector partners by adapting data collection tools, training supervisors, and orienting clinic-based providers and CHWs to the added service. For private-sector partners, FHI shared its technical expertise with NGO and clinic staff in Kanungu and Mubende, offering a one-day workshop to train them on their supervisory roles. Afterwards, the NGOs coordinated all other activities related to harmonization, such as integrating the new data with district health management information systems (HMIS), liaising with clinical staff, and providing technical support for the procurement of supplies.

No new systems were created by any program to manage the provision of DMPA, and no formal incentives were given to any of the CHWs when this task was added to their scope of work.

### ***Harmonizing Scale-up Activities: Lessons Learned***

- For the success and sustainability in both sectors, CBA to DMPA needs to be harmonized with current systems used for procurement, logistics, waste management, and supervision and monitoring.
- Harmonization requires the good will of everyone involved and a willingness to adjust and adapt current practices.
- To harmonize activities, key clinic staff need to receive onsite orientation to their new roles and responsibilities.
- A new contraception method can be added to existing FP services without creating new management systems or adding formal incentives.

### *Promoting CBA to DMPA and sensitizing communities*

Public- and private-sector implementing partners made targeted efforts to promote acceptance of and support for CBA to DMPA within the communities served. Regular community sensitization meetings on FP were ongoing and supported by the two implementing NGOs, so community members were aware of the CHWs and supported their work. Because similar meetings were not being regularly held by public-sector CHWs, FHI supported community meetings that provided information and encouraged acceptance of the new service. FHI also worked with district health offices (DHOs) to lead sensitization meetings for political and civil-society leaders who could influence district-level decision-making.

The relationships established helped stakeholders to take ownership of the new program, a necessary condition for sustaining the service. As a result, community leaders committed to supporting implementation, and stakeholders in both groups were updated on current use of FP in the country and on the findings of the pilot study on CBD of DMPA (Stanback, Mbonye, and Bekiita, 2007).

#### ***Promoting CBA to DMPA and Sensitizing the Community: Lessons Learned***

- Meaningful involvement of district stakeholders and community members is key to building awareness of CBA to DMPA and the adoption of the program.
- Ongoing community meetings held by NGOs can be easily used to inform local villages and citizens about the new service.

### *Training CHWs*

All programs had trained CHWs in FP and were already distributing pills and condoms. However, CHWs in public-sector programs had not received any recent FP training and required refresher updates. These updates were provided by FHI and district health officers during quarterly review meetings, which served to keep costs down. CHWs in private-sector programs had been recently trained and did not require similar updates.

Training in CBD of DMPA was provided in December 2007 in Busia, in January 2008 in Bugiri, in May 2008 for CTPH, and in June 2008 for MIHV. Public-sector implementers trained all their CHWs to provide DMPA, while the NGO implementers selected for training only those CHWs who were already performing well.

The DHO or the NGO assembled a team of trainers in each district. Before these teams began their work, FHI provided a one-day orientation that introduced the tools and training manual they would use. In addition, FHI supported a master trainer who had conducted the pilot-program's DMPA training. This master trainer assisted public-sector and MIHV teams, but a language barrier prevented him from assisting the CTPH trainers.

All teams of trainers used the MOH-approved general training curriculum for FP and CBD, as well as the manual developed by FHI on the practice of CBD of DMPA (Family Health International, 2007). Trainings for CHWs working in the public sector and for MIHV took two weeks, one week devoted to theory and the other to provision of injections. At the NGO's cost, the CTPH trainers added an additional week to ensure that the CHWs had mastered the material. During that week, trainers observed each CHW providing five injections—the number recommended before a certificate of completion was awarded.

### ***Training CHWs: Lessons Learned***

- Public-sector CHWs needed more refresher trainings in FP and reproductive health than did their counterparts in the private sector.
- Flexibility in the training schedule is an asset. A mid-course change by one NGO extended the practicum period for CHWs by more than a week.
- Standardization is important, both for the approach to training and the materials used, and it can be achieved by assembling a training team that brings master trainers and district and NGO trainers together.

