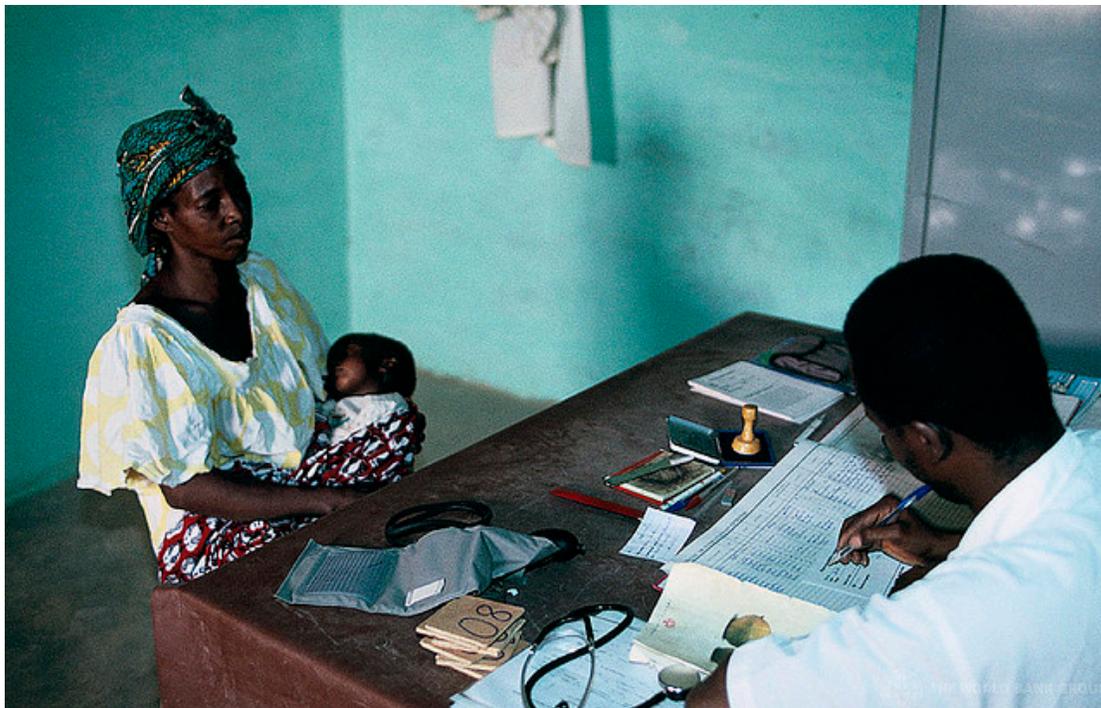


# ADVANCING PARTNERS & COMMUNITIES

**Situation Analysis of Community-Based Referrals for Family Planning: A Review of  
the Evidence and Recommendations for Future Research and Programs  
JULY 2015**





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## **Advancing Partners & Communities**

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# ACRONYMS

ARI	acute respiratory infection
APC	Advancing Partners & Communities
ANC	antenatal care
CBFP	community-based family planning
CBHC	community-based health care
CBIHP/MAHEFA	Community-Based Integrated Health Project
CHS	community health supervisors
CHT	community health team
CHW	community health worker
CSB	health facility (Madagascar)
DMPA	depot medroxyprogesterone acetate
DHMT	district health management team
EC	emergency contraception
FP	family planning
FCHVs	female community health volunteers
HC	health center
HDA	Health Development Army
HEW	health extension worker
HP	health post
HBCT	household-based counseling and testing
HIV	human immunodeficiency virus
HTC	HIV testing and counseling

iCCM	integrated community case management
IMCI	integrated management of childhood illness
IPC	interpersonal communication
IPCA	interpersonal communication agents
LAM	lactational amenorrhea method
LI0K	Last Ten Kilometers
LAPM	long-acting and permanent method
MSI	Marie Stopes International
MMC	medical male circumcision
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
MoPH	Ministry of Public Health
M4RH	Mobile for Reproductive Health
OCP	oral contraceptive pill
PNC	postnatal care
PHCU	Primary Health Care Unit
SDM	Standard Days Method®
TBA	traditional birth attendant
TB	tuberculosis
USG	United States Government

# EXECUTIVE SUMMARY

Governments often place limitations on the kind of family planning (FP) methods and counseling that community health workers (CHWs) are able to provide. The contraceptive method mix in many countries is dominated by short-acting methods. At the same time, FP programs are placing heavy emphasis on the provision of a full range of FP methods as a key aspect of quality programming. All of these issues emphasize the need for strong evidence on the most effective, cost-efficient, and scalable ways to refer women from CHWs to health facilities to enable women to get the FP methods they want, when they need them.

Advancing Partners & Communities (APC) is a five-year USAID-funded project implemented by JSI Research and Training Institute, Inc. (JSI) and partner FHI 360. The project advances and supports community programs that seek to improve the overall health of communities, especially in relationship to FP. As part of its work in community-based family planning (CBFP), APC is seeking to document best practices in referral systems.

This situation analysis reviews the evidence on current models of community-to-facility referrals for long-acting and permanent methods of FP (LAPMs), provides recommendations on promising models that should be tested for effectiveness, and suggests an agenda for future research. A literature review and key informant interviews were conducted to document the available evidence.

The literature on referrals, especially for CBFP referrals, is minimal. In the absence of a large evidence base for CBFP referrals, evidence from other health sectors was documented and lessons were applied to CBFP. Referrals were categorized into five main types: verbal, paper-based, paper-based plus, mobile-phone-based, and facilitated.

The findings from this situation analysis show that more research is needed to determine the most effective, cost-efficient, and scalable models of CBFP referrals. Without a large research budget to test this conclusion, we should consider evaluating ongoing programs, conducting small pilot studies on the effects of adding or changing a component of an ongoing program, and testing successful programs at scale. However, with the evidence available, the authors conclude that mobile referrals provide the most efficient and effective linkages and the greatest ability to track clients throughout the referral process, although the start-up costs may be higher than those of other programs.

# I. BACKGROUND AND RATIONALE

Advancing Partners & Communities (APC) is a five-year USAID-funded project implemented by JSI Research and Training Institute, Inc. (JSI) and partner FHI 360. The project advances and supports community programs that seek to improve the overall health of communities, especially in relationship to family planning (FP). As part of its work in community-based family planning (CBFP), APC is seeking to document best practices in referral systems to provide programmatic guidance to programs in the field. A well-functioning referral system allows women expanded access to a broad range of FP methods rather than just the few FP methods provided by CHWs in the community.

Globally, 40 percent of all pregnancies are unintended (Sedgh, Singh, and Hussain 2014). Ensuring that women can access the FP methods they want, when they want them, is of utmost importance to decreasing unintended pregnancies. Expanding the FP method mix to include long-acting and permanent methods (LAPMs) is not a straightforward process and often relies on local solutions to make the link between women and providers. In areas not well served by FP programs, access to FP can be increased by having multiple FP methods available at the community level and direct linkages to facility services for women who want a method that is not available in their community. Recent World Health Organization guidance on a rights-based approach to FP provision echoes the importance of “appropriate referrals for methods not available on site” (World Health Organization 2014). However, the evidence on how to most efficiently and effectively refer women to facilities or higher-level providers for LAPMs is limited. Furthermore, where referral systems do exist, women often still do not or cannot receive the services to which they were referred.

## II. OBJECTIVES AND METHODS

### A. OVERALL OBJECTIVE OF SITUATION ANALYSIS

The overall objective of this situation analysis is to **review the evidence** on current models of community-to-facility referrals for LAPMs, to provide **recommendations on promising models** that should be tested for effectiveness, and to provide an **agenda for future research**.

This situation analysis consisted of three phases: 1) a review of existing peer-reviewed literature, 2) key informant interviews, and 3) a review of grey literature. The methods for each phase are presented separately, though the results of all phases are presented together.