### ***Managing logistics and waste***

Overall, there were no significant differences in how public-sector and private-sector programs managed logistics, waste, and procurement. Prior to the public-sector scale-up, FHI obtained items that DHOs were to dispense to CHWs: seed stocks of DMPA, syringes, and boxes for safe disposal of medical waste. The NGOs handled this initial procurement. Once scale-up was underway, all four implementing agencies managed procurement as well as monthly supervision of CHWs.

Early in the scale-up, all CHWs would receive five vials of DMPA at a time. As the service's popularity grew, CHWs received more vials during each resupply to circumvent stock-outs and keep clients on schedule with their reinjections.

MOH health clinics stored supplies for the scale-up in all four districts. NGOs made an extra effort to ensure that supplies did not run out, acting as liaisons between the CHWs and the clinics, and collecting supplies and distributing them to the CHWs. This support was not available in the public sector, and stock-outs were more frequent. When these occurred, district teams borrowed supplies from each other.

FHI addressed urgent needs for depleted items by working with the MOH to speed procurement and encouraged DHOs to make timely requests to meet the increasing demand for DMPA. When stock-outs became crippling midway through the public-sector implementation, FHI reached out to the DELIVER Project, which is working to improve the security of contraceptive supplies by

strengthening in-country supply chains. DELIVER sent a trainer to meet with public-sector CHWs and train them in logistics management. This alleviated the problem in part, but commodity security is still a significant, ongoing challenge at the national level.

No new waste-management systems were developed. CHWs took their filled safety boxes to health clinics in their districts for safe incineration and received new safety boxes there.

### ***Managing Logistics and Waste: Lessons Learned***

- During training and start-up, seed stocks of DMPA and related supplies are needed. These should be specifically procured by the organization responsible for training.
- During scale-up, regular resupply and waste disposal can be coordinated within existing systems.
- NGOs responsible for the provision of DMPA by CHWs can play a large role by helping districts to request and distribute commodities and ensure adequate supplies.
- Training CHWs to anticipate their supply needs can help to prevent stock-outs.
- Until there are system-wide improvements for supply systems, creative solutions must be employed to overcome stock-outs. Examples include FHI's collaboration with the MOH, districts borrowing from each other, and provision of DMPA to CHWs in large enough increments to ensure that clients are on time for reinjection.

### ***Monitoring and supervising CHWs***

For the public-sector program, the monitoring and supervision framework developed by FHI and partners was based on the DHO supervisory structure, since DHO staff supervised the trained CHWs to ensure service quality. In the private-sector, this function was fulfilled by health extension workers employed by the NGOs.

To integrate the reporting of routine service-statistics into the HMIS in use in the public sector, FHI convened district clinic staff and HMIS officers to advise on adapting the reporting forms CHWs would use during DMPA provision so their data would be compatible with existing reporting tools. In conjunction, CHW supervisors received a day-long orientation that was planned and convened by FHI.

Public-sector programs experienced the greatest data-collection challenges, since several CHWs did not clearly understand how to use the client-tracking form they were given, though they had all been trained on its use. Instead of using the form, these CHWs collected information in their own daily notebooks. To compile this report, the authors consulted these notebooks and resolved any data conflicts. Later, a data collection tool adapted from the SC program was successfully introduced to ease the data-collection task.

Private-sector programs added data-entry fields for provision of DMPA to existing M&E tools that tracked the distribution of pills and condoms. CTPH also added a one-year tracking card (originally developed by FHI) to their package of monitoring and supervision tools.

Though each of the partners had determined prior to implementation how they would report activities and provide supervision, plans did not always match reality. A challenge arose when public-sector core teams acknowledged they could not financially afford to meet each month with the CHWs to obtain reports, as agreed upon during the planning phase. Instead, data collection, reporting, and technical updates took place when FHI convened quarterly meetings with district core teams and the CHWs. FHI played this central role because the meetings accomplished both data collection and supervision and timely collection of service statistics was important for reporting outcomes. It remains unclear whether these meetings will be sustained by DHOs without additional support.

Additional support for M&E and supervision may also be an issue for private-sector scale-up, given that CTPH and MIHV—not the district health teams—supported quarterly supervision, and the NGOs routed their quarterly reports of service statistics to FHI for assessments of progress and outcomes.

Overall, public-sector CHWs encountered no problems meeting with their assigned clinic supervisors for regular resupply, referral follow-up, and general supervision. These supervisors—usually nurse-midwives—had been provided with the training and tools to conduct supportive supervision. However, it should be noted that an evaluation of the quality of the supervision was not conducted or within the scope of the phased scale-up.

Basic mechanisms for ensuring quality and safety were similar in all programs. While CHWs were supervised and resupplied by public-sector clinic staff on a regular basis, the NGOs provided extra supervision. Before the DMPA initiative began, the NGO health extension workers had been meeting with CHWs individually and providing supportive supervision on a quarterly basis, and they continued to do so throughout the observation period.

Interestingly, the CHWs in Busia created their own supervisory innovation that addressed any need for more regular supportive supervision: a designated “CHW leader” who would provide regular and impromptu support and leadership for his peers. This innovation was later adopted by the CHWs in Bugiri and those with CTPH. CHWs with SC also adopted this concept after their exchange visit to Busia in June 2008.

### ***Monitoring and Supervising: Lessons Learned***

- The public-sector program intended to strengthen M&E and CHW supervision, but resource constraints made it difficult to hold supervisory meetings on a regular basis.
- Selective screening of CHWs by the public-sector program may have warded off problems down the road with monitoring and data collection.
- M&E tools needed to be simpler, though they had been tailored to the CHWs and training provided on their use.
- For ease of use and to promote sustainability, the new program's M&E tools should be adapted to or incorporated into existing tools.
- Designating CHW leaders who provide their peers with ad-hoc guidance and support can fill gaps in supervision.

### **3. Scale-up Data and Results**

Scale-up data on CBA to DMPA were collected on public- and private-sector implementation, but during varying periods ranging from five months to one year (appendix 2). For comparison purposes, DMPA service-delivery reports for the same periods were obtained from government health clinics in implementation areas.

Starting at the beginning of scale-up activities, data from Busia and Bugiri were collected for a period of one year (February 2008 to February 2009). Data on MIHV activities were reported for six months (June to December 2008), and data on CTPH activities were reported for five months (July to December 2008). CTPH faced a funding shortfall after December 2008; CHWs were no longer supervised and service data were no longer collected.

MIHV trained an additional 18 CHWs in November 2008. Because the NGO reported aggregated service statistics for all CHWs, the available data pertain to the 21 CHWs who began to provide services prior to November 2008 and to the 39 CHWs who were providing services after this date. To facilitate the interpretation of results, the authors limited their analyses to the period between July and December 2008.

Several measures were derived from service statistics, including couple-years of protection, number of clients served, continuation rates, and timing of reinjections. Findings are summarized below, and appendix 1 describes the methods used to analyze the data.

## ***DMPA coverage***

Couple-years of protection (CYP) for DMPA is a measure of contraceptive coverage achieved through CBA to DMPA. This is calculated as an estimate of the projected length of protection against pregnancy provided by DMPA during a one-year period, if all injections required are administered. CYP indicates a contraception program's volume of activity.

Table 1 summarizes CYP by program, calculated over a five-month period in the public-sector and the CTPH programs, and by the MIHV program over a six-month period. Because these periods differ, direct comparisons can not be drawn.

**Table 1. Couple-years of protection from DMPA provided by CHWs<sup>1</sup>**

<b>Program</b>	<b>Number of CHWs</b>	<b>Total CYP provided</b>	<b>Average CYP per CHW</b>
Public sector			
Bugiri	24	196	8
Busia	20	249	12
Private sector			
CTPH (Kanungu)	13	89	6.8
MIHV (Mubende)	21 <sup>2</sup>	90	N/A
CYP = total number of injections given; * 0.25: 3 months of protection = 0.25 of one year			
<sup>1</sup> For the public-sector and CTPH programs, CYP was calculated over a 5-month period (July to December 2008). For the MIHV program, CYP was calculated over a 6-month period (June to December 2008).			
<sup>2</sup> Between June and December 2008.			