### B. PEER-REVIEWED LITERATURE

#### i. Objective

The objective of the peer-reviewed literature review was to systematically identify referral models that have a strong community component. Only models that referred clients from the community to the facility were included. The models did not need to be FP-specific, but did need to be transferable to CBFP.

#### ii. Methods

The authors conducted a literature search in three search engines — PubMed, Popline, and Embase. The following search terms were used to search all meta data fields of articles in the search engines:

“Community Health Workers” OR [«Community Health Aides» [Mesh] OR [Mesh] OR «community health worker\*» OR «lady health worker\*» OR «village health volunteer\*» OR «village health guide\*» OR «lay health worker\*» OR «mid level health worker\*» OR «Task Shifting» OR «village health worker\*» OR «birth attendant\*») AND referral\*

The literature review was restricted to documents published in English from 2000 to present. This search located 278 references. Abstracts of the 278 references were reviewed for relevance and, initially, 86 articles were found to be pertinent. Many of these articles, however, simply mentioned that referrals occurred; only articles that fully described the process for referrals were considered relevant.

Additionally, conference abstracts without the accompanying manuscript were not included in the review. Of the 86 articles, 19 met the criteria for relevance. After these articles were identified, a snowball sampling approach was also used to find additional sources from the bibliographies of the publications, which resulted in 12 new potential sources identified. Two of these were found to be relevant. In total, 21 articles were located.

## **C. KEY INFORMANT INTERVIEWS**

### **i. Objective**

The objective of the key informant interviews was to document detailed information about referral systems from programmatic and research experts and to identify important information and documents not initially identified in the peer-reviewed literature search. Only models that referred clients from the community to the facility were included.

### **ii. Methods**

Key programs and research studies were identified from the relevant literature, and program managers, implementers, and researchers were asked to participate in interviews. As the identified sample of key informants was contacted, snowball sampling was used to identify additional key informants. The authors either 1) interviewed key informants with an in-depth, semi-structured interview guide via telephone or 2) asked key informants to complete a similar semi-structured questionnaire via email. All key informants and affiliations are listed in **Appendix I: Key Informants** and the questionnaire is in **Appendix II: Key Informant Questionnaire**.

## **D. GREY LITERATURE**

### **i. Objective**

The objectives of the grey literature review were to document more detailed information about referral systems identified in the peer-reviewed literature and to examine additional referral models not identified in the peer-reviewed literature. These models did not need to be FP-specific, but needed to be transferable to CBFP.

## **ii. Methods**

Key informants interviewed were asked to provide program reports, training guides, and any additional resources that further detailed the referral component of their work. Targeted Google searches also were conducted to locate additional resources.

The grey literature search did not produce any additional useful information for this situation analysis; thus, there are no findings presented from the grey literature.

### III. FINDINGS

The literature on referrals, especially for CBFP referrals, is minimal. Frequently in the literature, the authors state that a referral occurred, but the description of *how* the referral was made is lacking. The results of the literature review were used to develop a taxonomy of referral types, which are explained in Table I on the following page. Referrals were categorized into five main models: verbal, paper-based, paper-based plus, mobile, and facilitated. Additionally, where evidence was particularly compelling, findings are presented as a promising or an emerging practice. Promising practices are defined by the High Impact Practices in Family Planning Technical Working Group as those where “good evidence exists that these interventions can lead to impact; [though] more information is needed to fully document implementation experience and impact,” and emerging practices “have a strong theoretical basis with limited evidence to assess impact” (USAID and K4Health 2014). Consensus among the technical contributors to this analysis was used to identify promising and emerging practices. These practices are presented in boxes throughout the text.

**Table 1. Taxonomy of Referrals**

<b>1. VERBAL</b>
This type of referral is the most common in practice; however, it is not well described in the literature. A community-based provider verbally communicates information to client. In a verbal referral, the provider's instructions may range from very general (i.e., tells client to go to a health facility) to very specific (i.e., directs client to a specific facility and/or provider)
<b>2. PAPER-BASED</b>
Referral slip is given to client to take to facility and includes one or more of the following components: <ul style="list-style-type: none"><li>• Directs client to specific facility and/or provider</li><li>• Describes services required by client; may be pictorial for low-literacy populations</li></ul>
<b>3. PAPER-BASED PLUS</b>
Referral slip is given to client to take to facility and includes one or more of the following components: <ul style="list-style-type: none"><li>• Refers to specific facility and/or provider</li><li>• Describes services required by client</li><li>• CHW accompanies client to facility</li><li>• Includes back-referral (slip to be returned to CHW via structured system)</li></ul>
<b>4. MOBILE-PHONE-BASED</b>
Mobile phones are used in referrals in one (or more) of three ways: <ul style="list-style-type: none"><li>• Provider → Provider: Provider (could be CHW) communicates directly with higher-level provider to make referral and tells client verbally/with referral slip where to go to receive services</li><li>• Provider → Client: Provider communicates directly with client and tells client via mobile phone where to go to receive services</li><li>• Client → Provider: Client uses mobile phone to find provider/facility that provides services they are seeking</li></ul>
<b>5. FACILITATED*</b>
The facilitated referral model has four components, of which multiple actions within each component must be met to qualify as a facilitated referral. <b>Component 1:</b> CHW provides initial services before a referral, especially in cases where the nearest facility is far away (all actions must be completed) <ul style="list-style-type: none"><li>• CHW is able to counsel client on the full method mix, including LAPMs</li><li>• CHW is able to provide client with effective short-acting modern methods of contraception (condom, injectable, pills, Standard Days Method [SDM], emergency contraception) to ensure that client does not get pregnant before receiving LAPM</li></ul> <b>Component 2:</b> CHW explains referral and promotes compliance with referral (all actions must be completed) <ul style="list-style-type: none"><li>• CHW counsels client about why referral is necessary and promotes compliance with referral</li><li>• CHW fills out referral slip/records in referral book and gives referral slip to client</li></ul> <b>Component 3:</b> Monitoring of referral (all actions must be completed) <ul style="list-style-type: none"><li>• CHW records referrals in register</li><li>• Health worker who sees client follows up with the CHW with a "counter-referral," which explains what services were delivered and any information on follow-up care</li><li>• Referral and counter-referral are tracked in the health information system and the outcome of the referral is discussed during supervision</li></ul> <b>Component 4:</b> CHW addresses potential barriers to referral (at least one action must be completed) <ul style="list-style-type: none"><li>• CHW inquires about barriers to referral and works with client to address them</li><li>• CHW has access to or can inform client about source of funds in the community to help client pay for travel to health facility and for services at the facility</li><li>• CHW accompanies client to health facility to ensure client receives services</li><li>• CHW has direct relationship with specific health facilities and/or providers; as a result, CHW can ensure that clients are referred to services that are available and able to meet clients' needs</li></ul> <p><i>* This model was originally described by Winch et al. (2005) in regards to CHW treatment and referral of children with acute respiratory infection (ARI) and has been adapted for the purposes of CBFP.</i></p>

## A. EVIDENCE SUMMARY

The results of the literature review are combined with the results of the key informant interviews and are broken down by the five main models of referral.

### i. Verbal Referral

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*Based on this limited evidence, it is difficult to draw conclusions on the efficacy, cost, and scalability of this model.*

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Despite the high use of verbal referrals in programs, this model is not well documented in the literature. In the one documented example, verbal referrals were found effective. Based on this limited evidence, it is difficult to draw conclusions on the efficacy, cost, and scalability of this model. In Bangladesh, under the Matlab Project run by icddr, CHWs were trained to recognize infection and verbally referred children with ARIs to the Matlab hospital. Mortality was 54 percent lower in the intervention area than in control areas (Ali et al. 2001).