On average, CHWs in Busia and Bugiri delivered a combined average of 10 CYP per CHW. This is more than their counterparts did in the CTPH program, who delivered a combined average of 6.8 CYPs per CHW. Available data did not permit calculations of the average CYP per CHW for MIHV.

Table 2 provides a more detailed breakdown of CYP achieved through CBA to DMPA in Busia and Bugiri. Total CYP provided over a 12-month period was 351 for Bugiri and 449 for Busia, which translates into an average of 15 CYP per CHW in Bugiri and an average of 22 CYP per CHW in Busia.

By comparison, health clinic reports in subdistricts implementing CBA to DMPA indicate that clinical providers distributed a total of 67 CYP in Bugiri and 48 CYP in Busia. These data suggest that CHW provision of DMPA in the public sector makes a substantial contribution to contraceptive coverage. The greatest amount of CYP delivered by CHWs was in the Buluguyi subdistrict of Buguri, a variation that might derive from differences in population density as well as other factors.

**Table 2. CYP from DMPA provided by public-sector CHWs, 18 Feb. 2008–17 Feb. 2009**

District and subdistrict	Number of CHWs	Total CYP provided	Average CYP per CHW
Bugiri	24	351	15
Bandai	8	88	11
Budaya	7	92	13
Buluguyi	9	171	19
Busia	20	449	22
Buhehe	10	201	20
Bulumbi	10	247	25
Total	44	800	18
CYP = total number of injections given ; * 0.25 (3 months of protection = 0.25 of one year)			

### *Meeting demand*

Over one year, 1,364 women received at least one DMPA injection from 44 CHWs in Bugiri and Busia. As table 3 shows, 522 women accepted DMPA from 24 CHWs in Bugiri and 842 women accepted DMPA from 20 CHWs in Busia. Over the same period, the five clinics within whose catchment areas these CHWs were located delivered DMPA to many fewer women: to only 265 in Bugiri and 192 in Busia.

Most of the DMPA clients in public-sector programs were new adopters (using the injectables for the first time): 66% of the clients in Bugiri and 51% of those in Busia were in that category. Among DMPA clients in Busia, 48% had previously received the injectable in a clinical setting.

**Table 3. Summary of DMPA provision by public-sector CHWs, 18 Feb. 2008–17 Feb. 2009**

District and subdistrict	Number of CHWs	Number of DMPA clients served by CHWs	% of CHW clients new to DMPA	% of CHW clients who previously received DMPA from clinics
Bugiri	24	522	66	34
Banda	8	175	57	42
Budaya	7	130	82	19
Buluguyi	9	217	63	37
Busia	20	842	51	48
Buhehe	10	396	40	58
Bulumbi	10	446	61	39
Total	44	<b>1,364</b>	57	43

In Burigi and Busia, more women initiated DMPA from CHWs than from clinics. Table 4 provides data on new DMPA users served by CHWs in these districts between 1 June and 31 December 2008, compared with the number of new users served by clinical providers in whose catchment areas the CHWs were providing services. During this period, CHWs in Bugiri served 183 first-time DMPA users, while clinics recorded 172 first-time users. In Busia, CHWs served 226 new DMPA users, while 90 new users were served by government clinics.

**Table 4. First-time DMPA clients served by public-sector CHWs and by government clinics, June– Dec. 2008**

District and subdistrict	Number of new DMPA clients served by CHWs	Number of new DMPA clients served by clinics
Bugiri	183	172
Bandai	44	25
Budaya	61	58
Buluguyi	78	89
Busia	226	90
Buhehe	93	30*
Bulumbi	133	60*
Total	409	262
*Includes 1 month stock-out		

The absence of multiyear, baseline data on DMPA clinic provision prior to the beginning of scale-up activities precludes further analysis about the contribution of CBA to DMPA, including whether the number of new DMPA clients reflects increased access to DMPA or more general trends favoring DMPA use, whether task-shifting from clinics to CHWs is occurring, and whether CBA to DMPA affects the number of new acceptors in clinics.

### *Satisfaction with services and quality of service*

#### *Reinjection rates*

There is no standard measure for quality of CBA to DMPA services. However, acceptance of a reinjection is a very proximate, direct outcome of clients' experience. Reinjection suggests some degree of satisfaction with the method and services received, including presumably the quality of counseling and of the injection experience itself.