### ii. Paper-Based Referral

---

*Evidence on this model's effectiveness is limited and does not suggest that this approach is worth the investment.*

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Paper-based referrals are common in practice, but not well documented in the literature. Only five examples were found. The data are limited and do not suggest that this approach is worth the investment, because there is limited evidence that this model is effective in getting clients to care.

Paper-based referrals are sometimes too complicated for CHWs or CHWs do not believe the referral is necessary. A study in Ghana trained community members with no prior medical training 1) to identify symptoms of severe illness in children under 5 that require referral to the health facility and 2) to use a semi-pictorial tool to record the assessment. Referrals were written in duplicate — one for the child's caretaker to take to the facility and one for the CHW to keep. CHWs were not very successful at correctly identifying the need for referral or at providing the referral (Chinbuah et al. 2013).

A study was undertaken in Afghanistan to understand the factors associated with CHWs' referral of children with ARI. The study showed that providing the caretaker with a referral slip rather than asking them to issue a verbal referral significantly increased compliance with the referral (Newbrander et al. 2012). Also, though all data are self-reported, a study in Uganda on home-based counseling and testing (HBCT) for HIV included written referrals to a local HIV care clinic to those who received a positive

test and written referrals for a no-cost medical male circumcision (MMC) where indicated. At 3-month follow-up, 89 percent of people who tested positive for HIV had visited HIV care clinics and 62 percent of men referred for MMC had undergone the procedure (Tumwebaze et al. 2012).

In Uganda, under WellShare International's programs, village health teams (VHTs) in three districts provide FP (including injectables) in the community. VHTs are volunteers, though they receive some compensation in the form of t-shirts, boots, and other in-kind payments. VHTs are part of the formal health system and receive supervision from midwives based at referral health centers. VHTs use referral slips (with carbon copy) to refer clients to the health facility for LAPMs. The VHT keeps one copy of the referral slip and gives the client a copy to give to the provider at the facility. Referral slips are provided by WellShare or the implementing partner in the district, so the availability of referral slips is dependent on partner involvement. Health facility providers do not provide back-referrals because of their heavy workload and VHTs only follow up with clients on an ad hoc basis. Thus, data only indicate the number of clients referred and not completion of referral. Results from this project indicate that effective supervision of VHTs and referral tracking is not a cost-effective or scalable process without heavy donor support. This program, while effective at retaining VHTs, is not tracking clients in order to determine referrals' effectiveness (Wando, Bainomugisha, and Nerima 2015).

Vouchers, a different model of paper-based referrals, are commonly used in Marie Stopes International's (MSI) and others' programs. The voucher system enables new and poor FP clients living in more remote areas to be reached with services. MSI gives CHWs vouchers to distribute free to clients or, in some countries, to sell for a subsidized price. Clients use the vouchers to attend a franchised private-sector provider for FP counseling and services. CHWs are trained to counsel clients before referring them to the franchised provider. MSI tracks the number of referrals made and completed by reviewing the franchised provider's records, which include a tally of vouchers given and received. However, the record-keeping is mainly conducted in order to reimburse the franchised providers per service. Costs associated with training, printing vouchers, and tracking vouchers make this model expensive to implement. Also, maintaining quality in scale-up is a challenge especially with CHWs in remote areas. This model is promising, but more evidence is needed to determine the efficacy of the referral process and a more cost-effective way to implement it. Additionally, the success of this model may be due, at least in part, to the free or reduced cost of services rather than to the structure of the model itself (Mackay 2015).

### iii. Paper-Based Plus Referral

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*Due to inconsistent findings, which suggest the need for intensive human resources, this model is only recommended for programs that are able to pilot and validate context-specific approaches.*

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Programs that use the paper-based plus referral model are documented, and the literature shows that they produced varied outcomes. In the 11 documented examples, successful models relied heavily on in-person follow-up to ensure that clients follow through on the referrals. Tracking the outcome of referrals is a challenge. Due to the inconsistent findings, which suggest the need for intensive human resources, this model is only recommended for programs that are able to pilot and validate context-specific approaches.

Programs using integrated management of childhood illness (IMCI) or integrated community case management (iCCM) most commonly document this referral model. IMCI/iCCM projects usually train CHWs to use a checklist developed from IMCI guidelines to identify infants with symptoms of illness, such as ARI, and then refer them to services. Client completion of referrals varied widely, ranging from 23 percent to 84 percent (Owais et al. 2011; Darmstadt et al. 2010; Ansah Manu et al. 2014). The most successful programs followed up with the client multiple times to ensure that the referral was completed.

In a cluster-randomized controlled trial (Newhints Trial), researchers trained CHWs in Ghana to conduct postnatal visits with postpartum women and their babies. The CHWs used a checklist to identify infants with a danger sign, issued families of these infants a referral card to take to the health facility, discussed potential barriers to compliance, and solved problems relating to these barriers. CHWs also conducted a follow-up visit within 24 hours of referral to check compliance; when mothers failed to comply, the CHWs reassessed the baby and referred to a health facility if danger signs persisted. The CHWs also again discussed how to overcome barriers to seeking care. Compliance with referrals was high: 86 percent of referred mothers took their babies to a health facility, and about 75 percent of these went to hospitals. The poorest mothers complied more than the least poor, and rural residents more than urban. Mothers felt that the referral card indicated a more severe illness, which made them more likely to comply. Additionally, mothers with a referral card were moved to the front of the queue at the facility and therefore assured immediate care (Ansah Manu et al. 2014).

Back-referrals from providers to CHWs are an important part of the referral process but they are not well documented and are difficult to track. Under AIDSTAR-One in Tanzania, implemented by JSI Research and Training Institute, Inc., CHWs were trained on community-based prevention of mother-to-child transmission (PMTCT) of HIV, including making referrals for HIV testing and antiretroviral treatment for women and infants testing positive for HIV. The provider signed the referral form stub and gave it back to the woman, who returned it to the CHW (back-referral) for tracking. Referrals

increased during the intervention from zero at baseline to 800 per month by the end of the 6-month intervention (Riwa, Lusiola, and Joyce 2013). In a malaria program in Zambia, back-referrals were not nearly as successful. CHWs were trained to use an algorithm to diagnose and treat malaria and refer complicated cases. CHWs were directly linked with a referral health facility, where they received supplies and supervision. The health facility staff was instructed to send a note to the CHW to indicate a completed referral, but in practice, this rarely occurred (Chanda et al. 2011).

Another program in Zambia, implemented by ChildFund, trains CHWs to distribute condoms, oral contraception pills, and provide DMPA injections in the community. This program has successfully supplied short-acting FP methods in the community, but the data on referrals for LAPMs are lacking. CHWs are affiliated with specific health facilities, are recognized by the government, and are volunteers. CHWs are provided with referral books that have perforated forms with carbon copies. The CHW completes the top of the form (which provides the reason for the referral) and provides the original to the client to take to the health facility. Facility staff then complete the lower part of the form, which provides feedback to the CHW. The client is responsible for returning the feedback form to the CHW. Success of the process relies on clients providing the form to the provider, providers filling it out, and clients then returning the form to their CHW. During supervision, the CHW supervisors collect referral information. Because this project requires financial input for printing the referral books and for substantial supervision by CHW supervisors, it is not sustainable after the project ends unless the MOH pays for printing and continues to provide supervision (Jumbe 2014).

In Senegal, *matrones* (CHWs) staff government “health huts” and provide counseling and FP methods (SDM, condoms, pills, injectables) under the community health program implemented by ChildFund. Forms are used to refer clients to the higher-level health post if the client wants a method that is not available at the health hut. Tracking the referrals relies on the client to bring the completed referral form back to the matrone at the client’s next visit to the health hut. The matrone records the outcome of the referral in the community register in order to help with the client’s follow-up. Generally, referrals are effective because matrones are trusted community members. Additionally, because matrones are members of the community, they are more able to follow up effectively with clients who do not comply

### **PROMISING PRACTICE**

When working in remote areas, training community volunteers as CHWs and forming strong relationships between CHWs and local health facilities improve referral systems to primary care.

with referrals. This program is being implemented at scale in a sustainable manner since it is part of the MOH system. A 2011 evaluation of the community health program found some health huts lacked referral forms (Barry, Putnam, and Toure 2011). As such, the program began using more heavy-duty notebooks that are easier to file and longer lasting (Diatta 2014).

In Madagascar, the Community-Based Integrated Health Project (CBIHP) — locally known as MAHEFA and implemented by JSI Research & Training Institute, Inc. — trains CHWs in IMCI; FP; behavior change; nutrition; and water, sanitation, and hygiene. The CHWs are volunteers from the local community and are compensated with financial and nonfinancial incentives such as bicycles, participation in income-generating activities, and community recognition. CHWs are initially trained to deliver and/or counsel on oral contraceptive pills (OCPs), condoms, LAM, and cycle beads; after six months they are trained to

deliver injectable contraceptives. Tri-fold referral forms, developed by CBIHP, are used for FP referrals from the CHW to the health facility (CSB) and include a copy for the CHW, a copy for the CSB, and a back-referral form, filled out at the CSB and returned to the CHW via the client. When CBIHP was initially implemented in 2011, United States government (USG) funds were not allowed to be used to work with the Madagascar government. As such, linkages between CBIHP CHWs and CSBs were informal and referrals were not tracked. In 2014, the MOH made CHWs a formal extension of the health system with supervision by CSB managers. As well, USG sanctions were lifted and CBIHP was able to work with CSBs. As such, CBIHP is starting to put a referral tracking system in place in which CHWs and CSBs compare records during monthly supervision meetings. These data will be included in a series of technical briefs in 2015, though CSBs are reporting fewer acute illnesses, which suggests that CHWs are contributing to preventative care. Providing health services in rural Madagascar presents a unique challenge because many of the communities are extremely remote. Most of the CBIHP project sites do not have mobile phone coverage and more than half of the communities are inaccessible during the rainy season. As such, training local community members as CHWs and linking CHWs and CSBs is cost effective and necessary to ensure continued care in remote areas (Ribaira and Chua-oon 2015).

In Kenya, the MOH has implemented the Kenya Community Health Strategy, which includes a cadre of health workers called community health volunteers (CHVs). CHVs are not paid by the MOH, but many nongovernmental organizations, such as World Vision, work with the CHVs on income-generating activities. CHVs are supervised by community health extension workers (CHEWs) and are trained by MOH staff. CHVs visit households in the community and provide basic medical services focused mainly on maternal and child health care, including provision of condoms and OCPs. CHVs refer clients to a health facility for FP methods that the CHVs are unable to provide. Clients are given the MOH referral form; upon providing services, health care workers complete a back-referral form that is given to the client to return to the CHV. If the health facility is nearby, the CHV escorts the client to the health facility. Because health facilities may be located far from many households, referral completion is a challenge. Documenting referrals is also difficult, because the CHVs rely on the clients to return the back-referral form. CHVs record the details of each household visit in a daily service delivery log for review and collection by CHEWs during supervision. This program is gradually improving FP uptake and is strongly documented, but it would benefit from improved training and mentorship of CHVs as well as remuneration. This program is being rolled out at scale as it is part of the Community Health Strategy; however, full-scale implementation is dependent on MOH and donor resources (Muhia, Wapangana, and Patel 2014).

CHWs in Afghanistan operate as part of the national community-based health care (CBHC) program under the Ministry of Public Health (MoPH). CHWs are community volunteers focused on postpartum FP and are supervised by paid community health supervisors (CHSs). They provide basic health services from their home, such as providing OCPs, condoms, and DMPA injections; promoting LAM; and providing counseling and referral for LAPMs. MoPH pictorial referral forms are used by CHWs to refer clients to a health facility for services they are unable to provide in the community. However, only a few urgent health issues, as well as antenatal care (ANC) and postnatal care (PNC), are covered on the referral forms and FP is not featured. Referral forms are in triplicate—one is kept by CHWs for their records, one is given to the client to take to the health facility, and one is given to the client to return to the CHW after receiving care at the health facility (back-referral). CHWs are largely illiterate and keep

records on a pictorial tally sheet and a map. The CHS incorporates the CHW records into monthly reports that are sent to the health facility to be included in national records. This program has been successful thanks to donor support and strong coordination between the facility and the community via the CHWs and CHSs. CHWs would benefit from additional training on LAPMs. The CBHC program

was scaled up successfully over the course of 5 years with strong CHW and community commitment as well as capacity-building funded by donors (Juya 2015).

#### **PROMISING PRACTICE**

The use of interpersonal communication strategies in the community creates demand for FP in a **low-cost** and **easy-to-replicate** approach.

The Expanded Social Marketing Project in Nigeria (ESMPIN) is an integrated health program implemented by the Society for Family Health in 15 states and the Federal Capital Territory Abuja. The program has helped increase uptake of modern FP methods and promotion of maternal and child health in Nigeria. ESMPIN uses an innovative approach to creating demand for FP through an

extensive interpersonal communication (IPC) strategy. Interpersonal communication agents (IPCA) work in communities to engage men and women of reproductive age through one-on-one or group IPC sessions that focus on FP. IPCAs issue referral forms to women and men who express the desire to obtain FP. Clients can then go to a local facility and receive counseling and an FP method. The referral forms are retrieved from the clients by the facility provider, and ESMPIN's health communication coordinators visit the facilities regularly to collect the referral cards. A recent external evaluation of the ESMPIN program showed that this community approach was low cost and easy to replicate (Onuoha 2014).

#### **iv. Mobile Referral**

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*This model is the most promising of the five models in terms of scalability and cost.*

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mHealth is an emerging area, and new mobile interventions are being tested and documented frequently. The authors found 11 documented examples of relevant mobile-phone-based programs. Mobile referrals are by far the most promising referral model in terms of scalability and cost and the evidence base on

effectiveness is growing. As described in Table I, the referral taxonomy, mobile referrals can be divided into three models—provider to provider, provider to client, and client to provider.

#### **PROMISING PRACTICE**

A mobile referral network **effectively links clients to the appropriate services.** Although the model is resource-intensive initially, the **potential for scale-up is high.**

##### **a. Provider → Provider**

One model of mobile referrals is a network through which CHWs can communicate directly with higher-level providers to get advice and notify providers of referrals. In Malawi, Management Sciences for Health (MSH) formed a mobile health network between

CHWs and facilities. MSH purchased phones and solar chargers for rural CHWs and trained them on

the use of the phones (mainly basic texting). MSH worked with the technology company FrontlineSMS to set up a “hub,” which was a computer in the health facility library where texts were collected and responded to. The hub was staffed by a facility worker with some technology experience to deal with any computer issues that arose (such as viruses). Doctors and nurses came to the library regularly and responded to messages via the hub. However, CHWs and providers began to bypass the hub and text each other directly to exchange health information and set up appointments for clients. The direct referrals that resulted from provider-to-provider interactions were a natural byproduct of the intervention and while not originally planned, they ended up being very effective. Clients were more likely to follow through with referrals because they could be assured that the provider would be available and able to offer the service the client needed. This intervention was very inexpensive to start and maintain and could be scaled up for minimal cost with no loss of system functionality (Campbell 2014; Campbell et al. 2014).

However, other similar interventions were not nearly as successful. In three districts in Zambia, CHWs conducted surveillance visits of families with the goal of identifying and referring clients in need of additional care for a variety of health issues. CHWs used mobile phones to report the results of the visits. The data were sent to the facility and CHWs were followed up with if clients referred did not report to the facility in a timely manner. The CHW could then return to the client and encourage clinic attendance. Despite the follow-up, only 22 percent of clients referred actually reported to facilities (Schuttner et al. 2014).