Table 5 shows the proportion of eligible clients who received a reinjection from a CHW (after enough time had passed since the previous injection). The vast majority of eligible clients accepted this second injection: 77% of those in Bugiri and 68% of the clients in Busia. Further, among women receiving a second injection, 68% in Bugiri and 72% in Busia went on to receive a third. The proportion of continuing acceptors was highest at the nine-month interval, with 84% of the women who had received three injections accepting a fourth from CHWs, or 82% in Bugiri and

88% in Busia. This may suggest that women develop a strong commitment to the method and its delivery by CHWs by the time they receive three injections.

### *Needle-stick injuries*

Avoidance of needle-stick injuries is an important aspect of safe delivery of DMPA at the community level, given Uganda’s relatively high HIV prevalence. No needle-stick injuries were reported by any of the public-sector or private-sector programs.

**Table 5. Reinjection rates and reported needle-stick injuries among public-sector CHW clients, 1 June to 31 December 2008**

District	Eligible clients receiving reinjection <sup>s</sup>			Reported needle-related injuries
	At 3 months	At 6 months	At 9 months	
Bugiri	77% (n=618)	68% (n=413)	82% (n=211)	0% (n=1572)
Busia	68% (n=800)	72% (n=464)	88% (n=179)	0% (n=1896)
<b>Total</b>	72% (n=1418)	70% (n=877)	84% (n=390)	0% (n=3468)

### *Attrition*

It is useful to examine when attrition occurs when assessing reasons that clients discontinue CBD of DMPA services. To this end, the authors looked at all DMPA clients who could have received up to three reinjections over the reporting period. A total of 467 women received their first injection early enough to be eligible for a third injection before the reporting period ended. Of these, 239 were in Bugiri and 228 in Busia. Table 6 shows the percentage of clients in this category who received one, two, and three reinjections, at 3-, 6-, and 9-months, respectively. As could be expected, continuation rates show a declining trend with each reinjection. Among the 239 clients in Bugiri, 47% received a fourth injection at nine months; among the 228 in Busia, 39% received a fourth injection.

Attrition is represented by the difference in the proportions continuing the service between two consecutive injections. As seen in table 6, attrition in Bugiri is 14 percent between the first injection, received by 100% of these clients, and the second injection, received by 86%. Attrition between the second and third injection is 27% of the initial cohort, and it is 12% between the third and fourth injections. As a proportion of the initial cohort in Busia, attrition at each of the three stages is 28%, 21%, and 12%. The biggest loss to follow-up occurred between the second and the third injections in Bugiri (27% of the cohort) and between the first and the second injections in Busia (28% of the cohort).

Women may choose to stop receiving DMPA services from CHWs for many reasons. Some providers reported in their notes that their clients had experienced side effects, but they did not appear to have kept consistent records of side effects, associated referrals, and follow-ups. Among 123 clients for whom reasons for discontinuation of DMPA services were recorded in Bugiri and Busia, 64

reportedly did so because they had moved, 21 because they wanted to conceive, 11 because they had divorced or split from their partners, 17 because they wanted a different method, and 10 because they had uncomfortable side effects.

**Table 6. Continuation rates among public-sector clients who could have received four injections during the study period**

District	Eligible clients receiving reinjections <sup>1</sup>		
	At 3 months	At 6 months	At 9 months
Bugiri (n=239)	86%	59%	47%
Busia (n=228)	72%	51%	39%
<b>Total (n=467)</b>	<b>79%</b>	<b>55%</b>	<b>42%</b>

<sup>1</sup>Continuation rates are calculated among clients who received their first injections early enough to have had the opportunity to receive a total of four injections during the study period.

### *Timeliness of reinjections*

To maintain protection against pregnancy, it is recommended that clients receive DMPA injections every three months. The World Health Organization further recommends a grace period of two weeks before the scheduled reinjection date and four weeks after, resulting in a 10- to 16-week reinjection window after the last injection.