Results are pending on a similar study in Uganda in which CHWs were trained on iCCM of childhood illness. CHWs were provided with mobile phones to report on the symptoms of the child and to use a treatment algorithm. The record of the visit was sent to the local health facility for referral and supervision (Buchner et al. 2014).

### **b. Provider → Client**

For the purposes of this paper, the authors classified provider-to-client mobile models as either a *mobile referral* or a *mobile counseling tool*. Mobile referral systems use a mobile device for either the entire referral process or large portions of the process. *Mobile counseling tools* are used by CHWs to provide counseling and determine the need for referral. When a referral is indicated, the CHW either verbally refers the client or uses a paper-based referral.

#### **Mobile Referrals**

The LIFT project, implemented by FHI 360, creates referral networks to link individuals in HIV care and treatment or food security programs with economic strengthening opportunities. The LIFT project worked with the technology company Dimagi in Malawi and Lesotho to develop a mobile network in which all providers within the network are able to input client information, record services provided to clients, provide referrals, and/or check clients into services. This program is based on CommCare, a customizable database that runs on Android phones. Providers can see all services the client may be eligible for within the network and then tell clients where they can receive these services. This program is resource-intensive to start and requires dedicated technology staff in the implementing country; however, the potential to scale up a mobile network is high provided the financial resources are available and the local capacity is built to manage the system (Shattuck, Mattingly, and Sears 2014).

### **EMERGING PRACTICE**

The potential of DOTsync to facilitate effective and low-cost referrals at scale is high.

In Myanmar, a mobile application called DOTsync, implemented by FHI 360, is being used by CHWs (called community supporters) to guide daily visits to patients with multidrug-resistant tuberculosis. CHWs enter patient data into the app; the data are then transmitted to a central database and are made available to the CHW to guide the services provided at their next visit to the patient. CHWs use a checklist built into the application to identify any side effects of the treatment, which they report to the basic health staff and township medical officer for follow-up by a higher-level medical provider. CHWs also monitor and identify presumptive cases and refer them to the National Tuberculosis Program diagnosis and treatment facilities. Referral occurs in two ways—with a paper-based system and by case management with DOTsync. The paper referral form is a standard MOH form, which has a feedback section for the CHW to record referral information and retain for record-keeping purposes. The community coordinator collects the feedback section monthly and enters data into the referral tracking form. With DOTsync, when a referral is made, the application creates a case that will appear in the system for the health care providers. The paper system is being phased out in favor of the mobile system. Because this program is newly implemented, data on cost and efficacy are not yet available; however, the ability of the software to make and follow up with referrals via the mobile app is likely to be very cost efficient and effective at getting patients the appropriate care (Soe 2014).

### **EMERGING PRACTICE**

With the addition of a facility application that allows health workers to track referrals, the mobile application has the potential to facilitate effective and low-cost referrals at scale.

D-Tree International and Pathfinder International developed a mobile application to guide CHWs through visits with FP clients in Shinyanga Region, Tanzania. The mobile application follows the Balanced Counseling Strategy+. If the FP method that the client selects cannot be provided at the home, the CHW refers the client to a health facility with the MOHSW referral form. Through the mobile application, the CHW then schedules a follow-up visit within one week to visit the client and track the status of the referral. The CHW asks the woman if she went to the facility, if she completed her referral, and what the outcome was. If the woman did not complete the referral, the CHW collects information about why that referral was not completed. Once a woman has received a method, the CHW returns after 30, 60, and 90 days to make sure the client is satisfied and to provide additional counseling. Referrals given and completed are tracked through the mobile application. This program could be strengthened with a facility application that allows health workers to confirm back-referrals as they occur. The highest program expenditures were providing CHWs smartphones (and solar chargers). This program could be replicated at scale provided strong support from the government and active participation by local health officials. The technology used in this program allows for remote deployment of the application, so the application can be updated without program staff needing to visit the CHW every time. In addition to receiving a small stipend, CHWs are rewarded through a small pay-for-performance system, which is based on the number of clients registered and the percentage of visits completed. This performance-based reward system could be replicated at scale (Layer 2014).

## PROMISING PRACTICE

Clients were **more likely to complete referrals** that resulted from direct provider-to-provider interactions via SMS.

D-Tree International and Jhpiego collaborated on a mobile application to guide CHWs in visiting pregnant and postnatal women in Morogoro Region, Tanzania. The mobile application follows the MOHSW's integrated maternal and neonatal child health guidelines. The CHWs visit women and delivered counseling messages encouraging women to attend antenatal clinics and deliver in health facilities. The CHWs also screen women for danger signs and initiated referrals to the nearest health facility as needed. The mobile

application stores clients' information and allowed the CHWs to follow up on future needed referrals. The records of clients registered by CHWs at the home visit are synchronized to the facility-based applications so that the health facility has access to client records in the case of a referral. Similarly, the records of clients registered at a health facility are being shared with the CHW in their catchment area to allow for a CHW to follow up with the client at home. This application is user-friendly and could be scaled up. While no formal cost analysis was conducted, the use of mobile technology to monitor CHW performance is cost effective for the program because it decreases the need for in-person supervision. The highest program cost was the purchase of phones and solar chargers for CHWs (Layer 2014).

### Mobile Counseling Tool

Mobile counseling tools were used in four projects—of these, two prompted the provider to provide a paper-based referral and two prompted the provider to provide a verbal referral. As part of an HBCT intervention in Uganda, CHWs referred clients to facilities for HIV care and MMC. Data collection was electronic, so when a respondent answered in a way that suggested a referral was needed, the application reminded the HBCT counselor to verbally refer the respondent. Study data showed that 88 percent of men diagnosed via HBCT presented at a clinic within three months of diagnosis. (8) A pilot study in Nairobi used a similar system. CHWs linked with a public HIV clinic in Nairobi were provided with a ClinipakMobile telephone system. The phone was pre-loaded with surveys that supported appropriate clinical decision-making and were linked to an electronic patient information database. Patient interviews conducted by CHWs using ClinipakMobile recorded “red flag” answers, which prompted CHWs to verbally refer patients to the health facility (Cohn and Xiong 2012). In Tanzania, CHWs supported by Pathfinder International were trained to use a mobile FP job aid that supports counseling via a standardized algorithm. If a client selects a method that the CHW is unable to provide, the algorithm prompts the CHW to refer the client to a facility. The CHW then gives a hard copy of the national referral form to the client to take to the facility (Layer 2014). The MAISHA program in Tanzania, implemented by Jhpiego, uses a similar mobile algorithm to guide CHWs in delivering continuum of care messages for ANC to PNC services. Using a mobile job aid, CHWs refer HIV-positive and HIV-negative pregnant women to a continuum of comprehensive MNCH care services through an integrated community/facility approach. CHWs are linked to a facility and use the Tanzania MOHSW paper referral forms to refer clients to the appropriate facility (Charurat and Blanchard 2014).

### c. Client → Provider

The authors found only one documented example of a mobile application in which the client is able to search a database to find information about and the location of services. Begun in 2008 as an FHI 360 research study, mobile for reproductive health (m4RH) is an opt-in SMS-based health communication program that provides information about nine FP methods as well as a database of local private and public clinics. The “referral” in this case is defined as the system providing the user with the location of

nearby FP clinics. m4RH relies on the user to seek care at the facility selected from the database. It was difficult to measure the impact of the m4RH clinic database. However, a small study was conducted in a nationally representative sample; of the people who had heard of m4RH, 5 percent of women and 3 percent of men went to a clinic they found in the database. The program is very cost effective and has been brought to scale in Tanzania. Furthermore, m4RH has been or is currently being adapted for youth in Rwanda, Tanzania, Uganda, Kenya, and the Philippines (L'Engle and Lasway 2014; L'Engle et al. 2013; Vahdat et al. 2013).

## **v. Facilitated Referral**

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*Although this model is effective at getting clients into facility care, it is not practical for CBFP programs because of the high cost.*

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The facilitated referral model was first described by Winch and Gilroy in relation to the management of children with malaria/pneumonia (Winch et al. 2005; Gilroy and Winch 2006) and has since been applied to other health areas as well (Andersen et al. 2013; Ciampa et al. 2011; Gill et al. 2012; Gill et al. 2011). The model is effective in getting clients to facility care, but it is not cost effective because extensive labor requirements make this model expensive to implement. Because of the high cost, this model is not recommended for CBFP programs. The facilitated referral model is commonly described in the literature as occurring within a health facility. Only four examples were found in which a facilitated referral from the community to a facility occurred.

One study (implemented by Ipas) documented in the peer-reviewed literature applied the facilitated referral model to FP. Female community health volunteers (FCHVs) in Nepal were trained in early pregnancy testing and, as indicated by the pregnancy test results, in providing short-acting FP and referrals for LAPMs, abortion, or ANC. As part of the intervention, FCHVs were supposed to issue referral slips to clients, but the volunteers found the referral slips difficult to understand. Instead, many FCHVs accompanied clients to services, resulting in facilitated referrals. Referrals made with the slips were not followed up on and all other results were self-reported by FCHVs. Of the women who tested negative for pregnancy, the majority (46 percent) were provided with FP counseling only, 25 percent were provided OCPs, 20 percent condoms, and only 10 percent were referred to the facility for LAPMs. Follow-up data on the completion of the referral by the clients and the uptake of LAPMs as a result of referrals were not collected, so it is not possible to determine if the referrals led to an increase in the use of LAPMs (Andersen et al. 2013).

This model was used more successfully in Zambia in a project whose goal was to prevent neonatal mortality. Before the project, traditional birth attendants (TBAs) were trained in basic obstetric and newborn care and clean delivery techniques. TBAs were formally linked to a health facility for referral of high-risk cases. For the project, TBAs were randomized to the control group for the standard of care or the intervention group, which included further training in neonatal resuscitation and administration of antibiotics coupled with provision of facilitated referrals to a linked health facility. Infants delivered by

TBAs in the intervention group were nearly half as likely to die in the first month of life (Gill et al. 2012; Gill et al. 2011).

In Ethiopia, the Last Ten Kilometers (L10K) project, implemented by JSI Research and Training Institute, Inc., works with local organizations to improve reproductive, maternal, neonatal, and child health outcomes. The project focuses on attendance at ANC and facility births by working with the community-based Health Development Army (HDA) to refer women and newborns to health extension workers (HEWs) for care. [See Box 1 for more information about the Ethiopia health system, including HDAs and HEWs.] HEWs are trained to recognize situations that need referral and to refer to the nearest health center with a paper form. L10K works with HEWs to ensure that HEWs call the health center so the client is expected. At times, HEWs accompany clients to the health center. Back-referral occurs from the health center to the HEW as a way to ensure appropriate follow-up care and as a learning/reward mechanism for HEWs. A referral in and referral out register are used to track referrals for programmatic purposes. This program has been successful in increasing facility births from 6 percent to 11 percent in program areas (The Last Ten Kilometers Project [L10K] 2012). This model is resource-intensive and, as such, not easily scalable; however, L10K is working to design less expensive models. The program does have strong local ownership and support because community engagement is at the core of the project. HDAs, HEWs, other providers and community members regularly participate in forums to evaluate performance, note progress, and revise action plans as necessary (Fesseha 2015).

#### **Box 1. Ethiopian Health Extension Workers**

##### **Spotlight on Ethiopian Health System**

In Ethiopia, approximately 10 years ago, the government institutionalized community-based health services by creating a new cadre of health worker, the HEWs, who staff a new type of health facility, the health post (HP). HPs are the lowest level of the primary health care unit (PHCU) and HEWs are supervised by health center (HC) staff. Under the HEWs are volunteer HDA members, who conduct demand creation activities in a unit of five households each and form part of the larger network of 30 households where the six supervising HDAs report directly to the local HEW. The HEWs and their HDAs form strong community networks responsible for health promotion and disease prevention as well as curative care at the community level. Because HDAs are responsible for demand creation, their community messages include verbal referrals to HEWs for health services. The strong community networks provide direct links from the community to the community HP.

HEWs are selected from their local community and trained for one year in a package of 17 basic health services including the provision of FP methods. In terms of FP, HEWs provide condoms, OCPs, DMPA, EC, and Implanon insertion at the HP and refer clients for other LAPMs and Implanon removal to the HC. Referrals from HEWs to HCs are largely verbal except in areas where implementing partner organizations have developed and implemented referral forms. With the direct supervision of HEWs by HC staff, the links between the two are strong and verbal referral outcomes are reviewed at monthly supervision meetings. However, despite strong linkages, systematic referrals and monitoring of referrals is weak due to the lack of standardization and monitoring by the government.

Ethiopia has had dramatic success in increasing the contraceptive prevalence rate (CPR) from 6.3 percent of married women using a modern method of FP in 2000 to 40.4 percent in 2014 (Central Statistical Agency 2014). The increase in CPR was largely driven by the HEW provision of FP at the community level. DMPA accounted for the majority of FP use. The task sharing of the provision of an LAPM, Implanon, by lower-level providers is a novel intervention and has increased access to this method at the community level. However, the overall use of implants is low, accounting for only 5 percent of the CPR (Ibid. 2014). A more systematic and institutionalized referral system from the HP to the HC, coupled with demand creation for LAPMs, could substantially affect the already high CPR.

The success of the health program in Ethiopia serves as a model for other countries. However, creating an expansive community health system is expensive and requires intense government and partner support to be successful (Azim 2014; Bulto 2015).

## B. RATING OF REFERRAL MODELS

Based on the findings from the literature review and key informant interviews, each model was rated on four key areas of interest: **use in programs**, **strength of evidence**, **cost**, and **scalability**. The rating system is described in Table 2.

**Table 2. Rating System for Referral Models**

<b>USE IN PROGRAMS</b>
High – widely used in programs, well documented
Medium – used in programs, limited documentation
Low – rarely used or not used in programs, or not documented

<b>EFFECTIVENESS</b>
High – documented evidence of successful use of model and of positive outcomes
Medium – documented evidence of successful use of model and limited evidence of model’s outcomes
Low – limited or no documentation of use of model and no evidence on outcomes

<b>COST</b>
High – model is expensive to implement
Medium – model is neither expensive nor inexpensive to implement
Low – model is inexpensive to implement

<b>SCALABILITY</b>
High – model has potential to be scaled up with limited technical assistance
Medium – model can be scaled up with significant technical assistance and financial input
Low – model is difficult to be scaled up without extensive technical assistance and financial input

Each aspect of community-based referral programs—use in programs, effectiveness, cost, and scalability—was assigned a high, high/medium, medium, low/medium, or low rank based upon the available evidence (Table 3). An overall rank from 1 to 5 was assigned to each referral model, with 1 being the highest rank and 5 the lowest. The ranking system was developed to help program managers decide which model might best apply to their community-based program. Program managers need to balance resources available with the desired efficacy and scalability.

Overall, mobile referrals received the highest ranking for the model’s scalability, cost, and use in programs. The paper-based plus model scored second in the ratings for its use in programs and cost. Paper-based referrals performed better than paper-based plus models in some aspects; however, they are ranked lower overall due to the low effectiveness. Verbal referrals are ranked lower than paper-based referrals due to their even lower effectiveness. Finally, facilitated referrals are ranked last due to their high cost and low scalability.