To evaluate their timeliness, reinjections were categorized according to when they were provided by CHWs:

- prior to the beginning of the reinjection window (less than 10 weeks after the last injection)
- within the reinjection window (10–16 weeks after the last injection)
- after the end of the reinjection window (more than 16 weeks after the last injection)

As shown in table 7, among clients who received DMPA from public-sector CHWs, only 2% were given injections prior to the beginning of the reinjection window, 92% received them within the window; and 6% were given injections after the end of the reinjection window. These data speak to the ability of CHWs to appropriately manage the reinjection calendar. It should be noted that half of all injections were given on the exact day they were due, 12 weeks after the previous injection. The reasons that 8% of injections were given outside of the reinjection window cannot be explained, though client-scheduling problems may have contributed.

**Table 7. Timing of reinjections in the public sector<sup>1</sup> (n=1962)**

Time of reinjection	Number of weeks since previous injection	Number of injections	% of all injections
Prior to beginning of reinjection window	<10	37	2%
Within reinjection window	10–16	1803	92%
After end of reinjection window	>16	122	6%
Total reinjections received within reinjection window	10–16	1803	92%
Total reinjections received outside reinjection window	<10 or >16	159	8%
<sup>1</sup> For clients who missed an injection but had subsequent injections, the missing injection and all subsequent injections are excluded. The total excluded is 31; 20 injections were missed due to stock-outs.			

#### 4. Conclusions

The experience in Uganda is an excellent model that can be used to assess scale-up of CBA to DMPA with different types of community health programs. The need for this service is high in the areas served by the NGOs and public-sector agencies. In the four districts studied, the private sector had more technical and financial capacity than the public sector to implement CBD of DMPA, and this is likely to be true in many other districts. However, private-sector capacity may be weakened by funding uncertainties. To address this potential threat, the private sector must liaise with public sector through a DHO to ensure the sustainability of the program.

To be successfully implemented and sustained, private-sector and public-sector programs providing CBD of DMPA need to be harmonized with existing monitoring and supervision, logistics, and waste-management systems. This requires commitment from all stakeholders and key players, and clinic staff need to be oriented to their new roles and responsibilities. The experience in Uganda shows that harmonization with the existing health structure is feasible for private-sector implementers.

Success and sustainability also depends on community acceptance of the CBD program and demand for the services. While meetings with key district stakeholders should be held prior to implementation, there is also a need for continuous community sensitization. However, the holding of regular community-sensitization meetings is likely to be constrained by the limited financial and human resources inherent in most government-run programs.

The private sector was more rigorous in selecting, training, and providing supportive supervision for CHWs than was the public sector. This suggests that there are stronger mechanisms for ensuring quality in private services.

No matter which sector is implementing the program, logistics management is likely to remain a challenge. Stock-outs, especially in the public sector, slowed down the work of the CHWs and delayed client-return for repeat injections in some areas. Addressing this problem requires coordination at the district level as well as CHW training on logistics management. Other creative solutions can be used to address stock-outs. Districts can borrow from each other, and CHWs can be provided with sufficient DMPA to anticipate future stock-outs. These options can reduce the problem significantly, although more attention should be directed to systemic issues at the national level.

Challenges notwithstanding, the experience shows that CHWs in the public sector delivered on average more CYPs from DMPA than those in the private sector. This could be related to the motivation derived from DHO engagement in the project.

The quality of services provided by the CHWs in both sectors was high, client satisfaction is evident from the high reinjection rates reported, and no needle-stick injuries were reported. Moreover, almost all women served by the public-sector program received their reinjections within the recommended time frame.

Overall, this project shows that CHWs can play a significant role in improving access to FP for women in remote areas in Uganda and other low-resource settings. CHWs can provide many women with DMPA, their preferred FP method, and can play a role in increasing community knowledge and acceptance of injectable contraceptives.

The evidence suggests that nationwide scale-up of CBA to DMPA programming in Uganda would be beneficial, safe, and timely. The intervention has great potential public-health impact and the capacity to help Uganda meet her development goals. It is hoped that the lessons learned and challenges highlighted in this report will help to guide implementers and policymakers in this direction.