**Table 3. Referral Model Evidence Rating**

<b>TYPE OF REFERRAL</b>	<b>OVERALL RANKING</b>	<b>USE IN PROGRAMS</b>	<b>EFFECTIVENESS</b>	<b>COST</b>	<b>SCALABILITY</b>
<b>MOBILE</b>	1	High/Medium*	Medium	Low/Medium	High
<b>PAPER-BASED PLUS</b>	2	High	Low/Medium	Low/Medium	Medium
<b>PAPER-BASED</b>	3	High	Low	Low/Medium	High
<b>VERBAL</b>	4	High**	Low	Low	High
<b>FACILITATED</b>	5	Low/Medium	High/Medium	High	Low

\*Use is quickly growing

\*\*Not well documented

## IV. DISCUSSION

The evidence is clear—providing women with access to a full range of FP methods so they can get the FP method they want, when they want it, increases contraceptive use and continuation. What remains unclear, however, is *how* to most effectively provide access to a wide variety of FP methods in a low-resource setting. This situation analysis aims to provide recommendations on the most effective way to get clients from the community to the facility for FP services. Five common types of referral models were identified and examined in terms of use in programs, relative effectiveness, cost, and scalability.

The documentation of referral models specifically for CBFP remains limited in the literature — this situation analysis only located eight examples. As community-based program managers well know, referrals are a necessary component of programs because CHWs have limited capacity to provide higher-level FP services such as the provision of LAPMs. High-quality programs should ensure a broad method mix, so programs would be remiss if they did not include a referral system. Many programs do have a referral system; however, the documentation of the system is poor. Is the lack of documentation due to the limited positive evidence or some other factor, such as the ubiquity of referrals causing documentation to seem unnecessary? Importantly, bias in the publication of results should be noted. Journals generally do not accept manuscripts with negative findings and because program managers do not want to attract attention to program failures, the tendency is to not attempt to publish these results. Mobile referrals are the most documented, which may be due to the desire to heavily document an emerging practice, the positive results, or a combination of both. Whatever the case, this situation analysis shows **that program managers have limited documented evidence to draw upon to design programs with effective referral systems for FP.**

In the absence of a large evidence base for CBFP referrals, applying lessons from other health areas is necessary. The simplest model of referral to implement and scale up is the verbal referral. This relies on CHWs being informed about health resources available beyond their scope of care and telling clients where to go to receive additional services. In terms of cost, this model is the least expensive because very little training is needed and no printing of materials is necessary; however, this model is very difficult to document because there is no paper trail to follow. **Because of the lack of evidence on this model's effectiveness, the authors do not recommend that CBFP programs use this model exclusively.**

Paper-based referrals are commonly used in health programs, including CBFP programs. Programs usually train CHWs to use either their own referral slips or national referral slips to direct clients to a facility that can provide clients' chosen FP method. This system is relatively inexpensive to implement — the main costs are for printing paper slips and a minimal amount of training for CHWs on how to use the referral slips. However, providing CHWs with an adequate supply of referral slips can be a challenge because of limited paper supplies and distribution issues. Also, tracking paper-based referrals is difficult because doing so relies on someone to locate the paper slips at the facility and compare the referral

results with CHW logs, assuming they exist. Health facilities deal with large amounts of paper and referral slips that are likely often lost and/or not brought to the facility by the client. **Considering the lack of strong evidence surrounding this referral practice, it is likely not the best investment for CBFP programs in the future.**

Similar to paper-based referrals, paper-based plus referrals are a paper system with an additional component that usually includes follow-up between the CHW and the client to determine the outcome of the referral. As noted previously, evidence on the effectiveness of this model is mixed with rates of completed referrals ranging considerably in the literature. This model is stronger than the strictly paper-based model because there is frequently a mechanism in place to follow up with the client, to encourage compliance with the referral, and to determine the outcome of a completed referral. The challenge with this model is that it relies heavily on CHWs to follow up with clients and/or clients to follow up with the CHWs, which can put unreasonable demands on the time of busy CHWs and clients. For this model to be successful, it must be designed with the local context in mind because the results are highly dependent on the local needs. **The paper-based plus model is relatively inexpensive to implement, so program managers should consider this approach. However, the literature does not present a clear evidence base on the model's success, so programs should be designed carefully with the local context in mind and tested for efficacy before scale-up.**

The mobile applications researched in this situation analysis have a wide range of capabilities. M4RH takes a less complex approach by allowing users to search for a clinic that provides the FP method of their choice. In the LIFT CommCare project, a more complex system, a network of linked providers is identified and able to use mobile phones to refer clients within the network. Mobile systems have the strong advantage of being cost effective to implement and scale up; however, start-up costs can be high if mobile phones are purchased for CHWs. Depending on the functionality desired, programs have been successful using a wide variety of mobile phones ranging from the most basic mobile phone to a smartphone. One of the most successful programs examined in terms of referrals was the MSH Malawi mobile health network program, which used basic mobile phones. Although the original intent was for CHWs and providers to communicate via a hub, they quickly started communicating directly and, as such, were able to provide clients with rapid information and referrals for various health needs. **Mobile technologies provide efficient and effective linkages as well as the ability to track clients throughout the referral process. While the start-up costs for mobile referrals may be higher than other models, the investment is well worth it.**

Facilitated referrals for FP, while shown to be effective for child survival programs, are minimally documented in the literature. In child survival programs, diagnoses, treatment, and referral algorithms are frequently used to determine the most appropriate person to treat the child as well as the urgency of the child's health care needs. **FP programs generally do not have the same sense of urgency as child survival programs, and the facilitated referral model proves to be more complex and expensive than is necessary for successful FP referrals.** The financial and human resource requirements to appropriately implement and scale up the facilitated referral model are beyond the scope of most CBFP programs.

This situation analysis has three key limitations: lessons learned from other health areas are applied to CBFP, publication bias may be the cause of lack of available evidence, and reliance on key informants for programmatic documentation may have left gaps. First, as stated previously, evidence specifically about CBFP referrals was minimal and, thus, lessons learned from other health areas were applied to CBFP. Applying lessons learned from one area to another is not a new concept; however, it should be noted that this is a limitation of this analysis's conclusions. Second, authors tend not to publish negative findings, so it is difficult to determine if the lack of evidence is due to systematic negative findings that were not published or a true lack of evidence. Finally, because the literature was limited, much of the information in this situation analysis came from key informant interviews. The authors relied on snowball sampling to determine the most appropriate key informants and it is possible that some key informants were not identified. Additionally, the response rate from key informants was low: more than 65 people representing 27 organizations were originally contacted and approximately 42 people representing 19 organizations participated in the interview.

# V. PROGRAMMATIC RECOMMENDATIONS

Because CBFP referral models are poorly documented in the literature, recommendations for the most effective and efficient CBFP referral system can be drawn from lessons learned in other health areas. Of the five referral models, **mobile applications are by far the most innovative and promising.** A recent World Bank report on mobile phone use worldwide noted that the majority of the world's population has access to a mobile phone—6 billion mobile subscriptions accounting for three-quarters of the world's population (2012). Mobile innovations, which started slowly in the developed world likely due to an older technology base, have skyrocketed in the developing world with astounding innovation ranging from mobile money systems to mobile health diagnostic tools (Ibid.)

The applications available via mobile technology are seemingly endless, incredibly versatile, and widely applicable to various local situations. The USAID-led High-Impact Practices in Family Planning technical advisory group recently recognized mobile technology as a new technology in FP (2013). The evidence base for mobile technology for frontline health workers, such as CHWs, is growing (Chatfield et al. 2015) and investment in developing and testing mobile applications specifically designed to be used in CBFP programs is highly recommended. Mobile technologies have the advantage of providing a wealth of real-time data that program managers can report to funders and use to make continuous quality improvement in their programs. Despite all the capabilities of mobile technology, it's important to note that mobile technologies can be a costly investment especially at the beginning of programs. Additionally, managing the technology can be complex and may require additional training.

In situations where mobile referrals are not feasible, programs should consider moving from less effective models like verbal and paper, to more effective models like paper-based plus. Where CBFP referral programs are already being implemented, programs should document the successes and weaknesses of the programs to build the evidence base for this important area of CBFP services.

## PROGRAMMATIC RECOMMENDATIONS: DESIGNING EFFECTIVE REFERRAL SYSTEMS

1. CHW and facility provider linkages allow for direct communication between providers and continuity of care for clients.
2. Back referrals should always occur so CHWs are aware of the services the client receives from the facility and are able to follow up with the client appropriately for additional counseling, referrals, and/or appointment reminders.
3. Mobile networks are inexpensive and ubiquitous and should be capitalized on for more efficient referrals.
4. The success of referral systems depends on the local context, and programs should be locally-driven to ensure success.

Programs will be more successful in the future if they are able to use a strong evidence base to develop and implement the most appropriate program for the local context.

## VI. AGENDA FOR FUTURE RESEARCH

Despite their importance to all health sectors, referrals are a relatively under-researched area. This situation analysis suggests that more research is needed to determine the most effective, cost-efficient, and scalable models of CBFP referral. Where large-scale, resource-intensive research is not feasible, program managers should consider evaluating ongoing programs or conducting small comparative studies when an ongoing program changes or adds a component. The majority of the literature is not on CBFP referrals; thus, in this analysis conclusions were drawn on referrals from other health sectors. Research should be conducted on the adaption and application of referral models from health sectors other than CBFP to determine their efficacy in CBFP. Additionally, lessons from the scale-up of referrals in other health sectors should be applied to CBFP referrals.

Even though the main objective of a referral is to get clients to the services they need, the tracking of referrals to determine the completion rate is not common. Continuity of client care is disrupted if CHWs are unable to systematically document or receive documentation of completed referrals. Research is needed on the best way to track referrals and on the model of referrals that leads to the highest completion rate.

Finally, by referring clients to a facility to receive FP services, CHWs are effectively losing clients and therefore business. Research is needed to understand if this affects the CHWs' desire to refer clients and if providers should be incentivized to ensure that referrals are completed.

### KEY RESEARCH QUESTIONS

1. Which referral model leads to the highest completion of CBFP referrals?
2. How can CHWs effectively be informed of completed referrals among their clients?
3. What is the difference in cost to the implementer among the various referral models?
4. How can referral models used in other health areas be adapted to CBFP?
5. What can be learned from other health areas to facilitate scale-up of successful referral systems?
6. Should providers be incentivized to ensure that referrals are completed?

# APPENDIX I: KEY INFORMANTS

<b>NAME</b>	<b>POSITION</b>	<b>ORGANIZATION</b>
<b>Soe Htut Aung</b>	Senior Technical Officer, CAP-TB Project	FHI 360/Myanmar
<b>Khin Zarli Aye</b>	Country Office Director	FHI 360/Myanmar
<b>Tariq Azim</b>	Senior Technical Advisor	JSI/Ethiopia
<b>Beatrice Bainomugisha</b>	Program Manager	WellShare International Uganda
<b>Joy Noel Baumgartner</b>	Scientist I, Social and Behavioral Health Sciences	FHI 360
<b>Martin Bell</b>	Chief of Party, ESMPIN Project	Society for Family Health/Nigeria
<b>Holly Blanchard</b>	Senior Reproductive Health/Family Planning Advisor	Jhpiego
<b>Tesfaye Bulto</b>	Technical Director	Integrated Family Health Program/Ethiopia
<b>Natalie Campbell</b>	Director, Organizational Learning	Management Sciences for Health (MSH)
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<b>Chuanpit Chua-oon</b>	COP	JSI/CBIHP-MAHEFA
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# APPENDIX II: KEY INFORMANT QUESTIONNAIRE

## ***Section I: Questions for programs that ARE community-based family planning (CBFP) programs***

1. Can you please describe the program(s) you know of that have a strong referral components, especially the CBFP aspects of the programs?  
*[If you have the following information, please provide in your response: What are the qualifications and training of the CHWs? What FP methods do the CHWs provide and what methods to they refer clients to a higher-level provider for? Are the CHWs part of the formal health care system? How are CHWs compensated for their time and work? How would describe the retention of the CHWs? Can you describe the supportive supervision system for the CHWs?]*
2. Are the CHWs you described above linked to the formal health care system? If so, how are they linked?  
*[If you have the following information, please provide in your response: Can you specifically describe the referral system used? How are the clients followed to ensure that they follow through with the referral? How are CHW referrals tracked? Is there a back-referral system in place so the CHW is aware of the services clients received at the health facility—if yes, how does that work?]*
3. Does the MOH have standard referral forms that are used? If so and if you use referral forms, do you use the MOH referral forms in your program or do you use your own referral forms?  
*[Please provide a copy of the referral form(s) attached to your response.]*
4. What are the strengths and weaknesses of the referral system you just described?
5. Do you think the program model you described is effective in getting clients the family planning services they need, including long-acting and permanent methods of contraception? What aspects contribute to the effectiveness? How could effectiveness be improved?
6. Do you think the program model you described is cost effective? What aspects contribute to the cost effectiveness? How could cost effectiveness be improved?

7. Do you think the program model you described could be replicated at scale, especially in low-resource settings? What aspects contribute to the ability of this program to be replicated at scale? How could the program be improved to be more scale-able?
8. Do you know of any other people to talk to that have worked in the area of CBFP referrals and would have additional information to contribute? If yes, can you please provide their contact information here?
9. Do you have any information from the program you described or others including peer-reviewed literature, training guides, materials, and project reports relating to CBFP referrals that you can share with me (especially in electronic format)? I'm especially looking for any referral forms, training materials, and program reports.
10. Do you have any additional comments on successes, challenges, or suggestions for CBFP referral systems?

**Section 2: Questions for programs that are NOT community-based family planning programs**

1. Can you please describe the program(s) you know of that work at the community level (ex. with community health workers (CHWs)) and have strong referral components?  
*[If you have the following information, please provide in your response: What are the qualifications and training of the CHWs? Are the CHWs part of the formal health care system? How are CHWs compensated for their time and work? How would describe the retention of the CHWs? Can you describe the supportive supervision system for the CHWs?]*
2. Are the CHWs you described above linked to the formal health care system? If so, how are they linked?  
*[If you have the following information, please provide in your response: Can you specifically describe the referral system used? How are the clients followed to ensure that they follow through with the referral? How are CHW referrals tracked?]*
3. Does the MOH have standard referral forms that are used? If so and if you use referral forms, do you use the MOH referral forms in your program or do you use your own referral forms?  
*[Please provide a copy of the referral form(s) attached to your response.]*
4. As far as you know, is there a family planning component to the referral work you just described? If not, do you think this model could be applied to CBFP systems? How?
5. What are the strengths and weaknesses of the referral system you just described?

6. Do you think the program you described is effective in getting clients to facilities for services? What aspects contribute to the effectiveness? How could effectiveness be improved?
7. Do you think the program you described is cost effective? What aspects contribute to the cost effectiveness? How could cost effectiveness be improved?
8. Do you think the program could be replicated at scale, especially in low-resource settings? What aspects contribute to the ability of this program to be replicated at scale? How could the program be improved to be more scale-able?
9. Do you know of any other people to talk to that have worked in the area of referrals and would have additional information to contribute? If yes, can you please provide their contact information here?
10. Do you have any information from the program you described or others including peer-reviewed literature, training guides, materials, and project reports relating to referrals that you can share with me (especially in electronic format)? I'm especially looking for any referral forms, training materials, and program reports.
11. Do you have any additional comments on successes, challenges, or suggestions for referral systems?

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