## **5. Recommendations for Future Scale-up**

1. The MOH should review the national service guidelines and rewrite them to support the provision of injectables by CHWs.
2. The MOH and its partners should consider developing a document to aid national policymakers in planning for scale-up.
3. Flexibility is an asset for those integrating this innovation in existing systems, but they must pay close attention to the details of scale-up to maintain service quality.

4. DHOs need to be actively engaged for the program to win community acceptance and become sustainable.
5. Monitoring and supervision should be harmonized within existing systems used by public- and private-sector implementers.
6. CHWs should be carefully selected, with an emphasis on high-performing workers, to ensure good reporting and alleviate the need for intensive supervision
7. The experiences of other CBA programs should be used to teach innovative approaches and adaptations. Early adopters should be seen as sources of learning.
8. Public-sector agencies with low financial and technical capacity need extra support before scale-up.
9. A cost analysis should be conducted to establish the relative benefits and costs of the supervisory approach taken by the NGOs. The more intensive supervision they undertake is likely to have raised program cost, owing to supervisors' salaries and monthly supervisory trips.

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## Appendices

### 1: Data Collection and Analysis

#### *Data collection*

CHWs used patient cards to record information about injections—due dates as well as the dates the injections were given—and other relevant information, such as where a client lived and whether she had previously received DMPA from a clinic. The CHWs also used the cards to record a client’s reason for discontinuation and the side effects she may have experienced, although this was not done consistently.

During the analysis period, the patient cards were collected at a central location four times: July 31, 2008; October 17, 2008; February 17, 2009; and April 2, 2009. The data were then aggregated into an Excel spreadsheet, which was modified and converted into a Stata dataset for analysis. In the aggregated data, patient ID codes were used in place of names. All analysis was conducted using Stata 9.

Data were queried and cleaned by staff at FHI/North Carolina and FHI/Uganda. Decision rules were developed to guide the inclusion and exclusion of observations and the inclusion or exclusion of specific injections.

#### *Inclusion and exclusion criteria*

- Some CHWs provided DMPA to women at a clinic during a practicum or during another CHW training event held at a clinic. These clinic injections were excluded from the analysis, and 22 women who were injected only at a clinic or during a practicum were excluded.
- For each of 17 women who received their first injections in a clinic or during a practicum but received subsequent injections from a CHW, the date of the first injection was removed and the date of the second was entered in the spreadsheet column for first injections.
- Three women were excluded because they never received a DMPA injection from a CHW.
- One woman was excluded because she died before receiving a second injection.
- Two women said they had received reinjections at clinics because they were away from home when their injections were due. Because the women returned to their CHWs for subsequent injections, they were treated as if they had received their clinic injections from the CHWs.
- A total of 13 women—5 in Busia and 8 in Bugiri—were reported to have switched CHWs. However, there was little or no information about to whom they switched, including whether it

was to another public-sector CHW in their respective districts. The fact that these women switched was ignored. Instead, they were counted as discontinuing from their first CHW and included in the number of women who discontinued because they moved. To the extent that the 13 women continued with a different public-sector CHW in Bugiri or Busia, each was counted again as a new client with a new CHW.

- For four women in Busia, recorded injections show gaps—for example, first and third injections, but no second injection and no reason why it had been missed. The missing injection and the subsequent injections were excluded from the study’s calculation of reinjection rates and timeliness.
- For 20 women in Busia who missed an injection because of a stock-out of DMPA but had subsequent injections, the injection they missed and any injections subsequent to it were excluded from the analysis of reinjection rates and of timeliness.

### ***Reinjection calculations***

Reinjection rates were calculated among those clients who were eligible for a second, third, or fourth injection. Clients in this category whose due dates fell past the end-date of data collection for this study were not considered eligible for those reinjections and excluded from the calculation.

For clients who had missed an injection but followed through with subsequent injections, the missed injection and all subsequent injections were excluded from calculation of reinjection rates.

The total number of injections excluded 16 women who missed their 3-month reinjections (13 due to stock-outs), 11 women who missed their 6-month reinjections (7 due to stock-outs), and 4 women who missed their 9-month reinjections.

## 2. Scale-up Timeline

